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***Organizational Identity Management in the event of Disruptive Innovation:  
Success and Failure cases of Japanese and US Photo-Film Manufacturers***

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*Come la luce imprime un istante  
su una pellicola fotografica,  
rendendolo per sempre indelebile:  
così nella vita, ci sono persone ed incontri  
che segnano la tua identità  
e ti rendono quello che sei.  
Forse siamo la somma di tanti scatti,  
di tante immagini riflesse,  
di desideri, esperienze e sbagli.  
A me piace pensare che siamo la somma di tanti incontri,  
nei quali ogni giorno ci scopriamo un po' di più.*

*Alessandro Brusati*



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## Abstract - Italian

Questo studio qualitativo approfondisce la gestione dell'identità organizzativa di imprese “incumbent”, in momenti in cui la sopravvivenza aziendale di lungo periodo è messa a rischio. Più in dettaglio, questa ricerca esplora il modo in cui i vertici aziendali promuovono nuove identità organizzative per incoraggiare una transizione di tipo competence-enhancing o competence destroying, in risposta ad una discontinuità di mercato. Oggigiorno, contesti iper-competitivi, nuove tecnologie digitali e tempi di innovazione ridotti spingono le aziende a dover affrontare più frequentemente logiche di cambiamento. Nel vasto ambito di ricerca sull'adattamento organizzativo, il concetto di identità, con le sue molteplici sfaccettature, risulta un elemento sottovalutato soprattutto per la sua apparente immobilità e difficoltà di manipolazione. Tuttavia, essa rappresenta una lente molto potente per la creazione di senso, utilizzata dai membri di un'azienda per comprendere ciò che accade al suo interno, compreso il cambiamento. Pertanto, capire come promuovere riallineamenti identitari può aiutare i manager a guidare la propria azienda verso transizioni di successo. A tal fine, si propone un'analisi di casi studio multipli inerenti a quattro aziende storiche che operavano nel settore delle pellicole fotografiche. Un'industria sconvolta da una doppia ondata di innovazione “disruptive” come il passaggio alla fotografia digitale e l'avvento dello smartphone. L'analisi dei dati raccolti ha portato alla definizione di un modello teorico, che illustra come si possa riallineare l'identità organizzativa attivando in modo flessibile due distinte sfaccettature identitarie: l'identità Utilitaristica e quella Ideologica. Ciò può essere ottenuto mettendo in atto un processo bifase, che unisce sequenzialmente framing cognitivo ed emotivo. Il modello suggerisce inoltre, come i vertici aziendali debbano rivalutare gli elementi organizzativi del passato e sviluppare nuove competenze, convinzioni culturali e logiche di business per il futuro, per promuovere un riallineamento di identità in armonia con la competence-transition desiderata. I risultati principali di questa ricerca mostrano come il top management possa gestire l'identità aziendale come fosse uno strumento strategico, purché consideri entrambe le sfaccettature identitarie e coinvolga il middle management nel processo di riallineamento. Inoltre, i dati evidenziano uno schema piuttosto simmetrico nella gestione delle facce identitarie in caso di transizione competence-destroying o competence-enhancing: nella prima, è più critica l'attivazione flessibile della faccia Ideologica, mentre nella seconda risulta più ardua l'attivazione di quella Utilitaristica. Per concludere, questo studio contribuisce alla letteratura sull'identità facendo luce su una nuova visione multiforme di essa e rivendicando le core competences aziendali come variabile chiave per spiegare le dinamiche identitarie. Inoltre, estende lo studio sul Framing, identificando tre filtri cognitivi (Capacità core, Cultura organizzativa e Dominio di business) tramite cui i manager danno senso alle transizioni di competenza, evidenziando un nuovo meccanismo per flettere i frame cognitivi e proponendo la Legittimità Tecnica e Sociale come “equivalency frames” chiave per stimolare il consenso attorno nuove transizioni organizzative.

## **Abstract - English**

This qualitative study aims at investigating the issue of incumbent firms' identity management, in times when the company's long-term survival is put at risk. More in detail, it explores how top organizational leaders handle the promotion of new organizational identities to accommodate a competence enhancing or a competence destroying transition, in the event of market disruption. Nowadays, hypercompetitive market arenas, digital technologies and shorter innovations times are constantly pushing established companies to cope with change. In the broad research field of organizational adaptation, identity -with its multiple facets- has always been a fairly undervalued concept, above all for its apparent stillness and difficulty in manipulation. However, it represents a very powerful lens for sense-making, utilized by organizational members to give meaning to what happens within the company, including change. Therefore, understanding how to promote consistent identity realignments, can support managers to drive their organizations towards the realization of successful business transitions. For this purpose, the research proposes a multiple case study analysis focusing on four incumbent companies operating in the photographic film industry. A domain shocked by a double wave of disruptive innovation: the shift from film to digital photography, and the advent of the Smartphone Revolution. The analysis of the data collected has brought to definition a theoretical framework, which illustrates how organizational identity can be realigned by flexibly activating two facets of identity: the Utilitarian and the Ideological identities. This is achieved by putting in place a two-step process, that combines cognitive and emotional framing in sequence. The model also explains how top managers should re-evaluate organizational elements from the past and how they should develop core capabilities, cultural beliefs, and business features for the future to foster a consistent identity realignment in harmony with the new business direction desired. Key findings show that the top management can handle organizational identity as a strategic tool, as long as it considers both facets of identity and engages middle managers in the process of identity realignment. Furthermore, the data show a rather symmetrical pattern in the management of identity facets in case of a competence-destroying or a competence-enhancing transition: in the first case, the flexible activation of the Ideological face is more critical, while in the second it's harder to active the Utilitarian one. To conclude, this research contributes to the literature of organizational identity by shedding light on a new multifaceted view and by claiming organizational core competencies as a key variable to explain identity dynamics. While it extends the framing theory, identifying three managerial cognitive filters (Core Capabilities, Organizational Culture, and Business Domain) to make sense of competence transitions, highlighting a new mechanism to flex the frames, and proposing Technical and Social legitimacy as key equivalency frames to trigger consensus around new organizational transitions.



## Abstract - Japanese - 要約

本定性的研究は、企業の長期的な存続が危険に晒されているときのための、既存の企業のアイデンティティマネジメントの問題を調査することを目的とする。より詳細には、市場が混沌としている場合に、能力強化または能力破壊の移行に対応するために、組織のトップリーダーが新しい組織のアイデンティティをどのように促進させるのかを調査している。最近、競争の激しい市場やデジタルテクノロジーや短期間でのイノベーションによって、既存の企業は常に変化に対応することを求められている。組織順応の幅広い研究分野においては、とりわけその大きく変化しない点と変更の難しさ故に、アイデンティティ（その複数の側面を持つ）の観点は常に過小評価されてきた。しかし、その企業のアイデンティティは感覚作りのための非常に強力な促進剤である。組織のメンバーが変化を含む社内で行っていること、変化にさえにも意味を与えるために利用する。それ故に、企業のアイデンティティの再編を促進する方法を理解することが、企業の管理職が成功したビジネスへの移行の実現に向けて企業を動かすことに繋がる。この目的を達成するために、本研究は、写真フィルム業界の4つの既存事業企業に焦点を当てた複数のケーススタディ分析を提案する。その写真業界はフィルムからデジタル写真への移行と、スマートフォン革命の到来によって、二重の破壊的イノベーションに晒された経験がある。収集されたデータの分析により、理論的フレームワークが定義される。それは、功利主義的アイデンティティとイデオロギー的アイデンティティという2つのアイデンティティの側面を柔軟に活性化することによって、組織のアイデンティティを再編する方法を示している。これは、認知的フレーミングと感情的フレーミングを順番に組み合わせた2段階のプロセスを導入することによって、実現される。このモデルによって、新しいビジネスのニーズの方向性と調和したアイデンティティの再編を促進するために、トップ管理職が過去のデータから組織要素を再評価する方法と、将来ためのコア機能と文化的信念とビジネス機能を開発する方法。主な調査結果として、能力破壊と能力拡張の変化において、アイデンティティの両面の管理における対称的なパターンが確認される。つまり、イデオロギー的側面の活性化はより重要であるが、しかし功利主義的な側面の活性化はより難しい。さらに、新しい複数の観点到に注目し、アイデンティティの移り変わりの説明のために組織の中心的な能力が重要な変数であることを主張することにより、組織のアイデンティティ研究に貢献している。本研究がフレーミング理論を拡張する一方で、3つの管理認知フィルター（コア機能、組織文化、およびビジネスドメイン）を特定して、組織の能力の移行を理解し、組織のフレームを柔軟にする新しいメカニズムを強調し、技術的および社会的正当性を主に等しく提案することによって、新しい組織の移行に関する同意を促進することも可能である。



# 1 Introduction

## **Research topic and its importance:**

One of the most insidious challenges for existing organizations is making sense of disruptive innovations and figuring out how to successfully adapt to the new competitive environment (Christensen, 2004). As a matter of fact, in recent years, many studies (O'Reilly and Tushman, 2013; 2011; Christensen and Raynor, 2003; Tripsas and Gavetti, 2000; Christensen, 1997;1995) testified the failure of a considerable number of incumbent companies, leaders of the business context they created.

More broadly, looking at statistics, business continuity is particularly problematic in the Western context, where the lifecycle of a company is getting shorter. Considering data related to the U.S market, in 1965, the average firms' tenure on the S&P 500 was 33 years. By 1990, it was 20 years. Nowadays, it is forecasted to shrink to 14 years by 2026 (Mochari, 2016). Therefore, data confirm that organizational change is an increasingly topical issue today, especially in a period in which hypercompetitive markets, digital technologies and shorter innovations times are constantly reshaping the business domains, challenging companies to adapt (O'Reilly & Tushman, 2013; Fiol, 1992).

In the broad research field of the *Organizational Change*, this study claims the importance of *Organizational Identity Management* to accommodate the change (Ravasi & Shultz, 2006; Chreim, 2005; Gioia e Chittipeddi, 1991), especially in times of market disruptions (Kammerlander et al. 2018; Altman and Tripsas, 2015; Tripsas, 2009). The organizational identity (Albert and Whetten 1985) is a lens which provides sensemaking to the entire organization and for this reason, it is particularly powerful in moments of uncertainty (Tripsas, 2009). Therefore, knowing how to handle it, promoting successful identity's realignment in support of new business directions in moments of market disruptions, represents a desirable capability for modern companies and their organizational leaders.

## **Literature Review Synthesis:**

Quickly retracing the literature (Chapter 2), organizational identity represents "*What is central; enduring and distinctive about an organization's character*" (Albert and Whetten, 1985; p. 265). Although largely accepted, this definition was distrusted by modern scholars (Dutton & Ducherick, 1991, Gioia & Chittipeddi, 1991; Thomson & Gioia, 1996; Gioia; Shultz & Corley, 2000) due to its static nature and incapacity to explain organizational adaptation. So, the concept was then reconceptualized more fluidly, starting from its relationship with the organizational image (Gioia, Shultz & Corley, 2000) and organizational culture (Hatch and Shultz, 2002). In specific, the projection of a new ambiguous organizational image (Gioia & Chittipeddi, 1991), the "opportunistic picking" of

cultural elements from the organizational past to reconstruct the company sense of self (Ravasi & Shultz, 2006), and the influence played by company's cultural repertoire's enrichment (Dalpiaz, Ravasi & Rindova, 2011) demonstrated that identity is malleable, somehow manageable, and it can be used to promote unconventional strategies (Dalpiaz, Ravasi & Rindova, 2011) and to sustain organizational change (Gioia, Shultz & Corley, 2000). Starting from this assumption, modern scholars have begun to investigate the managerial mechanisms to carry out profound modifications in organizational identity to support change within the company (Sasaki, Kotlar & Ravasi, 2019; Chreim, 2005; Shultz & Hernes, 2013; Czarniawska & Joerges, 1994). In light of it, a fringe of academics: the Revisionists (Biggart, 1977), advanced the Temporal perspective: the construction of identity narratives through the voluntary selection, manipulation, and omission of information from the past, aimed at influencing interpretations and impressions of stakeholders to create consensus towards change (Sasaki, Kotlar & Ravasi, 2019; Gioia, Shultz & Corley, 2000; Brown and Eisenhardt, 1998). A further research stream focused on the concept of multiple identities (Sillince & Brown, 2009; Glynn et. al, 2000; Fiol, 1991; 2001), and proposed the multifaceted view which theorizes identity as an aggregate of facets activated by managers accordingly the organizational adaptation's necessities (Gustafson and Reger 1995; Kammerlander et. al 2018). A third further proposal was related to the stretching of identity, to make it more capable to embrace paradoxical initiatives (Tripsas 2009).

In parallel, to these propositions, a lively debate has emerged around the dynamics between organizational identity and corporate adaptation in case of disruptive innovations. Recent studies have demonstrated that organizational members' different identity perceptions can guide incumbents to undertake different responses (Tripsas & Gavetti, 2000; Kammerlander, Konig & Richards, 2018). The reasons are various. The first resides in the nature of identity to be substantially a filter capable to interpret only some external stimuli (Tripsas, 2009). Secondly, identity is connected with deeply rooted internal routines, procedures, and organizational beliefs (Tripsas, 2009). Third, identity is a "guidepost" which directs the development of some routines and capabilities over others and reinforces some beliefs above others (Tripsas, 2009).

Simultaneously, Anthony & Tripsas (2016) claimed attention to focus on managerial antecedents of identity, remarking the influence of cognitive factors on the decisions of adaptation to market disruptions. Consequently, in parallel to the Identity literature (paragraph 2.1), the research delved into the Framing theory (paragraph 2.2). Following Gofman (1974) original definition, the concept of framing can be conceived as the "*schemata of interpretation*" that enable individuals to "*locate, perceive, identify, and label*" what is going on in their environment (Gofman, 1974). It is the cognitive schema imposed by people on the information they capture, that enable the creation of meaning and

the formation of decisions. Scholars, in this literature, demonstrated how the adoption of decisions, innovations, and organizational transitions depends on the types of Frames of Emphasis (Entman, 1993) and Frames of Equivalency (Cornelissen and Werner, 2014; Kennedy and Fiss, 2009), adopted by decision-makers; on the way in which events are presented to organizational members (Kaplan, 2008), and how new technologies or innovations are initially framed (Opportunity vs Threat) (Leonardi, 2011; Rindova, Dalpiaz & Ravasi, 2011). Particularly significant is the recent proposition of the Framing Flexibility theory (Raffaelli et. al 2019), a new managerial dynamic capability, that mix cognitive and emotional framing to explain how managers flexibly frame non-incremental innovations, increasing their likelihood of adoption. In particular, the flexible activation of cognitive filters jointly with emotional resonance's practices (Giorgi 2017; 2015) can facilitate the adoption of change, and consequently also the establishment of a new sense of self.

### **Theoretical gaps and Research Questions:**

To strengthen the theoretical background on the topic, these two main literature's streams were corroborated with two further theoretical strands: The Disruptive Innovation Theory (Par. 2.3), and the Organizational Ambidexterity (Par. 2.4). From this broad review, what emerged is a substantial paucity of empirical investigations and evidence around the management process implemented by incumbents' top managers, to promote identity's realignments aimed at accommodating organizational change, especially in moments of disruptive innovations. In specific, researchers focused more on the identification of techniques for identity management. Only few scholars tackled this issue with a direct empirical investigation -not just theoretical- providing clear managerial guidelines for identity change.

As reported by Ravasi and Shultz (2006) and Kaplan (2008) more empirical research is required to shed light on the conditions that affect organizational leaders' capacity to carry out profound modifications in organizational identity. O'Reilly and Tushman (2013), instead, remarked the need to comprehend how managers can promote new organizational identities to accommodate exploration and exploitation, and how they can take advantage of the organizational past to foster different futures. Kammerlander et al. (2018) claimed further research into the relationship between identity facets and organizational adaptation in the occurrence of disruptive innovation. While Raffaelli et.al (2019) suggested that competence enhancing and destroying discontinuities can require different framing flexibility processes; and consequently, also different kinds of identity realignments.

Considering the theoretical gap just identified, the voices of these scholars, and assuming that incumbents who decide to face a disruptive innovation, can react by implementing a competence enhancing or destroying transition, the following two research questions were formulated:

- *When disruptive innovations occur, how can incumbents and their leaders promote new organizational identities that effectively accommodate a competence enhancing or a competence destroying transition?*
- *How can they take advantage of their history even as they move to different futures?*

These research questions are deliberately broad because this is an exploratory study, whose final goal is theory building. However, the analysis of these issues, from the perspective of four different streams of literature brought to life others secondary theoretical gaps and intuitions that the exploratory character of the research will allow deepening. They are synthesized in table 1.1.

*Table 1.1.1: Secondary theoretical gaps and intuitions in search of empirical confirmation*

Literature	Further Theoretical Gaps (TG) & Intuitions in search of confirmations (I)
Organizational Identity	(I) A new multifaceted view based on Ideological and Utilitarian Identity. (TG) Role of the core competences in explain the dynamics of identity change
Framing Theory	(I) Importance of Technical and Social Legitimacy frames (or motivational forces) to drive the consensus towards competence transitions adoption (TG) Framing Flexibility applied on competence transitions' adoption (TG) The sequence of activation between Cognitive and Emotional framings
Disruptive Innovation Theory	- No further -
Organizational Ambidexterity	(TG) Senior team's leadership behaviours in balancing the tensions raised by exploration and exploitation (TG) Organizational identity as a strategic capability to host org. ambidexterity.

### **The Study:**

To answer the research questions just defined, this qualitative exploratory investigation proposes a multiple case study analysis, based on Eisenhardt (1989); Pettigrew (1990); Eisenhardt & Graebner (2007); and Yin (2013) methodology (see chapter 5). As anticipated, the ultimate mission of the project is theory building. In specific, the definition of an emerging framework that can extend the existing literature on identity management and help managers to comprehend how to pursue identity's realignments in case of the decision to pursue a competence enhancing or destroying transition.

Entering in detail, the multiple case study analysis proposes the narratives of four well-known incumbent companies which operated in the photographic film industry in the time of reference (1977-2012). A domain shocked by a double wave of disruptive innovation: the shift from film to digital photography, and the advent of the Smartphone Revolution. This industry was dominated for 97% of the market share by only five companies (Gavetti et al. 2004 - See chapter 4 for further info). Among them, two were Japanese (Fujifilm; Konica) and two Americans (Fujifilm and Polaroid). In light of it, the theoretical sampling was set to compare the managerial cultural differences of these countries and it was based on the "Polar types" perspective, matching successful and unsuccessful cases of competence destroying (Fujifilm vs Polaroid) and competence enhancing (Konica vs Kodak) transitions.

The four within-case analysis are presented in chapter 6, at paragraph 6.1;6.2;6.3;6.4. Paragraph 6.5 instead is dedicated to the cross-case investigation of the data collected, while the 6.6 illustrates and explains the final emerging framework. The resulting theoretical model is then graphically applied to the four cases considered (6.7) in order to extract further considerations (6.8).

Then the findings are generalized and extended to other two companies (GoPro and Nikon), facing tough competition but not a disruptive innovation, operating in slightly different industries (Action camera and DSLR professional cameras), in a more contemporary time (Chapter 7). Finally, Chapter 8 is dedicated to discussing the theoretical and the managerial implications, the limitations and the future research agenda.

### **Contributions and Implications:**

The first relevant contribution of the study is the proposition of a theoretical framework, which illustrates how organizational identity can be realigned by flexibly activating two identity's sides: the Utilitarian and the Ideological identities, and by putting in place a two-step process, that combines cognitive and emotional framing in sequence. Besides, the model explains how top managers should re-evaluate organizational elements from the past and how they should develop core capabilities, cultural beliefs, and business features for the future to foster a consistent identity realignment in line with the new transition undertaken.

The key managerial implication regards the top management's possibility to handle organizational identity as a strategic tool, as long as it considers both facets of identity and engages the middle management in the process of identity realignment. Furthermore, the empirical evidence collected suggests a rather symmetrical pattern in the management of identity facets in case of a competence-destroying or a competence-enhancing transition: in the first case, the flexible activation of the Ideological face is more critical, while in the second it's harder to active the Utilitarian one.

From the theoretical perspective, the study contributes to the literature of organizational identity proposing a new identity multifaceted view based on Utilitarian and Ideological Identity. In addition, it claims organizational core competencies as a key variable to explain the dynamics of identity change. While, for what concerns the framing theory, it identifies three managerial cognitive filters (Core Capabilities, Organizational Culture, and Business Domain) utilized by managers to make sense of competence transitions, highlights a new mechanism to flex the managerial frames, and proposes Technical and Social legitimacy as key equivalency frames to trigger consensus around new organizational transitions. Finally, further secondary implications, especially regarding the Disruptive Innovation and the Ambidexterity theories, are discussed in chapter 8.

## **2 Literature Review**

This section is devoted to a more in-depth presentation and critical discussion of the reference literature. In detail, section (5.1) discusses the main body of knowledge concerning Organizational Identity. Continuing, section (5.2) takes stock of the situation on the Framing theory, highlighting the most recent studies and theoretical constructs that have guided the research. Finally in sections (5.3) and (5.4) respectively two further supporting literature are presented, such as the Disruptive Innovation and the Organizational Ambidexterity theories.

### **2.1 Organizational Identity Theory**

The theoretical concept of “Identity” has played a key role in social sciences in the last century, especially in the academic disciplines of anthropology; psychology, and sociology which in turn feed organizational studies (Corley et al., 2006). However, only recently, in the past 30 years, the concept of “Organizational Identity” flowered (Hatch & Shultz, 2004).

The grafting of this theoretical principle in the stream of literature of organizational adaptation aroused the interest of numerous scholars. As a matter of fact, perceived threats to organizational identity are effective triggers of change (Elsbach & Kramer, 1996; Dutton Duckerich, 1991) and identity seems to become more salient in times of transitions (Albert & Whetten, 1985). Especially, as Gioia; Shultz and Corley (2000) suggest, market disruptions are a useful and obvious example in which organizational identity is put more under pressure and for this reason, they represent suitable research environments to study Identity and organizational change. Hence, the decision to deepen the literature in disruptive innovations (paragraph 2.3) and to propose the investigation of organizational identity management, in companies belonging to the Photo Film Industry, during the disruptive transition from film to digital photography and the advent of the smartphone revolution.

Organizational identity represent also a powerful tool, in the hand of organizational leaders, to draw coherently an identity history of the company from its past, establishing a new direction for the future and promoting at the same time a sense of business continuity respect to the company heritage (Kimberly, 1987). However, more empirical research on radical identity changes is required to shed light on the conditions that affect organizational leaders’ willingness and capacity to carry out profound modifications in organizational identity (Ravasi & Shultz, 2006).



Furthermore, recent studies are proposing the idea that organizational identity is a theoretical concept with multiple facets, that in specific occasions, can manifest more or less markedly (Kammerlander et. al, 2018; Gustafson & Reger, 1995). According to Cheney (1991), they can represent an important step ahead to clarify how contemporary organizations manage their identities. This new stream of literature was particularly inspiring for the purpose of this research and for this reason, multiple identity facet will be a topic particularly scrutinized in this paragraph.

### **2.1.1 Definition of Organizational Identity**

The concept of Organizational identity was firstly theorized by Albert & Whetten (1985) who implanted the sociological concept of Identity proposed by Mead (1934) within the organizational studies' sphere, answering to the famous identity's four questions: Who Am I? Who are we? Who do we think we are? Who do we think we should be? taking the organizational perspective respect to the surrounding environment. So, they defined the organizational identity as "*What is central; enduring and distinctive about an organization's character*" (1985; p. 265).

This definition *has a self-referential* meaning and depicts organizational identity as something stable and constant over time. This does not mean that identity cannot change, but that its characteristics modify only during a long time. However, authors such as Gioia; Shultz and Corley (2000) demonstrated that organizational identity is more malleable, especially in times of great changes. Therefore, as far as this definition is accepted, it suffers from limitations in the field of organizational adaptation.

Despite the great diffusion and acceptance gained by Albert and Whetten's definition, it results vague and unclear. Other authors tried to refine the concept to make it more accessible to study. Following the most convincing theorization proposed by Corley et al. (2006) is introduced:

Organizational identity is a construct with a *self-referential meaning* that can be tacit or explicit, taken for granted or consciously available. It is *contextualized and inherently comparative*, that means organizational identity place organizations in a social space, defining them similar and different respect other institutions. It involves a *shared understanding by a collective* number of people such as organizational members or stakeholders and it is partially accepted, as a *relational construct formed in interactions* with others.

Also, organizational identity is usually erroneously interchanged with the concepts of corporate identity and organizational image (Corley et al., 2006). As we stated, organizational identity is a self-

referential construct with an inner focus. In concrete, it is the synthesis of organizational beliefs and ideas that create a sense of belonging and identification inside employees, influencing their motivations and commitments. (Rindova & Schultz, 1998). On the other side, corporate identity and organizational image are two outer constructs. They require the projection of self-referential notions to external audiences. In specific, the corporate identity is represented by a set of visible and concrete organizational manifestations in the external environment such as the corporate logo, products, advertising. While the organizational image is the idea that people external to an organization have of that organization. It is the company's reputation. (Gioia; Shultz & Corley, 2000; Olins, 1989; Van Riel & Balmer, 1997)

A final clarification is necessary between the concepts of Organizational Identity and Organizational Based Identity. The first terminology is used to describe the organization as a collective, at the macro-level of analysis. While the second one is used to describe the self-concept of identity of a single person respect to the organization under analysis. It is used at micro-level of analysis. (Harquail, 2005) (Corley et al., 2006).

### **2.1.2 Identity as a metaphor or as a phenomenon?**

Scholars of organizational identity have long debated whether to consider it as a metaphorical device useful to describe organizations and their reality, or a concrete and alive organizational phenomenon (Corley et al., 2006). On this point, there is still no definitive consensus, but both are possible and legitimate approaches. However, before starting a research project based on organizational identity it is a good practice to make explicit the perspective undertaken.

Considering the organizational identity from the metaphoric perspective, it means utilizing a figure of speech to convey a similarity between the characteristics of individuals and the characteristics of a collective. So, if people can be treated with respect to their personal identities, organizations as well can be treated in light of their identities. If scholars use this perspective, they should answer to the question: "*What if we viewed collectiveness as if they had an identity?*" (Corley et al., 2006). This perspective was particularly useful to study and theorize how company are similar or differs form individuals, group of people and other institutions.

On the other side, considering the organizational identity as a phenomenon experienced by organizational members, perceived by external stakeholders, central for social processes of a community and the realization of a given outcome, enables scholars to model it *as antecedent and*

*consequence of other social processes* (Corley et al., 2006). This view foresees the separation between the collective level identities and the individual level identities.

In light of what exposed, for the purpose of this study, the phenomenological nature of organizational identity has been assumed.

### **2.1.3 Organizational Identity Perspectives**

Discussed the ontological and epistemological assumptions behind the concept of organizational identity, the assumption of its phenomenal nature brought organizational scholars to develop two distinct views of organizational identities: the social constructionist, (Gioia, Shultz, & Corley, 2000) (Harquail & King, 2003), and the social actor perspectives (Whetten & Mackey, 2002). In parallel, two other organizational identity outlooks, disconnected from the previous phenomenological discussion emerged from the population ecology's studies (Zuckerman, 1999); (Polos, Hannan & Carroll, 2002) and the organizational institutionalism field (Glynn & Abzug, 2002). The core message of these four perspectives is synthesized below:

**Social Actor:** From this viewpoint, organizations are seen as collective social actors having social, legal status and an explicit self-referent: *categorical self-descriptors* (formal claims) *used to satisfy their identity requirements* (Whetten & Mackey, 2002; p. 396).

More concretely, according to this view, the organizational identity inhabits in a set of shared institutional claims which have the scope to provide continuity and consistency to members' collective self-perception. (Whetten & Mackey, 2002). These claims are usually chosen by organizational leaders, founders, or top managers and are also useful to present the organization as similar or different respect to other companies within a given industry but keeping the organization's uniqueness. (Ravasi & Shultz, 2006).

Continuing, this perspective sees organizational identity as a property of the organization, and as an entity strongly characterized by the commitments, obligations and actions undertaken by the company itself. (Ravasi & Shultz, 2006). Identity is also seen as that construct that enables the social actor to satisfy its inherent need to be unique and the same organization yesterday, today, and tomorrow. (Whetten & Mackey, 2002).

**Social construction and (re-construction) view:** Empirical evidence showed how organizational members perception about core and distinctive characteristics of their organization may evolve over

time due to internal and external stimuli (Dutton & Duckerick, 1991; Gioia & Thomas, 1996; Fiol, 2002). According to these results, some scholars directed increasing attention on the concept of “*collective understanding*” of the core organizational characteristics, capable to distinguish that organization from another one. (Ravasi & Shultz, 2006) More in specific, under the social-constructionist perspective, organizational identity is generated by *a social-construction process located in the distributed awareness and in the collective consciousness of organizational stakeholders* (Hatch, 2005; p. 90). It is the result of a dialectic relationship between the individual and collective perception about: “Who are we as a company?” (Harquail & King, 2003).

The social-constructionist view gives result to the “*sensemaking process*” behind the social creation of the organizational identities (Fiol, 2002). Scholars embracing this point of view noted that in the case of organizational transitions, the interpretation and the perception of what is core and distinctive in the organization changes. So organizational change requires to “*make new sense*” of an organization.

Besides, under this perspective social beliefs are expected to be periodically reviewed, as organizational members modify their perception of the organization in response to environmental changes. Usually, the strategic response to organizational changes is led by organizational leaders who propose a different conceptualization of the organization, capable to influence the collective organizational identity understanding. Formal claims are not denied by social constructionists. They are always important elements to preserve a sense of continuity in the organization. But under this perspective, the meaning associated with the claims’ labels may change as organizational members try to adapt to the new environment. (Ravasi & Shultz, 2006) (Gioia; Shultz & Corley, 2000).

The shift from organizational claims to collective understanding favours research focused on understanding organizational response in case of drastic changes (Ravasi & Shultz, 2006), such as disruptive innovations, that put at risk the core and distinctive characteristics of an organization. This is the reason why the social constructionist is the perspective adopted in this master thesis.

**Institutionalised view:** this third perspective provides an interesting lens through which considering identity patterns at industry or sector levels, taking into account socio-cultural and historically norms. In addition, according to this view, all the companies are subjected to institutional forces and therefore companies that share same industries or markets will have some similar characteristic in their identities (Glynn & Abzug, 2002).

More deeply, this perspective claims that the identification of the identity within a specific category of organizations increases its credibility, appropriability and professionalism in that specific domain

(Glynn & Abzug, 2002). Organizational identity is enacted through clear statements of belonging to a specific category or domain of organizations. It specifically states which group of organizations a company belongs to and what its competitive terrain is (Porac et al., 1989). Proponents of an institutional perspective tend to focus on “identity claims” (Ashforth & Mael, 1996) put at the disposition of organizational members to construct a sense of collective self. (Ravasi & Shultz, 2006).

**Population Ecology view:** According to the Population Ecology studies, the organizational identity is a construct attributed to organizations by individuals external to the company, often called audiences or out-siders. Audiences decide what organizational features are relevant or not for a given company in order to be distinguished (Hannan, 2005). Identity persists as long as relevant outsiders continue to hold the same exact expectations associated with an organization (Laszlo, Hannan & Carroll, 2002). As long as, this organization respects the external audiences’ expectations, it meets social approval, and its organizational identity remains stable and considered in the external environment. However, when the company violates these expectations, social disapproval leads to the devaluation of the organization and its previous identity. This perspective is clearly visible in Zuckerman (1999) work, where the author demonstrates that firms operating in wide combinations of markets and industries, and that do not fall in any of the specific analysts’ categories are less likely to be followed by analyst them. Consequently, this lack of analyst’s coverage reduces their attractiveness to investors, and their stock market reduced accordingly.

#### **2.1.4 Organizational Image definitions**

As previously anticipated, the concept of organizational image sometimes is mistakenly interchanged with the one of organizational identity. However, shedding light on the organizational image is relevant to explain how the concept of organizational identity’s endurance has been unhinged, in a way that today organizational identity malleability in the short-medium term is widely accepted by organizational scholars.

Coming back on the studies of the organizational image, Dutton and Dukerich (1991) firstly defined it as the way organizational members think external stakeholders view their company. They successively renamed this concept “*construed external image*”. Moving on, Whetten (1992) reframed this definition in the way “organizational elites”, such as founders and top management, would like external audiences to conceive the organization. Here the organizational image has to be intended as the attempt to represent the key organizational features of the organization to external audiences. The organizational image can be also an external projection of the company’s future image, useful to

communicate to organizational insiders and outsiders the company's new direction (Gioia & Thomas, 1996). Projected images can represent faithfully traits of the organizational identity or not. In fact, according to Bernstein (1984), they can be also a simply fictitious construction of public impressions ad hoc created to appeal to outsiders.

Assuming a more external point of view, Berg 1985 defined the organizational image as the resulting public impression of an organization consequently to a given action or single event. This concept was renamed under the label "*transient impression*". Also Fombrun (1996) supported this vision of organizational image but with a different nuance. It forged the term organizational reputation intending a collective, global cumulative judgment of an organization as a result of events and actions taken over a long period a time.

Finally, to complete the casuistry of meanings attributed to this concept, in the fields of marketing raised the concepts of corporate identity, corporate image, and image management. In this case, all these three denominations have to do with the visual representations of the company through logos, symbols, jingles, advertising, etc... (Van Riel & Balmer, 1997)

To conclude, from this quick overview of the concept is clear how organizational image is a wide construct interplayed with internal and external perceptions. Moreover, new organizational images, both projected and received, can influence insiders and outsiders' impressions and consequently their way to act. These considerations are vital to comprehend the dynamical conception of organizational identity expressed in the next section.

### **2.1.5 Toward a dynamical conception of Organizational Identity and the Adaptive Instability's notion**

Albert and Whetten's definition of organizational identity, characterized by the three connotates of centrality, distinctiveness, and endurability, with the time goes by, was distrusted by modern scholars due to its static nature and incapacity to explain organizational adaptation. For many of these academics, the concept of organizational identity had to be reshaped more fluidly and dynamically, investigating the relationship between identity and organizational image. The theoretical steps that brought to a more fluid conceptualization of the concept of organizational identity, which is core for the purpose of this study, are augmented below:

The first eminent article on this diatribe was: "Keeping an eye on the mirror: Image and identity in organizational adaptation" by Dutton and Ducherick (1991). The two authors, describing how the Port

Authority of New York and New Jersey dealt with many homeless people living at its facilities, proposed a new process, where image and identity are strongly linked, that enables the organization to adapt to the external context and to positively change the negative public image that the society had of the company. Basically, according to research findings, identity and image guide the interpretations about an issue, an event that affects the company. Organizational members have the advantage to both see and evaluate their organizational beliefs and the perception that others have of their company about that issue. When organizational members perceive a discrepancy between identity and the external image they become motivated to push for or against organizational identity, promoting an act of change at the organizational level, with the final mission to manage outsiders impressions, capturing a more positive reflection. This process is useful to link individual cognition and organizational actions and demonstrate the importance of the external context in the process of organizational identity and image change. For this reason, the two authors redefined the concept of organizational image as “construed organizational image” (Dutton & Ducherich, 1994)

Gioia & Chittipeddi (1991) instead proposed a framework to explain the beginning stages of strategic change faced by a President in the American academia environment. In this study, it was discovered the importance to project a future, ambiguous, but persuasive image of the organization of the future (as being in the top 10 universities) to enable the change. This concept was aforementioned “ambiguity by design” and it consists in a mechanism to force identity changes and to have the political justification to do so, through the creation of a new vision (sense-making act) and its wide communication across the organization (sense-giving act). It is an effective tactic for leading stakeholders to question the current existing way of seeing the organization and to effectively enable the change, breaking the status quo. This process is usually initiated by organizational leaders thanks to their cognitive ability to frame and present the situation as an upgrade of the current organizational condition.

Building on Ducherick and Dutton’s (1991) conception of image strictly tied to identity, and investigation strategic change into American academia, Thomson & Gioia (1996) found that a plausible, idealistic and desirable projected future image seems to help organizational members to make sense of the change and get ready for it. It represents also a good method to link top management’s interpretation of the future with the internal context of the organization. Moreover, new organizational actions consistent with the new projected image or vision, but at the same time inconsistent with the current way to see the organization can destabilize the current organizational identity and image, favouring the institutionalising of the strategic change. In light of it, the two authors found that identity and image can be altered in a very compressed period. So, traits of the

organizational identity presumed essentially immutable instead are more fluid and malleable than what Albert and Whetten (1985) theorized.

However, the work which sealed the fluidity of the organizational identity's concept is: "Organizational Identity, Image, and Adaptive Instability" by Gioia; Shultz and Corley (2000). Identity, as a stable notion, was definitely declared as problematic due to its strict interrelationship with the organizational image. The organizational image represents a catalyst for organizational members to continuously review the organizational self-definition. It acts as a stable destabilizing force on organizational identity that requires an iterative reconstruction of the organizational sense of self.

### **Identity and image interrelationship process**

More concretely, organizational members develop over time a sense of "who we are as an organization" and communicate this sense of identity internally and externally the organization. However, being part also of external audiences they capture positive and negative feedbacks about their company from the environment, making identity concern salient. The comparison and an eventual mismatch between their conception of organizational identity and the construed external image captured in the external environment create a status of instability that push organizational members to promote a change of identity or a change of organizational image. In case the problem of the mismatch resides in the organizational identity, organizational managers can pursue an identity's reconstruction process or project an attractive vision under the form of a future desirable image to break the current status quo. If the problem is in the organizational image communicated externally the only possibility is to act on the corporate identity (Logos, advertising, jingles, brand management...). However, this is not enough. The crucial point to understand is the so-called principle of the feedback loop. The attempt to change the identity or the organizational image perceptions' of the company will generate other images that will alter the past construed images in the society, which in turns will generate further feedbacks that will stimulate another reflection and comparison between company's identity and organizational image. This is an iterative process (Gioia; Shultz & Corley, 2000)

### **The concept of adaptive instability**

Consequently to this tied interrelationship between identity and image, organizational identity becomes a dynamical and fluid (or instable) social construct that involve insiders and outsider. This possible instability confers to organizations a higher likelihood of adaptation to the external environment that is always undergoing continuous change. However, this process does not provoke the dissolution of the identity or its substitution with construed images. Rather it allows a constant



realignment between the organization's self-definition and the external context. (Gioia; Shultz & Corley, 2000)

The apparent durability of the organizational identity is illusory. It resides in the stability of the labels utilized by organizational members to describe the sense of self of the organization. But the meaning, associated with these labels, changes and consequently organizational identity mutates according to the different interpretations attributed in different situations, periods, by diverse groups of organizational members. Organizational identity should be seen as a precarious construct continually revised by members of an organization, which embrace the paradox to keep the status of apparent durability to create continuity and coherence with the past, but at the same time capable to be adaptive in changing environments. Hence the famous concept of "*Adaptive instability*" coined by Gioia; Shultz & Corley (2000).

### **Postmodernist Vs Revisionist view**

This new definition of organizational identity as a dynamic and fluid concept open to a meaningful discussion between revisionist and postmodernists:

*For the Revisionist, the* organizational past is periodically reinterpreted by members considering current circumstances, organizational beliefs, and outsiders' perceptions (Biggart, 1977). This approach has the scope to keep apparently stable the organizational identity, even if its interpretation, meaning changes. Identity is the central anchor to the past. It preserves its uniqueness and distinctiveness, despite its fluidity in the interpretation. Revisionist's approach is in particular emphasized by the concept of "*ambiguity by design*", introduced by Gioia and Chittipeddi (1991) which foresees the intentional instillation of ambiguity in the organizational image or identity's labels to produce the *necessary interpretative instability to facilitate* the change of identity's aspects meaning.

On the other side, *Postmodernist* such as Boudrillard (1988); Perniola (1982) sustain that image dominates identity and the institutional claims. The multitude of images, produced across time, make identity disappear. Regardless the starting point, everything ends as an image. Organizational identity remains an illusion and a copy of images.

### **2.1.6 Organizational culture and its link with identity**

Until now, the review considered the interrelationships between organizational identity and image. This last concept is more an external construct than an internal one. For this reason, researchers (Hatch and Shultz, 2002; Ravasi & Shultz, 2006; Dalpiaz, Ravasi & Rindova, 2011) started to investigate

which internal organizational elements could directly affect the definition of organizational identity (Corley et al., 2006). Despite being fundamentally distinct respect to organizational identity, the concept of Organizational Culture was found to be relevant.

In the early sociological studies, organizational culture has been defined *as taken for granted values, norms belief, and symbols acquired through socialization* (Wrong, 1961; p. 413). Ravasi & Shultz (2006) instead conceptualized it is *a set of shared mental assumptions that guide interpretation and action in organizations by defining appropriate behaviour for various situations*. These implicit organizational beliefs can be expressed through *formal and informal practices and of visual, verbal, and material artifacts*. However, for the purpose of this research, the leading definition's adopted has been the one proposed by Schein (1983): The summation of the organizational beliefs of employees, of the way the firm organizes itself and of the nature of the interactions among employees.

Scholars of organizational identity, since the beginning, struggled to explain how to conceptualize separately the concept of identity and culture. In light of it, Albert and Whetten (1985) affirmed: *“Consider the notion of organizational culture....is culture part of organizational identity?”* However, although organizational identity can be based on a specific set of organizational values, identity cannot be assimilated to organizational culture. The values contained in the organizational identity are simply considered core, distinctive and continuous traits of the organization

Moving on to the dynamics between organizational identity and organizational culture, Hatch & Shultz (2002) built a theoretical framework to explain how image and organizational culture contributes to the internal and the external identity's definition. In particular, building on Mead's sociological conceptualization of the identity's relationship between “Me” and “I”, Hatch and Shultz (2002) defined the respective analogues: which are Image and Organizational Culture and proposed a social process where the organizational identity is theorized in relation to both the elements (Figure 2.1).

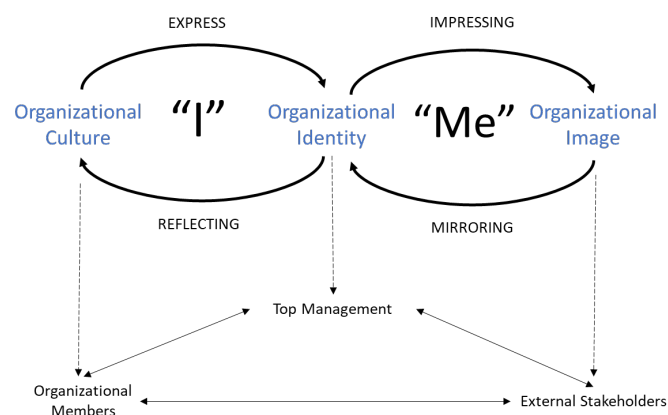


Figure 2.1: Hatch's and Shultz's organizational Identity Dynamic model (2002)

The model focuses on four kinds of interactions among these elements: *mirroring*, *reflecting*, *expressing*, *impressing*. In the *mirroring*, the organization is influenced by the image external audiences have of the company. This perception can destabilize to identity, pushing organizational members to revise it. In the *reflecting*, images mirrored in the identity are interpreted with existing organizational beliefs, embedded in cultural understandings. When this interaction is put in place identity is changed or reinforced activating cultural values. In the *expression* stage, organizational reflections and cultural values are incorporated in the identity. In this interaction organizational artifacts become salient because they emotionally and aesthetically communicate the organizational identity's foundations of a company to organizational stakeholders. Finally, in the *impressing*, organizational identity can be used symbolically to impress others, in order to convey a new strategy, a new direction with a claim, or with a desirable future image projection.

The theoretical framework, based on these four interactions, clearly explains how organizational identity is socially construed, maintained, and reviewed. However, the cyclical iteration of the process is required to guarantee a perfect fit between identity and its internal and external environment, respectively inhabited by insiders and outsiders that are interested in joining the dynamical process. In light of it, critical is to create and keep open a dialogue between all the organizational members, top managers and external stakeholders to avoid the realization of identity dysfunctions such as *Narcissism (Identity primarily construed on organizational culture)* and *hyper-adaptation (Identity construed primarily on organizational image)*. Besides, this argumentation results very important because it gives a strong argument to separate culture and identity and to consider it as a fundamental construct, together with the image, to define organizational identity.

Ravasi & Shultz (2006) supported the theoretical work Hatch & Shultz (2002) with empirical data proposing the case study of (B&O) Bang & Olufsen's identity reconstruction. In their study, organizational culture represents a source of cues supporting "sense-making" actions of organizational leaders who can also use organizational culture as a platform for "sense-giving" actions aimed at affecting the internal perceptions within the organizations. Organizational culture with construed images promotes changes in institutional claims and have the power to directly influence the shared organizational identity's understanding, when a threat is perceived, leading to a redefinition of the organizational sense of self.

Organizations can use their cultural heritage, in particular cultural artifacts (products, meaningful documents, logos, advertising, mottos....) perceived by organizational members as a legacy of a shared past, as a starting point to reconstruct and make sense of their identity in face of the environmental

threats they are facing. Moreover, cultural heritage can be exploited for a sense-giving reason by organizational leaders. In fact, introducing the new desired image in a narrative from the past, or linking the change with the history of the company, leaders can better communicate and accommodate the change showing a sense of continuity. In fact, in the case of B&O, selected images from the corporate past were utilized to give a new sense to the present and future of the organization, consistently sustaining the projection of a “new desirable” image deeply embedded in the past. This view is perfectly adherent with the Revisionist perspective of Biggart (1977) previously presented.

### **2.1.7 Culture as a “toolkit” and “Cultural bricolage”.**

The interrelationship between identity and culture just considered allows introducing two new recent views of organizational culture that are gaining rising attention in organizational studies: “Culture as a tool kit” and the concept of “Cultural bricolage”

Starting from the first one, the conception of culture as a toolkit born with Swidler (1986) and it derives from sociology. Culture, in a general sense not strictly organizational, does not influence people’s action providing values to follow, but by *shaping a repertoire or a tool kit of habits, skills and styles from which people can construct their way to act in the society*. Culture should be intended as “a “*tool kit*” of resources such as symbols, stories, rituals, worlds view which people may use in varying configurations to solve different kinds of problems” (p. 413). However, the limitations of that specific tool kit necessarily constrain the possible actions of the people that use it (Swidler, 2001). Similar to this conception of culture was the idea of “habitus” advanced by Bourdieu (1990). Each “individual habitus” (way of thinking, social behaviour) can be contextualized in a specific “class habitus” or cultural register (a collective way of thinking, social behaviours). Each person can choose his favourite “class habitus”, assuming the “individual habitus” preferred. However, Bourdieu respect to Swidler delimits the individual use of cultural resources to a specific class habitus or cultural register.

This sociological conceptualization of “culture as a tool kit” or as a “class habitus” was then introduced in organizational studies. Weber (2005) proposed an approach to investigate “cultural repertoires” (or class habitus”) and their influence on companies’ decisions at the industry or market level. In specific it was discovered that pharmaceutical companies use industry’s cultural repertoire to formulate competitive strategies of action. Then, in the study on the evolution of the word “corporate governance”, Ocasio and Joseph (2005) found that this notion muted accordingly to the changes in the institutional context of reference. The finding brought to affirm that culture in a given context of reference affects economic processes by *providing relatively stable cultural resources* to interpret and

implement appropriate action strategies. Moving on, the observation that two different cultural registers, embedded in two different categories of professionals (musicians and managers) within the same organization (an orchestra) can generate conflicts up to make problematic the definition of the organizational core competences, resources, and shared values, bringing to the creation of meaningless identity claims (Glynn, 2000), emphasized the relevant impact of this principle on organizational identity.

However, the most significant contribution came from Ravasi, Dalpiaz and Rindova (2011) and their case study on Alessi, the most famous Italian company for home supplies. The authors noted that organizations, incorporating new cultural resources in their cultural repertoires, can develop unconventional strategies of action and strategic versatility. In fact, Alessi, thanks to the enrichment of its cultural repertoire, was able to create unconventional strategies learning how to serve multiple and diverse customers segments simultaneously, integrating marketing, product's development and production processes for all the products' categories.

Cultural repertoire enrichment and identity redefinition facilitate this process within organizations. For cultural repertoire's enrichment is intended the proactive expansion of the cultural "tool kit" of the organization with new and diverse resources that should coexist with existing ones. However, their management sometimes can result in paradoxical and require handling complex tensions, not only exploiting complementarities. The role of identity redefinitions is accommodating this paradox. In fact, in Alessi, the incorporation of new cultural resources for the development of new strategies was always supported by new identity's claims. This process can require a lot of investments but allow the organization to change more easily and differentiate itself within its competitive domain.

Despite the great relevance gotten by the conception of culture as a "tool kit", another stream of literature developed a construct which adheres even better to the ideas of Swidler (2001). The so-called: "Cultural Bricolage".

The sociologist's thought was that individuals can use *diverse cultural resources by holding them in "reserve" and activating them only* when they need (Swidler, 1986; 2001; p. 423). In response, the concept of cultural bricolage refers to an ad hoc usage of available cultural resources (physical, social, institutional inputs such as cultural beliefs, values, artistic movements, technological know-how, new backgrounds...) to accomplish specific missions, problems, or opportunities. Baker and Nelson (2002), starting from a previous conceptualization of Lèvi Strauss (1966) in which bricolage is defined as the capability to make something from what you have at disposition, in a condition of scarce resources,

emphasized this concept describing the cultural bricolage as a key organizational capability that increases the survival likelihood of a company and its attitude towards exploration when resources available decrease. It is a key entrepreneurial capability to learn in contexts of poor environments.

The concept of cultural bricolage is more opportunistic respect the conception of culture as a tool kit proposed by Ravasi, Dalpiaz and Rindova (2011). Bricolage is also associated with the creative recombination of elements belonging to more organizational categories. This process leads to breaking down the boundaries between different categories (ex. technological, artistic, organizational) within a company to create new opportunities (Rao et al., 2006).

To conclude, all the works discussed were mainly conceived at industry, market or organizational level. However, for this research, the conceptualizations of culture as a “tool kit” and “cultural bricolage” will be adopted and considered to investigate and evaluate top management’s behaviours in framing identity, and in activating certain specific aspects of the organizational culture of their companies, to promote the needed strategic organizational change, in the event of disruptive innovations. Perfectly in line with this conception of “*opportunistic picking*” in the next section the identity temporal dynamics, which guide top managers and founders to select elements from the past, shaping claims for the future, to maintain a stable perception of business continuity, will be discussed.

### **2.1.8 Temporal dynamics: organizational identity dealing with past, present and future**

Temporality is an identity perspective extremely meaningful, capable to trigger interesting dynamics if placed side by side to the concept of “opportunistic picking” described for cultural bricolage and culture as a tool kit.

Under the temporal perspective, identity is seen as a powerful lens to interpret the future in an ongoing present view, but at the same time useful to create a solid link with the past, providing the organization with a sense of continuity and respect of its heritage. Temporality has been defined in the organizational identity stream of literature as “*the ongoing relationships between past, present and future*” – (Shultz & Hernes, 2013; p. 17). Past and future are continuously re-constructed by organizational members when they try to re-define what the organization is becoming. In this process of reconstruction, introducing the new company direction within an identity story, can draw coherence from the organizational past and establish the way for the future (Kimberly, 1987, p. 233).

The debate about this perspective became lively with the conception of “*narrative*” proposed by the psychologist Bruner (1991), who sustained that specific domains of human knowledge and skills are

supported by “cultural tool kits”. One of these is the “narrative” tool, through which individuals organize their experience in the form of narrative – stories, excuses, myths, reasons – to justify why they do or not do something. Narratives are a version of reality whose acceptability is governed by “narrative necessity” rather than by empirical verification and logical requirements. This conception is particularly meaningful in texts’ understanding where the meaning extracted by the reader and the listener can differ from the text’s expression. This discrepancy can lead to divergent interpretations of the original meaning and to construct a new persuasive conception of that text in the present. This phenomenon is accentuated by the degree of ambiguity inside narratives, while within an organization it can be emphasized by the ambiguity of organizational claims (Gioia & Chittipeddi, 1991).

Similarly, Giddens (2001) explained how identity is a reflexive construct that supports continuously revised biographical narratives which integrate events occurring in the external world in order to be judged as coherent and verisimilar with the current environment. While, consistently with the observation of discrepancy between meaning and texts, Gioia, Shultz and Corley (2000) affirmed that *“The durability of identity is actually contained in the stability of the labels used by organizations members to express who or what they believe the organization to be, but the meaning associated with these labels changes so that identity is actually mutable”* (p. 64). In addition, corporate spokespersons need to show organizations as stable but adaptive entities. This brings about a situation in which spokespersons need narrative and have to apply their *“creative ability to reinterpret the mission of the organization and to link rhetorically the changes with central symbols of the past”* (Christensen & Cheney, 2004; p. 258).

Also Chreim (2005) and Czarniawska and Joerges (1994) see organizational identity as a ‘continuous process of narration’. Especially in Chreim’s (2005) study, where the narrative of a Canadian bank, led by a transformational leader, evolved concurrently with its internal and external environments, the author discovered that identity seems to be something voluntarily ambiguous: it *“remains open to multiple readings and to subsequent re-writing that continuously destabilize it.”* Each text produced by organizational authors within the bank had the function to destabilize the previous ones, putting identity under conditions of change. This was evident in the period of great organizational transitions where continuity with the past was just rhetoric. However, Chreim’s findings confirm the value and the effectiveness of the temporal perspective to support identity as an important factor in accommodating organizational adaptation. The convergence of “past and new” is a strong mean of persuasion that allows new directions to be undertaken under the umbrella of persistent labels and values.

More technically, narrative construction involves the selection, manipulation, and omission of information from the past and the represented, aimed at influencing interpretations and impressions of organizational members and external stakeholders (Brown & Eisenhardt, 1998). Shultz & Hernes (2013), which explored the temporal perspectives in a longitudinal case study of identity reconstruction of LEGO group, discovered that subconsciously or even proactively, the use of textual, material and oral memory forms enable organizations to evoke the past in the process of identity re-alignment. This process was discovered particularly influencing in the elaboration of identity claims for the future. Also, the authors discovered that the research of cues from the past intensifies and a deeper reconstruction of the identity is pursued when top management's members are directly involved in the process and when the crisis is perceived as more severe. Conditions also found in the film manufacturers' case studies presented in this research (chapter 6).

To conclude, the temporal identity perspective is still the object of lively research. A recent study regarding the identity statements of a wide pool of long lives Japanese firms, discovered three different discursive strategies (elaborating, recovering, decoupling), based on different forms of selective remembering and forgetting, that strategy makers can use to restyle identity and foster the change, but keeping a sense of continuity with the past (Sasaki, Kotlar & Ravasi, 2019). These findings are particularly meaningful because corroborate the idea of "*adaptive instability*" (Gioia et al., 2000) but advancing the idea of partial substitution of the labels not only of the meaning.

Even if not simple to be handle, the convergence of past, present and future and the utilization of narratives can be an incredibly powerful resource to promote identity change successfully.

### **2.1.9 Multiple identities**

In social sciences and more in particular in sociology one very hot topic of discussion regards the multiplicity of people's identity (Mead, 1934; Fieldman, 1979; Thoits, 1983). In parallel, as happened for many other sociological concepts, the discussion about multiple identities was imported in organizational studies and applied to companies and institutions thanks to the works of Albert & Whetten, 1985; Ashfort & Mael, 1996; Rao & Golden-Biddle, 1997.

Albert and Whetten, started this stream of discussion in their famous seminal article (1985) affirming that organizations can have two or more organizational identities. Today, thanks to the numerous empirical evidence and quantitative findings collected in the research field, the multiple identity's perspective seems broadly accepted. However, two opposite conceptualizations of this modern point of view emerged: Hybrid identities vs Multiple organizational identities (Corley et al., 2006).



Hybrid identities are combinations of *fully articulated identities* that seem discordant (Albert & Whetten, 1985). We need to distinguish between “ideographic” and “holographic” hybrid identities (Corley et al., 2006). “Ideographic” identities are held only by defined organizational subgroups but are not common across all organizational members. This is the case of the Atlanta Symphony Orchestra in which the musical ideology held by the musicians clashed with the utilitarian view of business managers (Glynn, 2000). On the other side, “Holographic hybrid identities” consider that multiple identities, even if conflicting, are held by all the organizational members (Foreman & Whetten, 1997; Golden-Biddle & Rao, 1997). For instance, Foreman and Whetten (1997) studying rural cooperatives, which are good prototypes of hybrid organizations that embed two different systems of value such as the normative (“Ideological rationality, altruism, traditions”) and the utilitarian (“economic rationality”) one, demonstrated empirically that people who work in these organizations tend to accept discordant values and goals, typical of their multilevel identity organization.

On the other hand, the multiple organizational identities perspective sustains that organizations have many identities, that they and their managers can and should intentionally manage (Pratt & Foreman, 2000). In light of it, Cheney (1991) found that top managers can play an eminent role in shaping the beliefs of organizational members, which in turns can shape the organizational identities of the companies. In addition, respect to the previous conception of hybrid identities, it is not necessary that multiple identities are antithetical, consciously held, and shared completely by all organizational members. Contrarily, can be plural, involve many conceptualizations of the organization, and can generate synergies between and among them (Pratt & Foreman, 2000). Organizations with multiple identities should identify how many identities they wish to maintain and which level of relationship they wish to create or keep among them. The key factor is, according to Pratt and Foreman (2000), the cognitive capability of managers to consistently organize them. The benefit from managing multiple identities are various and relevant such as increasing the organizational degree of adaptation, meet more diverse demands and the expectations of many stakeholders. Contrarily they can paralyze the management of an organization, create internal conflicts among organizational subgroups or inactions, lose legitimacy and loyalty, require large investments (Pratt and Foreman, 2000).

The multiple identities’ perspective found larger support than the hybrid one, especially in authors such as Fiol, 1991; 2001; Glynn et. al, 2000; Sillince & Brown, 2009. Fiol (1991) sustained this perspective but under a new interesting outlook, proposing multiple organizational identity management as a core competency, capable to lead organizations towards the construction of a

sustainable competitive advantage (SCA)<sup>1</sup> by providing meaning and justification to new adaptive behaviours. However, with the time, the author (Fiol, 1992) changed his previous multiple identities' conceptualization because of the impossibility to create SCA in modern hyper-competitive contexts, in which core competences need to be constantly destroyed and reshaped. The new author's proposal to create renewable competitive advantage was the identification of desirable values and outcomes important for the organization, to which employees can identify themselves, independent from the many identities the organization can create on varying of a new set of skills and competence required by hypercompetitive contexts. Instead, in a more recent study, the organizational multiple identities' view was found to be crucial for supporting legitimacy claims for organizations subjected to contradictory demands. An obtainable result by framing identities with different rhetorical schemes (Sillince & Brown, 2009).

Finally, very recently, authors are proposing a new branch of the multiple identity perspective named "*multifaceted view*", in which identity is theorized as an aggregate composed by different facets activated accordingly the organizational necessities. In particular, Kamerlander, Konig, Richards (2018), adopting this new outlook showed how the "Organizational role identity" facet and the "Organizational domain identity" facet influence the interpretations and the responses to disruptive innovations, causing incumbents' heterogeneous decisions. Building on Gustafson (1995), the authors claimed the necessity to abandon the categorical membership-defined view of organizational identity, to further investigate which other identity facets are activated by organizations to face contexts of disruptive innovations. And this is officially one of the main objectives of investigation for this research project.

### **2.1.10 Organizational Identity and disruptive innovation.**

One of the most insidious challenges for existing organizations is making sense of disruptive innovations and figuring out how to successfully adapt to the new environment. The traditional literature on disruptive innovation, more deeply discussed in paragraph 2.3, basically focused on the methods and processes to create revolutionary breakthroughs and on incumbent's organizational adaptation (or organizational change). Within this important literature, a new lively debate emerged around the dynamics between organizational identity and organizational adaptation in case of disruptions. Scholars are trying to investigate how the first enable and constrain the second aspect.

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<sup>1</sup> According to the tradition Resource Based View (RBV) of Porter (1985)

Entering the discussion, as previously introduced, identity is a powerful lens which provides sensemaking and for this reason, it is particularly powerful in moments of transition and uncertainty for the organization (Tripsas 2009). The innovator's dilemma expressed by Christensen and his collaborators (1997; 2003; 2006; 2015; 2018), faced by established companies in case of market disruptions, such as the advent of digital imaging and smartphones for film manufacturers, is deeply rooted in and affected by organizational members' cognitive schemas (Gilbert, 2005; Tripsas & Gavetti, 2000). In light of it, recent studies have demonstrated that organizational members' different identity perceptions can guide incumbents to undertake different responses to disruptive innovations (Tripsas & Gavetti, 2000; Kamerlander, Konig & Richards, 2018).

Organizational identity seems to have a great potential to provide a more grounded understanding regarding the incumbents' difficulties to adapt to identity-challenging technologies (Tripsas, 2009). In fact, in the case study on Linco corporation's change of identity, a well-known supplier of flash memory cards for the digital camera industry, identity was found to be a critical source of inertia for exploring new technological domain (Tripsas, 2009). The first reason resides in the nature of identity to be substantially a filter, which on the base of its set up, will be able to interpret only some of the external stimuli in the surrounding. This can lead organizations to miss some technological opportunities. Secondly, identity is strongly connected with routines, traditional procedures, organizational beliefs deriving from internal and external audiences, which take roots over time. Therefore, changing behaviours and adapt to new contexts becomes complex for incumbents.

Furthermore, identity according to Tripsas' (2009) has to be intended as a "*guidepost*" which directs the development of some routines and capabilities over others and reinforces some beliefs above others. For this reason, when an organization wants to embrace a new technology, a change also in identity is critical. In fact, the author's study demonstrates how the change of routines, procedures and organizational beliefs, without identity realignment can bring the company to rigidity and to fail to change. But also, on the contrary, identity adaptation must go beyond rhetorical adjustments of the identity claims and generate procedural and ideological modifications. The dilemma, however, remains between bypassing an attractive identity's challenging opportunity and keeping the current identity or pursuing the opportunity and start a risky process of identity's adaptation.

These considerations have found support also in the investigation of an organizational transition from a product business base to a platform business base where identity played a key role (Altman & Tripsas, 2015). In detail, the proactive ability to plan the change in identity is often necessary to effectively accomplish and pursue organizational and strategic changes of different depth.

Further studies found meaningful trying to understand how to manage the tensions generated by the stability/change paradox settled by identity and innovation, in the moment of necessary organizational change dictated by circumstances (Anthony & Tripsas, 2016). These tensions are mainly produced when organizational members' behaviour conflicts with organizational identity. Analysing this issue, the authors proposed a new framework in which innovations are placed as a continuum from identity enhancing to identity stretching, and from identity stretching to identity challenging, explaining dynamic associated with each of these three clusters of innovations. The relevance of this work is the demonstration that organizational identity dynamics change respect to the type of innovation faced, and so also managers should become aware of the different effects triggered in each situation. For this reason, the focus of the research has been settled on identity management in case of disruptive innovations.

Tied to the work of Anthony and Tripsas (2016), Garud and Karunakaran (2018) recently investigated how organizational ideology, defined by (Fine & Sandstrom, 1993; p. 275) as a “*set of interconnected beliefs and their associated attitudes*”, can create commitment towards identity-challenging innovations, enabling companies and their members to overcome the internal inertia for the adoption of identity challenging innovations or to go beyond the well-noted “*not invented here syndrome*”. In detail, it was found that Google, uses three specific mechanisms to enable identity-challenging innovations which are: *reflection through action* that is the integration of new thinking in doing; *prototyping* that enables the materialization of wild ideas; *collective engagement* that facilitates the scaling up ideas through distributed efforts. Together these three mechanisms constitute Google's organizational ideology of “*participative experimentation*”, which facilitates identity challenging innovation adoptions and consequently the broadening redefinition of its identity at the end of the process in case of success.

Rhetoric was found to be a powerful tool to fulfil the organization's paradoxical need to lessen individual identification with the existing organizational identity and to facilitate adaptation and engagement towards the new desired direction (Fiol, 2002). Another possibility to achieve innovation's adoption, but continuing the exploitation of traditional businesses, is the stretching of identity (Tripsas, 2009). The problem here is to not make identity too broad, missing Zuckerman's (1999) categorical imperative. A final opportunity is the exploitation of the current identity by deploying in-house original existing technology and capabilities, pursuing new market opportunities like Fujifilm, which exploited its fine chemical competence to enter the skincare industry with Astalift (Tripsas, 2009).

As anticipated in section 2.1.9, one of the hottest topics is trying to understand why incumbents react heterogeneously to disruptive innovations. A first reason can be found in the way decision-makers frame disruptive innovations. The same disruption can be perceived as enhancing or threatening the current organizational identity by the organizational leaders of different incumbents belonging to the same industry. (Livengood & Reger, 2010; Anthony & Tripsas, 2016). The framing stream of literature will be further investigated in section 2.2, due to its relevance.

Moreover, a further reason can be found in the way companies re-align their identity's perceptions and activities when disruptive innovations emerge (Anthony & Tripsas, 2016). Regarding this topic, Livengood and Reger (2010), studying the effects of organizational identity on organizations' competitive dynamics, they claimed attention to investigate the antecedents of managerial behaviours which can remark the influence of certain affective, psychological, and cognitive factors on organizational decisions. Consequently, they introduced the theory of "*Identity domain*" to explain the reason why firms compete vigorously in certain business arenas rather than others potentially equally or more profitable. Identity domain is defined as "*the top management's consensual understanding of the competitive arena that best demonstrates and reinforces [the existing] organizational identity in the market-place*" (p. 48). Consequently, *different* organizational leaders of different companies can perceive their identity domain differently. This difference in perception lead organizations of the same industry to undertake different decisions. Under this perspective, identity and competitive dynamics must be seen as coevolutionary and reciprocal straightening forces. In addition, such a new identity's conception reinforces the so-called AMC (awareness-motivation-capability) perspective of competitive dynamics, which explains managers unwillingness to change their strategies.

The previous literature regarding the relationship between innovation and identity treated organizational identity mainly under the social and institutional perspective. But recently, academics reconsidered these perspectives as too limiting. Organizational identity is a multifaceted construct embedded in cognitive schemas that cannot be relegated only to membership within a specific industrial domain (Gustafson & Reger, 1995). There is a necessity in organizational studies to answer to other identity's question such as "*why and how we do what we do? How do we relate to others?*" This quite lost consideration of Gustafson & Reger (1995) opens the path towards further possible investigations that will be explicated in the next section.

### **2.1.11 Finding the gaps: Identity Management, the multifaceted view, and Core Competences.**

#### **Main Gap: Identity Management process**

From this broad review, the main emerging theoretical gap is a substantial paucity of empirical investigations and evidence around the management process implemented by incumbents' managers, to promote identity's realignments aimed at accommodating organizational change, especially in moments of disruptive innovations. As previously presented, some steps ahead have been made under the temporal identity perspective, with the study of managerial techniques to shape organizational identity claims (Sasaki, Kotlar & Ravasi, 2019; Chreim 2005). Other scholars focused on the management of the organizational image through marketing techniques, the renovation of the corporate logos, new advertising, slogans, products and beneficial events (Van Riel & Balmer, 1997; Olins, 1989). Finally, others concentrated on the role of organizational culture and cultural repertoires to foster identity reconstructions and unconventional strategies of action (Ravasi & Shultz, 2006; Dalpiaz, Ravasi & Rindova, 2011) and a few of them deepened the role of multiple identities (Kammerlander et al. 2018; Pratt, 2000; Gustafson & Reger, 1995). However, all these researchers have focused more on the techniques rather than on the process of identity management. The few papers that are centred on the process are mostly based on theoretical assumptions and propositions, not always supported by a direct empirical investigation on it (Hatch and Shultz, 2002; Gioia; Shultz and Corley, 2000). Furthermore, from the readings carried out, organizational identity management literature seems not very oriented to provide clear managerial guidelines to pursue identity realignments.

In light of it, as reported by Ravasi and Shultz (2006) and Kaplan (2008) more empirical research is required to shed light on the conditions that affect organizational leaders' capacity to carry out profound modifications in organizational identity. O'Reilly and Tushman (2013), instead, remarked the need to comprehend how managers can promote new organizational identities to accommodate exploration and exploitation, and how they can take advantage of the organizational past to foster different futures. Kammerlander et al. (2018) claimed further research into the relationship between identity facets and organizational adaptation in the occurrence of disruptive innovation. While Raffaelli et.al (2019) suggested that competence enhancing and destroying discontinuities can require different framing flexibility processes; and consequently, also different kinds of identity realignments.

Hence the need to understand the process of promoting new identities, or realignments, capable of creating business continuity with the past, but aimed at fostering new futures for the company,

especially in moments in which the corporate long term survival is put at risk, such as the emerging of disruptive innovation.

### **Secondary gaps: Identity multifaceted view and Core competences**

Moving on, two further secondary gaps have emerged from the studies and the observations discussed in section 2.1.10. Firstly, there is substantial lack of investigations about the dynamics between the multifaceted identity view and the adoption of identity-challenging innovations (Kammerlander et.al, 2018). Secondly, despite studies mainly focused on the question: “*who are we as an organization?*” (Albert & Whetten, 1985) and explained meaningful interactions among identity, images and organizational culture, the question “*What do we do as an organization?*” (Albert & Whetten, 1985) was neglected. So, because what we do as an organization strictly depends on the company’s core capabilities (Gustafson & Reger, 1995), a second gap in the literature regards the investigation of the role of core competences in organizational identity’s dynamics. How the interaction of core capabilities and identity affects incumbent responses to disruptive innovations remains quite unexplored.

Delving into the former gap, Kammerlander et al. (2018) found that established companies’ members make sense of disruptive innovations through two specific identity facets. The first one is the *organizational domain identity*. This facet, as previously reported in section 2.1.10, depicts *the members’ perception of the category of organizations to which their organization essentially belongs*. (Livengood & Reger, 2010, cited by Kammerlander et al. 2018; p.1124). The second one, directly proposed by the authors, is called *role identity* and frames *the members’ perception of their longstanding, central and distinct impact on the overall development of their respective category and their organization’s essential reaction to other [new or existing] actors in that category*. (Livengood & Reger, 2010, cited by Kammerlander et al. 2018; p.1124). The two facets can be both enhanced and/or challenged. When dissonance between them emerges (ex. one is enhanced and the other one is challenged), identity-related struggles tend to unfold. Different combinations of enhancing and challenging perceptions of these two identity’s facets can produce heterogeneous adaptations decisions such as: highly flexibility, flexible non-adaptive responses, highly hesitant, aggressive routine rigidity. However, the authors claimed the necessity for further investigations on the topic and suggested the existence of other identity facets not already conceptualized. This research project wants to catch this opportunity and propose a new pair of identity facets, as furtherly explained in section 2.1.12.

Furthermore, the article of Gustafson and Reger (1995) is crucial for the exploration of this meaningful theoretical gap. The authors explicitly claim that identity is a multilevel construct characterized by

many “*tangible and intangible attributes*”. Gustafson and Reger reconceptualize identity, distinguishing it into two facets: the Substantive and the Intangible one. The substantive facet is linked with attributes that refer mainly to products, strategies, geographical scope, competitors, and most importantly organizational core competences, which answer to the question: “What do we do as an organization?”. On the other side, the attributes linked with the intangible identity mirror the company’s organizational culture and answer to the question: “Why and How we do things?” Its attributes are more difficult to be changed than the ones of the tangible facet. However, while the intangible identity facet is seen as stabilator, the substantive one makes possible quick responses to changing conditions. In fact, according to the authors, the intangible identity attributes must be considered a source of long-term competitive advantage. On the other side, semi-permanent attributes belonging to the substantive identity facet can be adapted to realign the dissonance between identity and hyper-competitive contexts. Consequently, successful changes can be promoted by forgetting old attributes from the substantive facet, substituting them with new ones.

The challenge is to maintain stability but at the same time to promote continuous organizational change in hyper-competitive environments. To do that, Gustafson and Reger (1995) formulated the “tectonic identity change” theory: an identity’s change strategy with moderate scope, speed and duration, which triggers changes only when identity gaps are perceived *wide enough to overcome cognitive inertia, but not so extensive to generate excessive cognitive opposition* (p. 466).

Investigating the second gap, related to the link between identity and core competence, for the best of the knowledge of the author, no very specific studies were undertaken. Only a few little considerations have been advanced. Much of the traditional research taking the resource-based view perspective (Porter, 1985) focused on core competencies as a major source of SCA (Nelson & Winter, 1982; Reed & DeFillippi, 1990). Core competencies can be defined as the “*set of skills and resources a firm possesses as well as the way those resources are used to produce outcomes*” (Fiol, 2001; p. 691). These competencies must be superior and imperfectly imitable by rival firms if they have to provide a sustainable competitive advantage (Reed & DeFillippi, 1990). Because physical technologies tend to be imitable over time, the focus on core competences has been especially on human assets.

Regarding the dynamics among innovations, core capabilities and identity, Tashman & Anderson (1990) affirmed that disruptive innovations require drastic and expensive shifts in core competences. Navis and Glynn (2011) noted that because organizational members have a shared understanding of “who we are”, there is also an implicit agreement about “what we do”, so organizational capabilities have the potential power to influence identity. In addition, Hatch & Shultz (1997) stated that *who we*



are is [inevitably] reflected in what we are doing and how others interpret who we are and what we are doing. Identity involves how we define and experience ourselves, and this is influenced by our activities and beliefs (Hatch & Shultz, 2000). Furthermore, Glynn (2000) declared that the definition of organizational identity can have significant effects on the company core competencies' perception.

Interesting is the position of (Fiol, 1991) that proposes identity adaptability as a core competency capable to lead the organization to the creation of a sustainable competitive advantage by contextualizing and providing meaning to new changing behaviours. But recently she abandoned the resource-based view due to the current environmental hyper-competitiveness (Fiol, 2001). Identity is not a source of competitive advantage but a dynamical capability. Employees should identify themselves with a set of desirable values important for the organization and independent from the many identities that the organization create as the core competencies required by the new context change. (Fiol, 2001).

Finally, in the Bang & Olufsen's case study on identity's reconstruction, Ravasi and Shultz (2006) report that: "*At B&O, members' reflections [on organizational identity] focused largely, although not exclusively, on product design and development practices and on their visible outcomes as product features*" (p. 37). But design and development processes are two of the strongest core competences of Bang & Olufsen. This clear empirical testimony and the observations of the other authors previously cited, remark the possible influential relationship between identity and organizational capabilities.

### **2.1.12 A new proposal of multifaceted identity**

In light of the review just presented, this research project, as anticipated, assume the multiple level identity perspective and wants to propose a new multifaceted identity view, taking inspiration mainly from the works of Gustafson and Reger (1995); Kammerlander et al. (2018); Livengood and Reger (2010); Garud and Karunakaran (2018); Tripsas (2009) previously discussed.

In specific, in the precedent section we explained how Gustafson's and Reger's (1995) Substantial and Intangible identity facets, have been designed to answer respectively to the questions: "What do we do" and "why/how we do things?". In this research project, instead, building on Albert's and Whetten's (1985) original questions about identity: "Who are we?" and "What do we do?" we propose a new couple of identity facets: The Ideological identity and the Utilitarian identity, which in this order, answer respectively the two questions mentioned above.

In specific, the Ideological identity facet directly refers to the organizational culture of a company intended as the summation of the organizational beliefs of employees, of the way the firm organizes

itself and of the nature of the interactions among organizational members (Schein, 1983). The label “ideological” wants to incorporate the concept of *organizational ideology* expressed by Sandstorm (1993) and then reconsidered by Garud and Karunakaran (2018), who defined it as a “*set of interconnected beliefs and their associated attitudes*”, that can create commitment towards identity-challenging innovations, enabling companies and their members to overcome the internal inertia for the adoption of identity challenging innovations or to go beyond the well-noted “*not invented here syndrome*”. Furthermore, contrary to the intangible identity of Gustafson and Reger (1995), this facet even if directly connected to organizational culture will be considered as flexible as the Utilitarian one.

On the other side, the Utilitarian Identity facet refers directly to the core capabilities of an organization. It represents the rational soul of the firm and it is influenced by the technology managed by the company, its corporate resources, and its technical and managerial skills. The label “Utilitarian”, plunge the roots in the work of Foreman & Whetten (1997) and Glynn (2000) who used this term to define the rational business side of rural cooperatives and of the Atlanta Symphonic Orchestra, in contraposition to their strong normative identity’s side. In this research project, however, the word “utilitarian” has a different meaning. It wants to underline the influence of the organizational technical repertoire on the organization identity. In addition, respect to the substantial identity facet of Gustafson and Reger (1995), the utilitarian facet is connected only on core capabilities and not to other attributes.

Figure 2.2 synthetize the overall proposal.

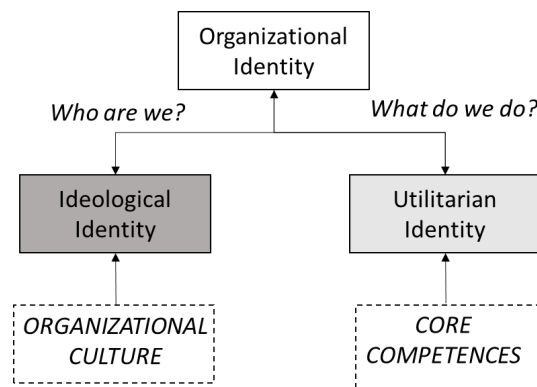


Figure 2.2: New Multifaceted Identity’s proposal.

Furthermore, according to the new multifaceted identity proposal, it is supposed the possibility to influence organizational identity, by enriching the technical and the cultural repertoire of the company with new capabilities and values, and by opportunistically picking (Ravasi et al., 2011; Rao et al., 2006; Glynn, 2000; Swidler, 1986; 2001; Lèvi Strauss, 1966) the attributes considered fundamental from these repertoires to promote adaptation in case of changing conditions, such as disruptive innovations. This choice to link these two identity facets directly with the cultural and the technical repertoires of

an organization presupposes the assumption of an internal perspective of investigation, which is in line with the Dan & Hang's (2008) methodological suggestion for studying the effects of disruptive innovations on organizations. So, the influence of external audiences and their capability to socially construct organizational images capable to destabilize these identity facets will be no object of study.

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In concrete, the research will try to investigate the main void left around the identity management process as discussed in section 2.1.11. However, taking advantage of the exploratory character of this study, one of the secondary scopes will be empirical validation for the new multifaceted view proposed, and understanding the dynamics among identity, core competence and organizational culture. Besides, it will be investigated how these two identity facets are activated by organizations and their leaders, in case of disruptive innovation and how they can influence the failure or the success of a competence enhancing or competence destroying transition within a company.

## **2.2 Framing Theory**

The concepts of framing and frame are two transversal notions used in many organizational studies and more in general in social science. These constructs enabled the creation of insightful streams of literature such as decision making, managerial cognition, strategic and organizational change, social movements and institutions. All these streams, however, have been developed separately. Only recently, starting from the review of Cornelissen & Werner (2014), researchers are trying to connect all the knowledge developed around framing in a unique body of literature to help academics to understand more deeply possible related phenomena.

Recently framing is raising incredible attention among organizational scholars and especially the works of Giorgi (2015; 2017), Raffaelli et al. (2019) have triggered a new academic turmoil around this concept in many streams of literature concerning innovation's adoption, organizational change and strategic decision making. Moreover, surfing this attention, (Ansari et al., 2018) underlined the importance of framing to better anchor, explore and extend the conception of disruptive innovation in a period of violent disruptive changes. According to the authors, the way in which single organizations frame disruptive innovations can better explain incumbent's decisional heterogeneity and can produce many strategic critical insights, useful for companies to understand how to redefine the balance of the power within their reference ecosystem.

All these contributes underline the importance of considering framing within my research's project and linking it with disruptive innovation, organizational identity, and organizational ambidexterity theories, to get a more comprehensive understanding of identity management in moments of competence enhancing or destroying transitions.

### **2.2.1 The origin of framing**

Giving a unique shared definition is complicated because framing literature was developed aside, in contingency with other topics, and transversally through many streams of literature, assuming year by year specific attributes related to the context of the study and the level of analysis in which framing was considered (Cornelissen & Werner, 2014). To have an initial general idea, it is possible to consider the definition of Goffman (1974) who defined framing as the active task of understanding what is happening, without which, no expression (or movement or gesture) could be interpreted. Alternatively, it can be conceived, always according to Gofman (1974), as the "*schemata of*

*interpretation*” that enable individuals to “*locate, perceive, identify, and label*” what is going on in their environment.

The concept lays the foundation in the sociological tradition, thanks to the studies of Burke (1937) and Bateson (1955) and became popular with Goffman (1974). After that the concepts of framing and frame started to be grafted in many fields: from linguistics and linguistic anthropology to sociology and social movement; from cognitive psychology and behavioural economics to mass communication.

The versatility of this concept and its many uses in the literature of different disciplines demonstrate the relevance of this core construct, to understand how people make sense of their reality and how cognitive schemas influence heterogeneous decisions. Recently, in the organizational field the concepts of frame and framing, area founding a new life in the works of Raffaelli et. al (2019); Giorgi (2017), (2015); Kaplan (2008) who will be introduced and discussed in the next sections.

### **2.2.2 A first classification of Framing**

Due to the vastness of the literature and the diverse streams in which framing was involved, Cornelissen & Werner (2014) tried to reorganize and classify all the knowledge according to the level of analysis in which this notion was considered. Three levels were recognized by the authors:

- 1) Micro-literature on managerial cognition and decision making.
- 2) Meso-literature on strategic framing and meaning construction within and across well-structured groups and social movements.
- 3) Macro-oriented neo-institutional literature based on field-level frames and institutional change.

Before diving into the three levels of analysis, it is important exposing a couple of clarifications and conceptual distinctions, related to all three levels of analysis listed above:

First, it is relevant to shed light on the difference between the concepts of Framing and Priming. Framing is the term that reflects the social or the individual construction of a new schema (or frame) of reasoning to extract new meaning from reality. On the other side, priming refers to the activation of pre-existing frames (it is retrospective). It can be conscious or unconscious. (Sherman, Mackie & Driscoll, 1990). However, the two concepts, even if distinct, are reciprocally and recursively interconnected in the process of meaning creation.

Second, the three levels of analysis identified by the authors developed substantially separated. Today, new research is focusing on finding connections and interrelations among them to have a more

comprehensive idea about the framing functioning, across the macro, meso and micro perspectives (see Eggers & Kaplan, 2013; Ansari, 2016).

### 2.2.3 Micro-level framing

This level of analysis focuses on the activation of “*knowledge schemas, which guide the perceptions, inferences, and actions*” of the single individual in the surrounding environment. Cornelissen and Werner (2014).

Delving into this category of framing, March and Simon (1958) were among the first scholars to theorize “frames of reference” as schemas of reasoning through which individuals interpret and filter the surrounding reality. The activation of familiar frames of reference, generate expectations on the responses to receive from the context and the characteristics of the environment, making the perception of the surrounding become reference-dependent from the cognitive schemas we activate. Moreover, according to the authors, these frames of reference have the peculiarity to be recursively reinforced by communication and socialization with other individuals in society.

In other words, in the micro-literature, a frame has the scope to guide people new experiences and their perceptions of cues and stimuli in real-time. Hence, it is possible to give a more consistent definition of cognitive frames as the “*knowledge structures that help individuals to organize and interpret incoming perceptions by fitting them in pre-available cognitive representations of the reality stored in individuals’ memory*”(Tannen, 1985; p. 7). Cognitive frames are the basis to comprehend, understand, explain, attribute, extrapolate and predict meaning from our reality (Tannen, 1985). This definition is particularly relevant because highlight the retrospective nature cognitive frames, in fact, their activation is antecedent to the production of the action.

Starting from Tannen’s (1985) definition, Weick (1995) delineated the sensemaking act as a simple equation:

$$\text{“cue + relation + frame = basic unit of meaning (sensemaking)”}$$

Considering this simple view of sensemaking it is easy to understand that when the “relation” or the “frame” components miss, individuals experience sense-breaking situations such as the void of meaning, cognitive rigidity, myopia. But. if this definition is taken for granted, how is it possible to create new cognitive frames?

For example, Benner and Tripsas (2012), state that in the transition from film to digital photography, individuals (especially film manufacturers' managers) extended old expectations and assumptions to the new emerging market. This brought some managers to have difficulties to change their mind and escape from previous cognitive schemas. However, Benner and Tripsas (2012) demonstrated that cognitive schemas are not static. By Experiencing the new reality and putting in place mechanisms of analogy and comparison between old and new or aligning previous cognitive schemas with new inferences, individuals can generate new frames for sensemaking.

Finally, to conclude this first category of analysis of the notion, two important distinctions are necessary:

First, it is simplistic to exchange the concept of frames with categories. Frames contain information about ideal scenarios that connect situations with courses of actions, causes with effects, which individuals utilize to make sense of real situations they experience. On the other side categories, lack of expressive power. They do not allow individuals to generate knowledge and actions but allow individuals to distinguish things from others (Barsalou & Hale, 1993).

Second, previously we have mentioned the importance of analogy and comparison between new and old to align our schemas of knowledge to the new context. In doing so, two types of schemas of reasoning result fundamental. "*The Equivalency frames*" that exhibit in the individual's mind different information as logically equivalent (Cornelissen & Werner, 2014). For example, they show positive and negative information on the same plane. On the other side, "*Issue frames*" highlight a particular point of view ("*point of emphasis*"), remarking some considerations over others (Entman, 1993). For instance, considering the distinction between social legitimacy and technical efficacy, to evaluate the adoption of an innovation (Kennedy & Fiss, 2009), they clearly represent two points of emphasis which can differently influence the decisions of individuals. For instance, according to the famous two-stage model of adoption motivations (Baron et al., 1986; Scott, 1995), social legitimacy moves early adopters purchase, while technical efficacy late adopters, because more scared of economical loss. However, they are not mutually exclusive as Kennedy and Fiss (2009) will demonstrate.

Anyway, these two typologies of individual's framing are both useful in decision making, especially "*Issue frames*" can be particularly relevant to further investigate organizational problems such as myopia or managerial arrogance. Moreover, the distinction between social legitimacy and technical efficacy, for the purpose of this research project, has been particularly inspiring leading the author to formulate a new proposal of mental frames, which will be deeply discussed in section 2.2.6, originated from the conceptions of these two specific points of emphasis.

## 2.2.4 Meso-level framing

This second wider level of analysis focuses on how strategic actors, such as organizations and institutions, through claims and symbolic gestures, try to frame courses of actions and social identities in order to encourage individuals to follow them. Besides, respect to the previous level of analysis, the meso-level one conceptualizes framing differently, as the “*active social construction and negotiation of frame-based meaning*” together with other individuals (Cornelissen & Werner, 2014). At this level, frames can be also seen as “*plastic principles of organization which govern the subjective meanings we assign to social events*” (Goffman, 1974).

To understand the conceptualization of framing and frames at this level of analysis, three further clarifications are needed. First, in this specific literary tradition, cognitive meaning and symbolic language are strictly and dynamically linked with language (or in a broad sense with the communication). In specific, here, language is seen as the recursive means through which individual and collective meaning is built and shared among a group of people (Cornelissen & Werner, 2014). Second, under this perspective framing is a broader concept that contains also priming (Cornelissen & Werner, 2014). And third, it is important to discern the notion of frame from the act of framing. Frames are simple schemas of reasoning to filter the reality and make sense of it. Acts of framing, instead, is the action through which individuals use language or symbolic gestures to propose and use new frames or reinforce old ones. (Cornelissen & Werner, 2014).

The meso-level literature comprehends the study of strategic change, technological frames within organizations, social movements’ tactics and repertoires of action and others (Cornelissen & Werner, 2014). For the purpose of this research, in this review, only strategic change and technological frames will be furtherly investigating below.

### Strategic frame

The strategic frame is defined as “*a set of cause-effect understandings about industry boundaries, competitive rules, and strategy-environment relationships available to a group of related firms in an industry*” (Nadkarni & Narayanan, 2007, cited by Cornelissen and Werner, 2014 p. 19). In other words, it is a sort of company’s common understanding about its industry, its business, constructed by managers and organizational leaders of that company. Alternatively, Cornelissen and Werner, (2014, p.3) define strategic framing as “*external, strategic processes of evoking meaning, in line with existing cultural categories of understanding and as a basis for mobilizing support and gaining legitimacy*” (p. 713).



The strategic frame has important consequences. According to Benner and Tripsas (2012), they can tie organizations to a set of narrow capabilities and blind top management from possible market opportunities, but also favour the adaptation to changing environmental conditions. Kaplan (2008), rather than focusing on the outcomes generated by strategic frames, was interested in their social construction process. According to the author, skilled actors, such as leading established companies, using symbolic and cognitive frames can mediate between their political interest and the expectations and the beliefs of others stakeholders, such as organizational members and external audiences, shaping the collective framing and sensemaking. In addition, taking up the stream of literature based on rhetorical communication, presented in the paragraph on organizational identity (section 2.1.8), the modality and way through which events are presented by social actors can influence the framing of other individuals (Kaplan, 2008).

A new stream of literature based on the study of the relationships between framing in communications and interpretative frames, give echo to this final affirmation of Kaplan (2008). In detail, it poses attention to how ideas and events are presented and communicated within organizations, such as identity claims. The use of slogans, mottos, stories, new visions can influence collective sensemaking and guide the interpretations of organizational members towards new frames, getting their support for the adoption of the change (Cornelissen, Holt & Zundel, 2012). However, it is necessary to keep in mind that when a strategic frame is proposed as a new vision, image or strategic proposal, by a CEO or a TMT, in parallel, a second cognitive framing is activated within the audience.

### **Technological frame**

The technological framing perspective “*marks the nature and the role of the technology itself, but also the specific conditions, applications, and consequences of that technology in particular contexts.*” (Orlikowsky & Gash, 1994; p. 178).

Reviewing the literature on this specific subject, Kaplan & Tripsas (2008) demonstrated that cognitive framing matters when we consider the evolution’s trajectories of technologies. In particular, per each stage of the technological life cycle, under specific conditions, the application of a certain cognitive lens, might change the expected economical and organizational outcomes. This important finding confirmed the study of Tripsas and Gavetti (2000) on Polaroid, who affirmed that dealing with new technologies needs not only the development of new capabilities but also the adoption and the construction of new cognitive schemas.

Moreover, always Kaplan and Tripsas (2008) demonstrated that when a dominant design emerges, a new shared collective frame raises and homogenize the organizations' understanding and that in a period of incremental changes framing is constrained by the limits of technological developments. Finally, it was also discovered that the adoption of radically innovations require not only a new technological leap but also breaking the previous technological frame, deeply embedded in the industry of reference. Consequently to these results, technological framing should be considered as a deeply rooted schema within the industry of reference, having the potential power to blind and bind the actor's decisions. From this study. the importance of assuming a co-evolutionary perspective in technological framing is evident. Users, producers and institutions, with their heterogeneous frames can influence unpredictably the emerging of a new collective technological frame.

Another perspective is taken by Leonardi (2011), who sustained that how new technologies are initially framed influences the sense-giving process to that technology over time and consequently, this can bring to develop radical different evolutive trajectories and way to use of it. This assertion was empirically demonstrated by the author with the case study of an automotive company which was dealing with a crash analysis technology called CrashLab. Initially, this technology was framed by two distinct groups of engineers differently, and as a consequence it was implemented in opposite radical ways by the two different departments, producing delays.

To conclude, also the concept of history results playing a relevant role in technological framing. History should be seen as a potential source of convincing frames, rather than only a deterministic driver of outcomes, capable to influence the technological interpretation processes linking technological changes with specific elements of the past or the tradition of the company (Kaplan & Tripsas, 2008). This vision fits with the idea of Swidler (1986) that see culture as a tool kit, to use in moments of need.

This quick review demonstrates how technological framing is incredibly important to comprehend how the technological interpretative process works inside organizations, and consequently how we can influence it strategically. Deepening the conceptualization of technological framing and applying this perspective in new organizational investigations could lead to a better understanding on how successful incumbents adapt to disruptive technologies or innovations when their survival is at risk, which is the topic of this research project.

### **2.2.5 Macro-level framing**

Finally, this third and last level of analysis, discussed in numerous institutional contexts, regards how cultural schemas of understanding, at field, industry level, become institutionalized and provide norms for appropriate behaviours in specific social contexts. The application of this view was used mainly to explain the diffusion of new ideas and the raising of new markets. (Cornelissen & Werner, 2014).

Historically, such a framing perspective put the roots in two works of Goffman (1974) and Bateson (1972). Their studies focused on understanding how common cultural frames in the industry, market or society are utilized by actors to pinpoint social experiences in specific contexts. These cultural frames allow organizations and institutions, part of a specific social context, to give sense to events and situations that influence their activity, providing them with a cognitive schema for interpretations.

The following perspective of framing, in specific, consider the process of capturing and institutionalize structures of meaning within a broad context as a market. It also provides support for social actor's motivations and interpretation of the current context at lower levels of analysis, mainly at micro-level (Cornelissen & Werner, 2014).

The previous institutional theory focused on the diffusion of societal-level logics that consists of deeply rooted societal beliefs and practices, exogeneous to actors and their individual framing Cornelissen & Werner (2014). On the other hand, today, neo-institutional practitioners are more interested in the definition of categories and the diffusion of logics (Weber & Glynn, 2006). Neo institutional scholars consider macro-level frames as taken for granted cognitive schemas or latent meaning structures that organize the actors' social and cultural experience at a broad level. These frames change for categories of companies and according to business, geographical and social context. Moreover, they are crucial for the maintenance of durability and regularity of the meaning and experiences typical associated with given institutions (Cornelissen & Werner, 2014)

The work of Kennedy and Fiss (2009) it's one of the most important investigations on framing at the institutional level of analysis. Their study considered the diffusion of total quality management practices among a population of hospitals, and for the first time linked the macro social decision-making theory with the micro-level psychological theory. The study invalidated the famous two-stage model of innovation adoption motivations (Baron et al., 1986; Scott, 1995), and it was demonstrated that both early and late adopters consider social legitimacy and economic efficacy equally important without preferring one in different periods. Technical efficacy and social legitimacy in innovation

adoption are not mutually exclusive, but they complement each other. Moreover, the study remarks that innovation's implementation strictly depends on adoption motivations.

This attempt to link various levels of framing is the direction that organizational research has currently taken. The study of this relationship can effectively shed light on decision-making processes within companies, especially in critical moments, when incumbents face the risk of disruptive innovations. As we will explain in the next section, this research project requires a mixture of multiple levels of framing.

### **2.2.6 The selection of the framing analysis levels and the proposal of a new model of transitions' adoption motivations**

Before continuing the review about framing, considering the three levels of analysis just presented, this section wants to clarify the level of analysis undertaken in this research project.

As previously stated in section 2.1.12, following Dan and Hang's (2008) methodological suggestion for studying the effects of disruptive innovations on organizations, the project will take an internal company investigation perspective. For this reason, the focus will be on the meso-framing level of analysis rather than on the micro or the macro ones. In particular, the research intends to understand how organizational leaders' (intended as a close circle of top management's members) framing process affects the promotion of new interpretative schemas across the company, and the adoption of a new organizational identity to foster the accomplishment of a competence enhancing or a competence destroying transition, in response to the emerging of a disruptive innovation.

However, to investigate this subject, we advance a new model for transitions' adoption motivations, taking inspiration from the works of Baron et al., (1986); Scott, (1995); Kennedy & Fiss, (2009); and from the concepts of Equivalency Frames and Frames of Issue. As previously discussed, Social Legitimacy and Technical Efficacy can be considered as two "points of emphasis", that can guide the individual's adoption of a given innovation. However, Kennedy & Fiss (2009) demonstrated that these two frames of issues are not mutually exclusive as the traditional model of adoption motivations declared. So Social Legitimacy and Technical efficacy can be also seen as Equivalency Frames.

Starting from this insight we propose that organizational members when facing a competence enhancing or a competence destroying transition, value concurrently the Social Legitimacy and the Technical Efficacy (called in this project Technical Legitimacy) of the organizational change that the company wants to undertake.

For Social Legitimacy is intended the degree of affinity and factualness that a given transition has respect to the cultural repertoire of a company. For cultural repertoire, we mean organizational and managerial beliefs, cultural values, traditions, way of interaction among employees, and how a company organize itself. Social legitimacy is a motivational force that links the transition to the organizational culture of the company to its emotional side. Moreover, it is the key consistency driver between the organizational culture and the Ideological identity facet theorized in section 2.1.12.

For Technical Legitimacy is intended the degree of affinity and factualness that a given transition has respect to the technical repertoire of a company. For technical repertoire, we mean the organization core competences, both technical or managerial, and the resources or assets at the disposition of the company. Technical Legitimacy is a motivational force, that links the transition to the core capabilities of the company, to its technical and competence side. Moreover, it is the key consistency driver between organizational core competences and the Utilitarian identity facet theorized in section 2.1.12.

The combination of these two critical motivational forces, or interpretative frames, if correctly triggered, by the framing activity of top management are supposed to create a driving consensus towards the realization of the transition undertaken, across organizational members. Figure 2.3 graphically schematize the proposal just introduced.

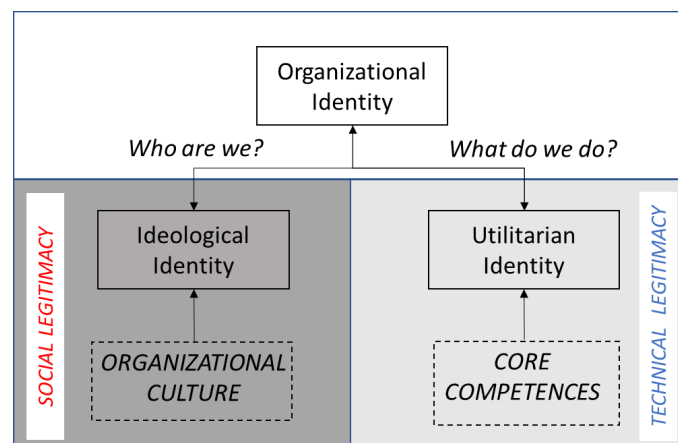


Figure 2.3: Social Legitimacy and Technical Legitimacy as key drivers between Organizational Culture and Ideological Identity facet, and between Core competences and Utilitarian Identity facet.

As the proposal has been set, Social Legitimacy and Technical Legitimacy have the role to sustain the consistency between the two identity facets previously theorized with the relative attributes of reference, when an organizational transition is undertaken. One of the further objectives of the research will be also the verification of this theoretical intuition in the process of identity management.

### 2.2.7 Cognitive Framing & Cognitive Filters

Cognitive framing literature showed to be influential in strategic management with Bromiley and Rau (2016); and Eggers and Kaplan (2013), in decision making with Gavetti & Levintahl (2000), in organizational change with Tushman and Anderson (1986) and as we previously reported, this literature belongs mainly to the framing's micro-level of analysis. Below the notion of cognitive framing and cognitive filters are given and the most relevant and inspiring articles, in which authors adopted the cognitive framing perspective to investigate more deeply the connection among framing, innovation adoption, and organizational change are synthesized.

Starting from the definition, Cognitive framing can be conceptualized as the process of thinking and providing “*mental schemas that individuals impose on the information environment to give it meaning*” (Walsh, 1995, p. 281). Moreover, cognitive frames (or filters) serve as interpretative lenses capable to guide top management's and organizational member's perceptions about their company and the environmental scenario in which it is located, in order to create meaning and take decisions.

The cognitive framing perspective has been adopted to study the evolution of the digital camera industry, from 1991 to 2006, with the intent to understand the firms' heterogeneity in the way of framing the uncertainty coming from a new emerging market (Benner & Tripsas, 2012). In this study, three different industries: photography, consumer electronics and computing, converged in the same period towards the exploration of the digital camera business. The authors took advantage of these sensational industry's conditions, to investigate how the product's conceptualization of companies deriving from different domains, could reflect values and characteristics of their industry of origin. The cognitive lens adopted, allowed to discover that prior industry affiliation has a big influence on the company's ability to frame the conceptualization of new products. Besides, it confirmed that companies tend to reproduce the product's characteristics introduced by firms of their same prior industry. The importance of these findings resides in the demonstration that, initially, companies' framing, is extremely anchored to prior experiences and fields. This can constrain the exploration of opportunities farther from the context of reference.

Moving on Kaplan and Tripsas (2008) demonstrated the importance of cognitive frames in the interpretation and adoption of technologies, showing that for each stage of the technology life cycle, different cognitive framing is associated. In detail, under defined conditions, specific cognitive lenses can change the expected technology outcome predicted by economic and organizational models. Moreover, it was discovered that frames “*enrain themselves in technologies, but also technologies*

*constrain and enable the use of frames.*” (p. 791). From here the importance to study cognitive framing linked with organizational change, in the event of technological innovations.

Another interesting conception of cognitive framing is explicated in the Framing Flexibility theory where Ryan Raffaelli et al. (2019) distinguish three distinct cognitive filters (Lamont & Small, 2008) which enable Top Management’s members to codify innovation’s value and expand or constrain innovation’s categorical boundaries within the corporate strategy and the organizational activity. These filters identified are respectively: capability development, organizational identity and competitive boundaries. Together they represent the lenses through which the Top Management watches and makes sense of the reality. A contracted lens creates “*strategic blind spot reinforcing an overly-confident view of the firm strategy and its innovation agenda*” (Ryan Raffaelli et al., 2019; p. 11). On the other side, an expanded lens allows top managers to flexibly categorize innovation within the company’s boundaries, increasing its likelihood of adoption. Due to the importance of the three cited filters for the economy of this research, below they are furtherly presented one by one:

### **Capability development filter**

Innovations vary in the extent to which they fit with the firm’s existing capabilities (e.g., Andriopoulos & Lewis, 2009). This filter is capable to affect top managers’ perception of innovations in relation to the organizational capabilities of the company of reference. When innovation is perceived as incremental, managers normally judge it enhancing and in line with organizational capabilities, so they try to encourage its adoption, creating the necessary conditions for its assimilation. Instead, when innovation is framed as non-incremental, managers tend to perceive inconsistencies respect to the current organizational competences, contradictions with other innovations, or sometimes they judge it as something too far from the competence of the company (Raish & Birkinshaw, 2008).

Cognitively matching old and new capabilities to foster the adoption of an innovation perceived as inconsistent with the company’s capabilities is complex. The TMT that adopt a co-existence orientation will be more open to embracing contradictions (Smith & Tushman, 2005). This orientation is suitable to reconcile the exploitation of incremental innovations, with the exploration of non-incremental innovations. Contrary, a consistency orientation, will privilege the protection and the enhancement of existing organizational capabilities (Smith & Tushman, 2005).

### **Organizational identity filter**

Identity has strong influential power on TMT’s cognitive systems, because it is socially constructed, protects core values and distinctive attributes, giving business continuity and maintaining unity within

the organization. But at the same time, as identity dynamics' studies demonstrated, identity has also a certain degree of flexibility and can be a critical factor for innovation or change adoption.

Ryan Raffaelli et al. (2019) affirm that the way identity influence TMT cognitive frame is connected to the degree of elasticity of the organizational identity itself. Elasticity can be seen as the stretching tension to embrace innovation but keeping together the core and distinct values of the company and preserving business continuity. On the other hand, an Inelastic identity does not allow to frame an innovation within the corporate boundaries, and consequently to embrace it. Explicative is the Polaroid's Case, in which Tripsas and Gavetti (2000) showed Polaroid's inability to adopt digital camera in their business model by keeping a narrow identity on film's products, and not enlarging it as Fujifilm which declared the willingness to become an Information & Imaging company.

However, as a con to frame an elastic identity, "who we are" and "what we do" becomes more "loosely coupled" (Weick, 1976), and the company can lose its sense of self over time, running the risk to undertake senseless activities.

### **Competitive boundaries filter**

Top Managers cognitive map is finally influenced by the scan width of the competitive arena which can be narrower or wider. A more expansive cognitive frame is associated with a wider scan of the competitive arena, and vice versa, a contracted one is associated with a narrower scan of the arena. A narrower scanning usually it is associated with managerial myopia or innovations' underestimation. While managers that adopt a wider view are more open to embrace opportunities, or innovations emerging far from the business domain of reference (Porac & Thomas, 1990).

### **2.2.8 Resonance & Emotional Framing.**

There's a certain agreement among scholars, that frames, considered as rhetorical instruments to shape or influence the understanding of individuals, become very effective when they "resonate" or align with audience's beliefs and values (Snow & Benford, 1988). According to Giorgi (2017; p. 712), the "*resonance acts are the essential bridge to desired outcomes*" and they can have a strong impact for the promotion of institutional change and the diffusion of new ideas or technological innovation.

Many scholars defined "*resonance*" over time. Some of them conceptualize resonance as the process of alignment between the frame and the audience's understanding, values and beliefs (Glaser et. al, 2011). Others look at it as a way to amplify the suitability of a certain frame within a group of individuals, or across an organization, triggering an emotional reaction (Massa et. al, 2016). However,



in this research, will be assumed the broader definition given by Giorgi (2017, p. 716): “*an audience’s experienced personal connection with a frame*”.

Giorgi’s (2017), starting from a meso-level conception of framing, sheds light on the resonance’s working mechanisms and its methods of application that favour or hinder framing, making it particularly appealing to audiences. The author proposes a distinction between two different types of resonance: Cognitive and Emotional. The cognitive resonance “*appeal to audience’s beliefs and understandings*” Giorgi (2017, p. 711); while the emotional resonance engages “*audience’s feelings, passions and aspirations*” Giorgi (2017, p. 711). Emotional resonance must not be perceived as a barrier for cognitive resonance but rather as another source of knowledge filtered through cognitive schemas of knowledge (Voronov & Weber, 2016). Table 2.1 summarizes the differences between the two concepts:

Table 2.1: Cognitive and Emotional Resonance compared. Source: Giorgi (2017; p. 717)

	<b>COGNITIVE RESONANCE</b>	<b>EMOTIONAL RESONANCE</b>
<i>Definition</i>	A perceived alignment of a frame with understandings and beliefs that are central or salient to a particular audience	A felt alignment of a frame with the audience’s passions, desires, or aspirations
<i>Mechanism</i>	Familiarity	Identification
<i>Tool to enhance resonance</i>	Blending (of familiar and novel elements)	Rituals (performances that create an emotional state)
<i>Challenges</i>	Empirical credibility (fit with audiences’ life experiences) Cultural credibility (fit with societal cultural codes)	Emotional embeddedness (fit with institutional ethos) Emotional contagion (fit between framer and frame)
<i>Selected Outcomes</i>	<ul style="list-style-type: none"> <li>● Honours and awards</li> <li>● New market categories</li> <li>● Client engagements</li> <li>● Capital for new ventures</li> </ul>	<ul style="list-style-type: none"> <li>● Corporate activism</li> <li>● Meaning in one’s life</li> <li>● Sense of pride</li> <li>● Cohesion</li> </ul>
<i>Applications</i>	Competition for audience attention Causal ambiguity of the object of framing	Overcome audience indifference Offer emotional resolution to audience negative feelings

Extremely connected to the concept of emotional resonance, Emotional Framing is a new literature trajectory that just recently has gained the right attention (Giorgi, 2017, 2015; Voronov & Weber, 2016; Vuori & Huy, 2016). Emotional framing is the process of feeling, filtering, and influencing cognitive schemas through personal passions, values and emotions. The main element of distinction between this type of framing and “emotional resonance”, is that the latter is the effect generated by the former.

Emotional framing or emotional resonance should be legitimized by evoking “*emotions that are in line with predominant institutional ethos – fundamental institutional ideals’ that teach actors what to care for and desire in a given institutional setting – or an organization’s culture.*” (Giorgi, 2017, p. 724) In light of it, Ryan Raffaelli et al. (2019) propose that connecting non-incremental innovations to broad organizational values can increase their likelihood of implementation because enable the accommodation of paradoxical forces such as conflictual identities and capabilities. (Voronov & Weber, 2016).

Emotional framing enables the positioning and the connection of non-incremental innovation with the history, values and beliefs of the organization. In fact, Ravasi & Shultz (2006) and Rindova, Dalpiaz & Ravasi (2011) demonstrate how framing, if supported by opportunity narratives, can positively affect the will to change the organization. Emotional engagement triggered by organizational narratives helps organizational members to take pride in the past and to make sense of change and future transitions. Therefore, emotional resonance “*can neutralize threats to one’s identity, creating a sense of togetherness or cohesion, and can transform feelings of shame, boredom, or marginalization into pride, passion, and active engagement*” (Giorgi, 2017; p. 725).

Coming back to Giorgi’s (2017) resonance model, the author shows two distinct powerful pathways to give a more powerful amplification to frames, achieving cognitive and emotional resonance. These two different possibilities rely on two distinct mechanisms: “*Familiarity*” and “*Identification*”.

Familiarity leads to overcome uncertainty through the utilization of a blending process: “*the mixing of elements from different domains geared at increasing comprehensibility through analogies and metaphors that turn into the unfamiliar into familiar*” (Cornelissen & Duran, 2012, cited by Giorgi 207, p. 726). Blending is a good instrument, similar to the concept of culture as a tool kit (Swidler, 1986; Rao et al., 2006, Ravasi et al., 2011), to get audience’s attention and neutralize uncertainty.

On the other side, Identification is achieved through the utilization of social, collective rituals that instil emotions in the frame and connect it with the identity of the individual that forms the audience. Identification is incredibly important to overcome audience indifference and scepticism. Within an organization, the utilization of rituals capable to raise emotional reactions can unfreeze the current status quo and accommodate the acceptance of paradoxes and the organizational change.

Familiarity and identification generate different outcomes, but their common peculiarity is that both mechanisms enable organizational members, such as top managers, to create a meaningful and powerful bridge between the object of framing (for instance an innovation) and the audience. Framers,

linking the feelings and the beliefs of audiences, can affect their perception and understanding, shaping events as an opportunity.

But acts of resonance are not anchored to vacuum organizational attributes. Rather they are deeply rooted in what organizational members experience every day and in the processes that support and sustain activities, understandings, and feelings. They establish themselves in tangible and intangible attributes deeply intertwined in organizational identity (Gustafson & Reger, 1995).

### **2.2.9 Framing Flexibility**

Framing flexibility is a new dynamic managerial capability, conceptualized by Raffaelli et al. (2019) that is defined by the authors as “*the capability to perceptually expand an innovation’s categorical boundaries and to cast the innovation as emotionally-resonant with the organization’s identity, competencies, and competitive boundaries.*” (p.1). With framing flexibility, TMT can overcome the main organizational sources of inertia to implement a non-incremental innovation, increasing its likelihood of adoption. This new conceptualization of framing overcomes the cognitive static barrier (Benner & Tripsas, 2012; Tripsas & Gavetti, 2000) associated with managerial framing, proposing a more dynamic perspective of the innovation’s framing process.

This new proposal essentially is based on the two different forms of framing previously discussed in sections 2.2.7 and 2.2.8: cognitive framing and emotional framing, that interacting, enable a more flexible way to frame innovations, allowing internal strategic legitimacy and emotional resonance within and across the company boundaries.

Both cognitive and emotional framings are necessary for realizing the framing flexibility capability. The cognitive frame flexibility categorizes apparent paradoxical innovations “*as complementary with organization’s existing identity, competencies and competitive boundaries*” (Raffaelli et al., 2019; p. 4), which represent the three managerial cognitive filters introduced in section 2.2.7. While the emotional frame flexibility “*enables an innovation to be seen as resonant, with a felt positive, emotionally engaging connection to the firm’s strategy*” (Raffaelli et al., 2019; p. 4). Emotional frame flexibility appeal to feelings, desires, future aspirations, making the innovation to be framed as an opportunity rather than a threat.

On the other hand, cognitive and emotional frame rigidity will considerably increase the possibility of resistance towards the adoption of a non-incremental innovation and will reduce the likelihood of adaptation in case of violent market turmoil dictated by emerging disruptions.

Delving into Raffaelli's et al. (2019) model more in-depth, for what concern the cognitive frame flexibility, the decision to adopt a non-incremental innovation depends from the ability of the top management to apply an expanded cognitive lens rather than a contracted one, based on a less rigid utilization of the cognitive filters (competences, identity, competitive boundaries) to interpret the situation. The application of less rigid filters enables TMT to flexibly reframe the innovation's categorical classification within the architecture and the strategy of the company.

The concept of categorical classification of the Innovation is crucial to understand the theory presented by Raffaelli et al. (2019). According to the classification hierarchies view (Mervis & Rosh, 1981), an intermediate level of categorical classification or a medium level of ambiguity by design (Gioia & Chittipeddi, 1991), is the most effective solution to help the organization to effectively change (Porac & Thomas, 1990) and adopt innovation. A certain degree of ambiguity allows to embrace a larger set of opportunities, but an excess can create also confusion. The cognitive frame flexibility aims at framing a non-incremental innovation, applying the right degree of ambiguity by design to categorize it consistently to the company's architecture.

Moving on, the utilization of the emotional frame flexibility represents the second crucial step to convert the TMT's strategic decision emerged from cognitive framing, into adoption. At this stage, making the non-incremental innovation emotionally resonate with the organizational history and values, and with organizational members' emotions and aspirations, can increase markedly its likelihood of adoption. The possibility that innovation will be perceived as an opportunity will increase.

In light of this discussion, cognitive and emotional framing must be seen as two faces of the same medal, extremely interconnected, whose scope is to enable top management's interpretation of non-incremental innovation as an opportunity rather than a threat, increasing the possibility of innovation's adoption and organizational adaptation to hypercompetitive contexts. (Ryan Raffaelli et al., 2019).

This new managerial capability which combines cognitive and emotional framings provides firms with the right strategic flexibility to evaluate innovations. Besides, being a dynamic capability is subjected to organizational learning. So, innovation after innovation, the top management will be able to develop a stronger ability in promoting innovations and change, but, keeping consistency inside and outside the organization of reference.

### 2.2.10 Framing Flexibility – A new trajectory for further investigation

The conception of framing flexibility expressed by Ryan Raffaelli et al. (2019) and the distinction of cognitive and emotional resonance's pathways described by Giorgi's (2017) model can open new frontiers for correlated research in organizational change and innovation adoption. However, nowadays these proposals remain just theoretical propositions rooted in extremely good literature basis. They lack a large body of empirical evidence, from which we can confirm, extend or deny some of the propositions presented.

Ryan Raffaelli et al. (2019) in particular, left many interesting hints and question marks to cover with further investigations. In fact, one of the secondary scopes of this research is to provide qualitative empirical evidence to support the progress in this stream of literature, through the presentation of four case studies, in which four photographic film manufacturers leaders faced the advent of two disruptive innovation's waves in their industry, and struggled to adapt and survive. However, before describing the framing's literature gaps that this research project intends to tackle, an important clarification is necessary.

The framing flexibility theory just presented, describes the cognitive and emotional process through which the top management expands an *innovation's categorical boundaries and casts the innovation as emotionally resonant with the organization's identity, competencies, and competitive boundaries* (Raffaelli et al., 2019; p.1). However, in this research, we assume the perspective of the organizational leaders of an established company who is facing the emerging of disruptive innovation. In front of disruption, managers can decide to change or defend their business domain. If they decide to change, two are the TMT's possibilities: directly tackle the disruptive innovation and face a *competence destroying transition* or enter new businesses where their organizational core competencies are valued, fostering a *competence enhancing transition* (see section 2.3.8). Being successful in organizational adaptation under these conditions is complex and require the application of flexible frames. If we take this perspective, the notion of innovation is too strict. The subject of managerial framing, in this research, is not the adoption of a given innovation anymore, but it is the realization of a given organizational transition (enhancing vs destroying).

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In light of it, this research project will try also to investigate if the framing flexibility logic applied on the concept of transition, to understand if Raffaelli's et al. (2009) framing's conceptualization can be extended to other subjects and situations of organizational change.

In case of validation of the point mentioned above, this discovery will provide insights to understand how framing flexibility works in case of competency enhancing and competency destroying transitions, and how cognitive and emotional frames spread or become shared.

Finally, as mentioned in section 2.2.6, the study will try also to investigate the influence and the relationships of motivations (social and technical legitimacies) on transitions adoption, providing evidence, from established companies settled in two distinct geographical and cultural contexts: U.S and Japan.

## 2.3 Disruptive Innovation theory:

This third paragraph is dedicated to summarizing the major contents of the disruptive innovation theory. The two main reasons to delve into this literature stream are first, that organizational identity becomes more salient in times of transitions (Albert & Whetten, 1985), such as those dictated by disruptive innovations (Gioia; Shultz & Corley, 2000). In these conditions, organizational identity manifests more clearly and it is easier to be investigated. (Albert & Whetten, 1985). Secondly, according to Pettigrew (1990), Yin (2013) and Eisenhardt (1989), when you apply the multiple case study qualitative methodology (see chapter 5), deepening the investigation of extreme phenomenon settled in extraordinary conditions helps theoretical patterns emerge more clearly, facilitating the construction of a meaningful theory. Hence, the decision to propose case studies, of incumbent companies that have to manage the emerging of disruptive innovation in their most traditional market.

The disruptive innovation theory was introduced by Christensen Clayton in (1995) with its article entitled: “*Disruptive technologies: catching the waves*”, but it reached the success with “*The Innovator’s Dilemma*” published in 1997. Quickly synthesizing, the disruptive innovation is a kind of innovation that dramatically and quite mortally, strike traditional incumbent leading companies in favour of new entrants called “*Disruptors*”. (Christensen, 1997).

Usually, leading companies tend to stay close to their traditional customers and they align their investments in technology to satisfy the needs of the mainstream market. What they usually propose are *sustaining technological innovations* to provide higher performances in the products’ features customers already value, respect to traditional competitors (Christensen, 1995). They rarely invest in new technologies that usually appeals to small and not profitable to emerging market segments, but not to their traditional customers. Considering the cost structure of a big-size company, usually, investments are directed where the market size and the margins are higher, not where there is an undefined or weak demand. So all the resources are spent to maintain the leadership in the traditional competitive domain (Christensen, 1997).

This idyllic situation continues for incumbents until when new entrants launch a new technology on the market based on a “*different package of performance attributes*” that customers value, plus a set of traditional features, initially, not at the level of the mainstream technology. This product appeals only to a small niche of market. But when traditional performances start to quickly improve reaching the level desired by mainstream users, new entrants invade the traditional market, dethroning incumbents (Christensen, 1995). This kind of innovation is called “*disruptive*” (Christensen, 1997).

### 2.3.1 Sustaining vs Disruptive technology

To better comprehend what is a disruptive innovation, and its difference respect to a sustaining one, it is important to come back to Christensen's original concepts of performance trajectories, and of sustaining and disruptive technologies. A performance trajectory is "*The rate at which the performance of a product has improved, and it is expected to improve [overtime] (Christensen, 1995)*".

Applying this concept of performance trajectory, a sustaining technology "*maintain[s] a rate of improvement [...] and give(s) customers something more; something better*" in the attributes that mainstream customers already value (Christensen, 1995; p. 45). A sustaining innovation can be incremental or radical. This means that the technological improvement happens along the same S-Curve of performance (Incremental) or on a new S-Curve (Radical) but in the same cartesian axis (Christensen, 1997).

On the other hand, a disruptive technology is based on a different set of attributes "*and perform(s) worse along one or two dimensions*" respect to those mainstream customers value (Christensen, 1995). In the beginning, this technology is used only by costumers deriving from new emerging markets and look unattractive financially. Products based on this technology usually are cheap, simpler, smaller, more convenient (Christensen, 1997). The revenues attached are small and this technology often requires very expensive investments. For this reason, leading companies usually are not interested in it (Christensen, 1995). However, coming back to the concept of performance trajectory, this technology is characterized by a fast rate of improvement of the dimensions that existing mainstream costumers want. When these dimensions reach a sufficient performance level required by existing customers, the new technology steals the entire market to the previous technology (Christensen, 1995; 1997). Respect to the cartesian axis of performance in which we previously positioned the radical and incremental sustaining technologies, a disruptive one cannot be plotted in the same quadrant because it refers to a new set of performances (Christensen, 2006).

Closing with a practical example, considering the photographic film industry, the transition from a color film Kodachrome 200 to another color film Kodak Ultra-Max 400 represented an incremental sustaining technology (innovation), from a black & white film roll to a color one a radical sustaining technology (innovation), while from film rolls to digital cameras exploiting an SD card memory system was a disruptive technological innovation.



### 2.3.2 A synthesis of the “The Innovators’ Dilemma”

As previously anticipated, the best-known Christensen’s work about disruptive innovation is “The Innovator’s dilemma” (1997). This famous dilemma was depicted by the author in these terms in the book: “*Why sounds decisions by great managers can lead firms to fails?*” The author synthetically answered to it affirming that “*The logical, competent decisions of management that are critical to the success of these companies are also the reasons why they lose their position of leadership*”.

Deepening the author’s thoughts, the motivations of such a failure can be argued around three points: First of all, the different nature of sustaining and disruptive innovation as explained in section 2.1.1. At the very beginning, disruptive technology underperforms the dominant one on specific dimensions that existing customer’s value. However, with quick and relevant improvements it is capable to meet or also exceeds customer needs. (Christensen, 1995; 1997; Tellis 2006)

Secondly, the technological progress in traditional product’s dimensions through sustaining innovation can outstrip the effective customers’ needs (ex. number of megapixel definition in the smartphone’s cameras). This is a consequence of the tough competition on the market that pushes companies to offer classical products always improved. But when the features of these products start to exceed the customers’ necessities, users start to value other features. This is the moment in which usually disruptive technologies emerge. (Christensen, 1997).

Third, mainstream markets and incumbents’ internal investments process limit the leading corporations in the explorations of new markets and new technologies, initially less profitable than the traditional one. The main explanations must be found in the impossibility to clearly estimate the market size for a new business adopting new technologies, and on the higher reliability and profitability guaranteed by existing customers. Investing heavily in disruptive technologies, from the incumbent perspective, is not rational financially (Christensen, 1997). Products based on this technology are cheap, their market is insignificant and far from the mainstream customers’ demand. In response, managers simply tend to apply what generations of strategists recommended: “*Listen to Mainstream Market*” (Christensen, 1997; Tellis, 2006). But according to Christensen (1997), this is the fatal mistake.

Furtherly, behind the innovator’s dilemma theory, other relevant reasons lie such as that small markets, for instance, do not satisfy the incumbent’s necessity to continue to grow. The size of the company makes some investments and opportunity not suitable. (Christensen, 1997). Or another reason is that companies depend on customers and investors’ resources. They dictate how the company should invest

money (Christensen, 1997). All these aspects have been incredibly important to comprehend the behaviour of the four major manufacturers of the photo-film industry (Chapter 6).

In the “Innovator’s Dilemma”, the author does not underline only the problems faced by incumbent companies about disruptive technologies but proposed some solutions to solve the dilemma which then will be reaffirmed and strengthened in its second book named “The innovator’s solution” (2003). In detail, in this second work, Christensen’s proposals rotate around the creation of a new independent small organization, besides the traditional one, having a personal cost-structure, a dimension that matches with the emerging market size, different forecasting methods and product life cycle, with the final aim to explore new potentially disruptive technologies before they become mature. An idea that was similar to the concept of “Organizational Ambidexterity” proposed by Tushman and O’Reilly, which will be further investigated in the next section and in paragraph 2.4.

### **2.3.3 Broadening the concept & answering to the dilemma: “The Innovator’s Solution”**

As presented, developing a disruptive technology is a powerful mean to shape and broad new markets, providing new product’s features which in turns subverts the balances in the existing business domain. (Dan & Chang, 2008). Two preconditions are necessary to make it happen: a) asymmetric incentives between the existing business and the disruptive ones b) the performances on the focal main attributes of the existing product are overcome. (Dan & Chang, 2008)

However, since the beginning, the definition of disruptive technology seemed generic and limiting at the same time. The problem to define a specific type of innovation has historical roots in the studies of many authors (Dan & Chang, 2008): Tushman and Anderson (1986) classified competence enhancing vs competence destroying innovations; Henderson and Clark (1990) identified modular vs architectural innovations; Florida and Kenney (1990); Morone (1993); Utterback (1994) discerned between revolutionary, discontinuous, radical, breakthrough, emergent technology vs evolutionary, continuous, incremental or “nuts and bolt” technology. All these categories of technological innovation explain anomalies of other categorization but also suffer from internal ones.

For this reason, in 2003, with the “Innovator’s solution”, Christensen and Raynor came back to the definition of disruptive technology to make it clearer. First, the definition of disruptive technology was widened into *disruptive innovation* because Christensen’s theory could be applied not only to technological products but also to services and business model innovations (Christensen & Raynor, 2003). Secondly, it was explicated that the term disruptive innovation was a relative concept. A product or service can be disruptive for a business but only sustaining for another one. Regarding this

second point, Christensen generated a golden rule: *“If your idea for a product or business appears disruptive to some established companies but might represent sustaining improvements for others, then you should back to the drawing board. [...] you need to define an opportunity that is disruptive relative to all the established players in the targeted market.”* (Christensen & Raynor, 2003, Chapter 2; p.1-8). Finally, the concept of disruptive innovation was split into two phenomena: the low-end disruption and the new market disruption, two concepts further explained in the next section (2.1.4) given their importance (Christensen & Raynor, 2003).

However, the broadening and the explication of the definition was not the focus of “The innovator’s solution”. In this second publications, the main topic was explaining how incumbents can create disruptive innovation from brilliant ideas. Sustaining innovations are not rejected because are critical to successfully exploit a disruptive opportunity over time. But they are not a reliable way to create growth and prosperity for the company. To generate disruptive innovations Christensen and Raynor (2003) identified a series of principles. Below the most critical for the purpose of this research project are synthesized:

- Define the goal of the business correctly. In specific top managers should understand what competences to master today and, in the future, to excel in the trajectories of improvements that will be relevant for costumers. Non-core competences today, can become critical tomorrow. Mastering competences according to the current and future mission is critical.
- Align corporate resources, processes, and organizational values to the potential disruptive innovation. Especially organizational values are critical because old cultural values can bring to organizational inertia, preventing managers to timely implement changes. The entire organization should prepare for the change, unlearning conflicting & deeply rooted values, substituting them with new ones (Govindarajan & Kopalle, 2006)
- CEOs and TMT must be intimately involved in the process of change and have the capability to *sense* a new market.
- Create an ambidextrous organization, with a separated resource allocation process and, dedicated personnel having different expertise and values respect to the current business.
- In alternative, implement a spin-off, o various typologies of alliances to consistently explore and spot new potential disruptive innovations.

### 2.3.4 Low end vs New market disruptive innovations

To better comprehend the nature of low-end and new market disruption, critical is the concept of value network that is a “Context within which companies respond profitably to the common needs of a class of customers through evaluating and establishing appropriate processes and channel partners” (Christensen & Raynor, 2003; p. 3). Moreover, to understand these two branches of disruptive innovations, fundamental is abandoning a two-axis performance quadrant, to move to a three-dimensional one (see picture 2.1).

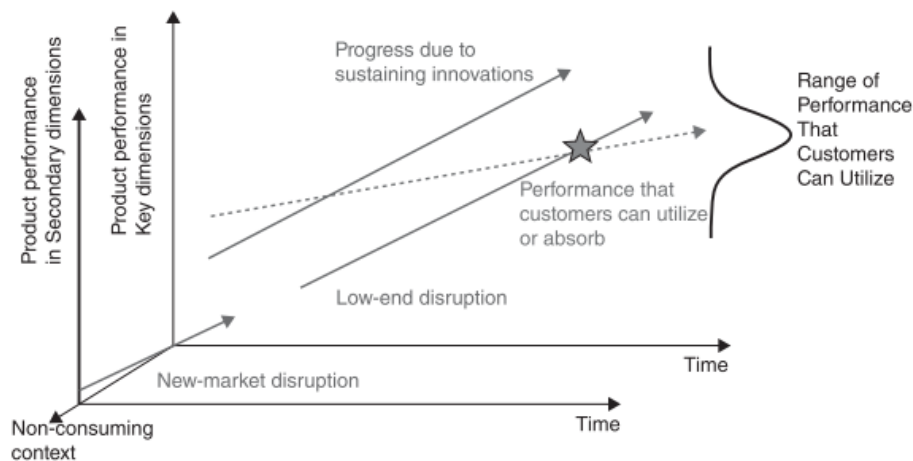


Figure 2.4: The disruptive innovation model. Source: Dan & Chang 2008. P. 437

As depicted in picture 2.1, a *low-end disruption* takes root at the low-end of the original existing value network. This kind of innovation does not create a new market but introduce low-cost products, services, or business models, initially capturing the least attractive, profitable, and most overserved costumers of established companies. With quick improvements, then, this innovation is capable to meet the performance required by the mainstream costumers, dominating the entire existing market. (Christensen & Raynor, 2003).

On the other side, a *new market disruption* competes against non-consumption in its unique value network, and not against traditional incumbent companies operating in the existing value network as the low- end disruption. With the time, this innovation is capable to push out costumers from the old value network in favour to the new one, thanks to the affordability, the convenience and the simplicity of ownership that characterize the products and the services based on this innovation. The competition settled on no-consumption is particularly dangerous for incumbents because make them perceive any threats from newcomers launching it. But then when this kind of innovation booms and mainstream

customers start to value it, it becomes too late for incumbents reacting, and the old value network is emptied. (Christensen & Raynor, 2003).

The definition of these two typologies of disruptive innovation is particularly relevant for the purpose of this research, because, as anticipated, the film manufacturers investigated faced the transition from film photography to digital photography and the smartphone revolution, which respectively are a particular type of low-end market disruption (called high-end disruption, explained in section 2.3.5), and a new market disruption. These definitions will be useful to understand the mechanisms put in place by these innovations and their effects on the companies investigated.

### **2.3.5 Critical Reviews to disruptive innovation theory before 2010**

Despite the great echo and support received by scholars and practitioners, Christensen's theory of disruptive innovation was also heavily criticized by some academics. One of the most relevant criticism was relative to the ambiguity of the definition of disruptive technology (or disruptive innovation). Danneels (2004) remarked that was not clear if disruptive is the technology or a function of the companies subject to it. The function behind the theory was not clear. Moreover, it was underlined that only a few of the characteristics attributed to the disruptive innovation are necessary, the others seem more industry-specific (Danneels, 2004). For example, digital cameras were more expensive than film cameras even if their image definition initially was lower. So the affordability is not a characteristic extendable to all disruptive innovations. On the same topic, Tellis (2006) reiterated that is too vague define a disruptive technology as a technology that underperforms the dominant one, because if so, it would be impossible identify, among all the underperforming technologies, which is the one disruptive.

Another substantial criticism moved was about the sampling used by Christensen to test the predictive validity of its theory. Christensen was accused of "*cherry-picking*" that means sampling on the dependent variable. In specific, Danneels (2004) and Tellis (2006) blamed that Christensen presented only positive cases not mentioning many disruptive technologies that failed and they sustained that his framework was capable to recognize disruptive technologies only ex-post and not ex-ante. Hence, the low predictive value of the disruptive innovation theory.

In addition, compared to what the disruptive innovation theory states, in the event of a disruption, academics showed that incumbents not always fail. Some of them remain successful, for example, Fujifilm that survived to the digital imaging transition, others simply occupy market niches, others exploit their core competences in other markets (Danneels, 2004). Furthermore, Christensen's theory

refuses the customer orientation paradigm. But being customer-oriented does not mean focus only on current costumers but also on potential ones (Danneels, 2004).

Moving on, the theory of disruptive innovation has been also subjected to new interpretations, proposals, and extensions. Markides (2006) for instance recognized Christensen's label of disruptive innovations to identify a broad type of impactful innovations and technologies. But different kinds of innovations have different competitive effects and produce different kinds of markets and managerial implications. So, it is necessary to break down this aggregated concept into finer categories such as Business Model innovations, Radical (new to the world) Product innovations, and Disruptive Technological innovations (Markides, 2006) to effectively tackle them. Also, Tellis (2006) sustained the position of Markides but proposed another subdivision of innovation triparted in Platform Innovations, Component Innovations and Design Innovations.

Then, a new type of low-end disruption was identified and theorized: the high-end disruption (Govindarajan & Kopalle, 2006). As already mentioned, during the transition from film to digital photography, digital cameras even if had lower performances were more expensive than film cameras. So in this case the disruption, even if it behaved like a normal low-end disruption, could be afforded only by premium customers. Consequently was proposed a more general measure of disruptiveness that includes both low end vs high-end disruptions based on the following criteria: (1) mainstream customers do not value the newer performance features at the time of product introduction; (2) the innovation performs poorly on the attributes mainstream customers value; (3) the innovation initially attracts an emerging, or an insignificant, niche market; and (4) whereas the disruptive product may offer a higher per-unit margin, the perceived lower market size makes the profit potential appear limited.

Tellis (2006) reinterpreted the innovator's dilemma differently, sustaining that the incumbent disruption was not due to technological innovation (per se) but to incumbents' lack of vision of the mass market and their unwillingness to cannibalize their assets and investments. The difference between successful and unsuccessful incumbents according to the author is in the organizational cultural values and the rooted corporate beliefs. Only established companies, not prisoners of their heritage, and capable to put in place a visionary leadership and the willingness to execute it can effectively undertake the change. Specifically, this meaningful concept was particularly inspiring for the direction of this research project.

Other illustrious clarifications demonstrated that the switch of customer choices from sustaining to disruptive innovation was determined by the decreasing of marginal utility from the improvements of the performance in traditional dimensions (Adner, 2002). Dan and Chang (2008) reviewed the concept of disruptive innovation and clarified that this kind of innovation does not always foresee new entrants to replace incumbents in existing business and does not imply that disruptors are only startup. Moreover, they reaffirmed the relativity of the concept and that disruptive does not mean destructive. Finally, spin-offs have proved to be a non-infallible mean to guarantee continuity and survival for established companies (Danneels, 2004) and for this reason new solutions as new forms of alliances and open innovation were identified.

### **2.3.6 Further explanations from the author**

Considering the huge debate among scholars and practitioners regarding the Disruptive innovation theory and the general misconception around the concept pursuant the publication of the “Innovator’s Dilemma” (1997) and “The innovator’s solution” (2003), a series of further clarifications from the original author followed.

The first elucidation was focused on the definition of disruptive innovation. Initially, labelling it as disruptive technology was inaccurate because technology does not paralyze the incumbent, but is the business model in which the technology is deployed that made incumbents vexing. It is a business model problem (Christensen, 2006). For this reason, the concept was turned into disruptive innovation. Besides, disruptive innovation should not be considered as a phenomenon but as a process. It depends on a time horizon and its objective function is not the company’s survival (as supposed by Markides, 2006) but the maximization of the shareholders’ value (Christensen, 2006). It could not be based on survival because otherwise, the company’s best response to disruptiveness would be not responding, given the fact that there is no reason to expect the disruption to capture the entire market (Christensen, 2006). Disruptive innovation is also a relative concept and can be measured only in relation to the business model of another company (Christensen, 2006). However, the author was conscious that the theory and its definition requires further steps ahead, and he identified in the discovery of anomalies, the only method to refine and advance in the development of the disruptive innovation theory.

Secondly, he answered the criticisms moved by Danneels (2004) and Tellis (2006). The disruptive innovation model was inductively derived from historical data, but this could not represent a weakness because it is typical of the inductive theory-building process (Christensen, 2006). For what concern the normative value of the theory, once inductively derived, the theory was used to successfully predict

many events such as that the “*performance of Intel’s processors was going to overshoot the speed mainstream customers could utilize and that cheaper processors sold by AMD and Cyrix that already had taken root in entry-level computer systems would improve at such a rapid rate they would invade the core of Intel’s market*” (Christensen, 2006; p. 46). It was also applied to predict and explain the diffusion of the CMOS technology in the semiconductor industry, the replacement of hard-disk in favour of flash-memories, the correct strategy to launch Kodak’s Easy Share Camera digital camera industry. In all these cases disruptiveness was not defined post-hoc. Disruptiveness it is a process that exists independently by the outcome produced (Christensen, 2006).

Moreover, Christensen’s criticized Tellis’s proposal about Visionary Leadership because his study did not have normative value but only descriptive, and disapproved Markides categorization of innovation because all the examples of innovations cited in its 2004’s paper did not correspond to his definition of “new to the world innovation” (Christensen, 2006). On the other side, he accepted the work of Kopalle and Govindarajan (2006), and their proposal of high-end disruption as an anomaly of the concept of low-end disruption.

After these final clarifications, the lively debate among scholars faded for a decade but the “term disruptive innovation” continued to widespread in many publications as a synonym of a new threat, ongoing change, misleading the original message of Christensen’s theory. For this reason, the author came back on the concept in 2015, remarking the importance to classify the true nature of innovations. Only recognizing real disruptive innovation scholars and practitioners can realize the benefits of the theory. Four misleading principles that characterize the concept and that it is important to bear in mind when building on research projects or decisions are: 1) Disruption is a process that lasts in the time, is not a fixed moment; 2) Disruptors often build business models completely different respect to incumbents 3) Some disruptive innovation are successful others not. Not all the disruptive paths succeed in. Focus only on the outcome of innovation to identify disruptiveness is wrong; 4) Incumbents should not overreact to disruption. They should not dismantle a profitable business but open a new division or create an ambidextrous organization focused on the research of growth opportunities. (Christensen; Raynor & Mc Donald, 2015).

Moving on, the author also clarified the causal mechanism of the theory, between circumstances observed and market leadership outcomes, which initially in “The innovator’s dilemma” was not specified. The causal pathway is rooted on the insidious resource allocation process that prevents investments in growth’s opportunities and disruptive business models, on the costumers’ and shareholders’ resource dependence, and on the motivational asymmetry between incumbents and new



entrants that push both the kinds of companies up-market but not down (Christensen; Mc Donald; Altman; Palmer, 2018).

And finally, he introduced an extension of the potential responses to the innovator's dilemma, articulated in nine possibilities (Christensen; Mc Donald; Altman; Palmer, 2018): 1) Autonomous organizational units (spin-off) aimed at exploring and commercialize new innovations (Christensen & Raynor, 2003; Gilbert, 2006); 2) Extension of the current performance improvement trajectories in order to defend the business domain from others innovations; 3) Proactively repositioning of the company in profitable niches; 4) Organizational Ambidexterity (O'Reilly & Tushman, 2008; 2011); 5) Partnership; 6) Acquisitions; 7) Introducing a new platform; 8) Technological Re-emergence (Raffaelli, 2018); 9) Hybrid responses.

### **2.3.7 The usefulness of the Disruptive Theory**

Without any doubt, the disruptive innovation theory was one of the most influential business ideas in the last 30 years. Until now, the review was limited to the presentation of the theory and of the lively debate around it, but a discussion regarding its usefulness and validity has not been performed yet. Unfortunately, only a few quantitative tests have been made on the theory to validate it, but despite this, all the available tests resulted negative, not confirming partially or totally Christensen's theory (King & Baatartogtokh, 2015). In specific, a study aimed at testing four of its key conditions: 1) Incumbents are improving along a trajectory of sustaining innovation; 2) they overshoot customer needs; 3) have the capabilities to respond to disruptive threats; 4) end up floundering as a consequence of the disruptive innovation, proved that only the 9% of the cases presented by Christensen in its publications perfectly fitted with them (King & Baatartogtokh, 2015). This result greatly resizes the theory's impact and usefulness.

One of the main problems observed by King & Baatartogtokh (2015) in testing it was the maximization of the shareholder's value, as the objective function of the theory. Considering the remaining 9% of the cases that satisfy the four previously enounced conditions (7 cases), none of the organizations in this sample were private or public companies, but no-profit or public institution. Another aspect pinpointed was that costumers are never satisfied, but not always sustaining innovation can give them something more and so companies are naturally pushed to look for some new innovations. And finally, not always incumbents can react to disruptions or it is necessary for them to compete against disruptive innovations.

In light of this study, the question remains, what is the utility of the disruptive innovation theory? All the organizations treated in the cases within Christensen's publications (1997; 2003) faced complex challenges that are not possible to analyse only from a single theoretical perspective. The theory of disruptive innovation, according to King & Baatartogtokh 2015, provides a meaningful warning against managerial myopia and all its correlated potential pitfalls. It can be strictly applied only under specific conditions. However critical thinking and old-fashion strategy literature about the nature of competition and source of competitive advantage remain the basis to face complex challenges and the effects generated by innovations of different natures. Organizational leaders should always assess the attractiveness of an industry when business conditions are changing and analyse if current organizational core capabilities can be utilized or extended in new business spaces.

### **2.3.8 Another perspective: Competence Enhancing vs Competence Destroying discontinuities**

Environments pose constraints and opportunities for organizational decisions and actions (Hrebiniak & Joyce, 1985). Among various forces that continuously shape the environmental conditions of a business domain, technology is central and one of the most influential. There is a long tradition of studies which investigated how the competitive scenario changes over time at the change of technology. Giving continuity to this stream of literature, Tushman and Anderson (1986) demonstrated that *"technologies evolves through periods of incremental change punctuated by technological breakthroughs that either enhance or destroy the competence of firms in an industry"* (p.1). Competence destroying discontinuities usually are introduced by new entrants and generate a higher level of environmental turbulence respect to competence enhancing discontinuities, usually put in place by established companies instead (Tushman & Anderson, 1986).

A competence destroying discontinuities has the peculiarity to destroy previous incumbents' capabilities, making their competence completely obsolete. They usually trap incumbents in their own organizational tradition and make established companies become prisoners of their sunk costs, investments, and political constraints. In addition, competence destroying discontinuities, normally are associated with a different distribution of power and control among the firms of a certain industry, since they usually break the entry barriers of the business domain of reference. A competence destroying product discontinuity normally promote the creation of a new product class or of substitutes. Instead, a competence destroying process discontinuity launches a new way to make a product (Tushman & Anderson, 1986).

On the other side, a competence enhancing discontinuity requires to master the firms' organizational core capabilities and use them in a new, unedited, or different way. It is usually launched by established companies and it does not make past organizational skills obsolete. It usually enhances companies' investments and some of their most rooted values. In addition, competence enhancing discontinuities are normally associated with a lower distribution of the power among the companies presented in the industry of reference. They usually tend to maintain the status quo in the original industry of reference. A competence enhancing product discontinuity promote a major improvement of a product built on existing know-how. Instead, a competence enhancing process discontinuity is a process innovation that allows more efficient production of a given product (Tushman & Anderson, 1986).

Firms that decide to not adapt to these two typologies of discontinuities and continue to invest in obsolete technologies have a higher likelihood to fail because products' conditions change dramatically. On the other side firms that quickly embrace the new product or process discontinuities will climb faster the learning curve and will have a higher growth rate respect the other followers. (Tushman & Anderson, 1986).

For the purpose of this research, Tushman and Anderson perspective resulted incredibly meaningful to frame the changes happened in the photographic film industry, especially the digital photography transition and the smartphone revolution. This different categorization scheme: competency-enhancing versus competency-destroying technological changes allows to resolve many anomalies (even if not completely) respect the categorization proposed by Christensen, Tellis, Danneels and Markides, in particular from the perspectives of the companies that are obliged to change to survive. In the next section, it will be explained how the combination of Christensen, Tushman and Anderson theories brought to define the investigation setting for this research.

### **2.3.9 How to treat the concept of disruptive innovation in the research**

Considering the literature review just performed, from one hand, it is evident how complicated and slippery is proposing and deciding the categorization of an innovation or a technological discontinuity. On the other side, it is equally fundamental set carefully the concepts of innovations utilized in the research project because as Markides (2006) remarked: different kinds of innovations have different competitive effects and produce different kinds of markets and managerial implications.

For the purpose of this investigation, the decision was to adopt a particular double perspective that synthesizes the body of knowledge of disruptive innovation theory of Christensen and the work of Tushman and Anderson (1986).

First of all, assuming the relative point of view of established film manufacturers (photographic film industry) as suggested by Christensen (2003; 2006; 2018), and considering the elements of discussion raised by Dannels (2004); Markides (2006); and Kopalle and Govindarajan (2006), the transition from film to digital photography and the advent of smartphones clearly represent two cases of disruptive innovation. Considering a finer categorization, the shift from photographic film to digital cameras represents a high-end disruption (an anomaly of the low-end disruptive innovation), while the smartphone revolution consists in a new market disruption. These two classifications are extremely useful to comprehend the mechanisms of functioning of the two typologies of innovation investigated respect to the market occupied by traditional film manufacturers.

However, following Tushman and Anderson's thought, the cyclical advent of superior technology, such as one of digital photography and then of smartphones, shape traditional business environments creating new constraints and opportunities for both established companies and new entrants. These technological breakthroughs can enhance or destroy the competences of firms in a given industry. For instance, assuming the perspective of film manufacturers, digital imaging is a technology that completely destroys their chemical core competences. While the smartphone is a so revolutionary product, very far from the photographic films' and digital camera industries that pushed, film and digital camera manufacturers to enhance their capabilities in other business spaces.

However contrarily to the perspective assumed by Tushman and Anderson, in this research, we will not consider the technology as a force capable to enhance or destroy the competences of firms but are the firms that will decide to enhance or destroy their competences toward a given direction when confronted with a disruptive innovation that puts their survival at risk. Therefore, in the face of the emergence of the two disruptive innovations<sup>2</sup> previously defined, incumbent film manufacturers are considered as subjects free to intentionally decide whether to face the change with a competence enhancing or competence destroying *transition*. The term transition is not casual because wants to represent the dynamic process of change, faced by the companies studied.

The assumption of this internal company perspective is in line with Dan and Hang (2008) methodological suggestion to study the effects of disruptive innovations on organizations that faced

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<sup>2</sup> The term innovation here includes both the concepts of technology and business model

the change successfully or not. It is also perfectly in harmony with the intention to study organizational identity management in two completely different decisional settings that can exalt the emergence of theoretical patterns relating to this practice. The company's decision to face a competence enhancing or destroying transition, when facing a wave of disruptive, becomes the criterion to distinguish and select organizational case studies in this research project (as explained in chapter 5).

## 2.4 Organizational Ambidexterity Theory

Understanding how organizations adapt and face the change successfully it's a broad question that created a lively debate among scholars along the time. According to the organizational ecology perspectives, firms struggle to survive in face of change because they are inherently inert (Hannan & Carroll, 1992; Barnett & Carrol, 1995; Christensen, 1997). On the other side, another fringe of academics strongly believes in the possibility to embrace the change (Teece, 2010; 2007; Tuschman & O'Really, 1996; 2013; Gibson & Birkinshaw, 2004; Birkinshaw, 2016; Gupta et. al, 2006). In this fringe, we can recognize two streams of literature. The first is related to Organizational Ambidexterity (Duncan, 1976; Tuschman & O'Really, 1996; 2013; Gibson & Birkinshaw, 2004; Birkinshaw, 2016; Gupta et. al, 2006), the ability to simultaneously facing competing demands: the exploitation of traditional activities with the exploration of new businesses. The second one refers to the "Dynamic capabilities" perspective (Teece, 1997; 2000; 2007; 2010; Eisenhardt & Martin, 2000), that consists in the organizational ability to reconfigure and align resources and capabilities to meet long-term profitability. Considering these two last streams of literature, today, it is largely accepted that organizational ambidexterity is part of the dynamic capabilities of a company (Tushman & O'Really, 2008; Birkishaw et al., 2016). In this paragraph will go through the review of these concepts, with the assumption that exploration and exploitation are not a simple trade-off, but they create a paradox that can be embraced, if the right mechanisms, that govern it, are understood.

The reason to dedicate an entire paragraph to this stream of literature is that ambidexterity was the primary source of inspiration for this study. Tushman and O'Reilly (2008) stated that "*the articulation of a common vision and values that provide for a common identity across the exploitative and exploratory units*" (p. 5) it's a key enabler for organizational ambidexterity. Moreover, organizations that promote a common identity and succeed in one domain may fail and be misaligned when fostering a competence enhancing or destroying transition, a different corporate strategy, or a discontinuous innovation (Tushman & O'Reilly, 2013). So, from Tushman's and O'Reilly's observations, it emerged the necessity to investigate how incumbents can promote new organizational identities to accommodate exploitation and exploration activities. This point of research was then reframed into the final research question: *When disruptive innovations occur, how can incumbents and their leaders promote new organizational identities that effectively accommodate a competence enhancing or a competence destroying transition?*

For the purpose of this research, organizational ambidexterity has to be conceived mainly as literature of support to Organizational Identity and to Framing Flexibility, with which it has in common the

nature of dynamic capability (section 2.4.2), and the interesting study of contradictory frames that top management has to coordinate in ambidextrous organizational contexts (Smith & Tushman, 2005).

### **2.4.1 The Origin of the concept**

The notion of ambidexterity, in the last 30 years, has been subjected to great attention in organizational theory and a wide proliferation of studies emerged around this concept. As a matter of fact, many scholars imported this construct in many diverse literature's fields combining this concept with many different theories such as the absorptive capacity, dynamic capabilities and organizational learning theories (O'Reilly & Tushman, 2013). Despite this wide interest, today the real meaning of organizational ambidexterity seems to have lost its initial clarity and traction.

The original notion refers to the capability to pursue two different activities simultaneously: "*exploration*" and "*exploitation*". Schumpeter (1934) was the first author to define these two concepts: "the exploration of new possibilities and the exploitation of old certainties". However, the first definition of Organizational Ambidexterity was introduced by Duncan (1976). The author refers to it as the organization's ability to be efficient in the management of the existing business as well as being effective in the adaptation to future business and to the changing competitive scenario.

However, March's seminal work (1991) is the real starting point for the proliferation of the studies on ambidexterity. The author sustains that resources' allocation of costs, time and space, between exploration and exploitations, is paradoxical. Exploitation, due to faster adaptive processes, allows companies to generate results in the short run, but it is self-destructive in the long term. On the other side, exploration requires longer adaptive and learning periods, and for this reason, is associated with high uncertainty of returns in the long run and with poor gains and high expenses in the present. However, exploration is necessary to guarantee the company's long-term survival.

Going more in-depth, exploitation is associated with "*refinement, efficiency, selection and implementation*", while, on the other side, exploration with "*search, variation, experimentation, and discovery*" (March, 1991, p. 102). Moreover, March (1991), testifies how the right balance between these two necessary forces is complicated and paradoxical for companies because both activities compete for scarce resources and require deeply diverse managerial practices. As a consequence of these observations, companies usually tend to overshadow exploration, in order to pursue "positive", "proximate" and more "predictable" returns with exploitation.

A similar concept had already been expressed in Levinthal & March (1981), where the authors, considering the organizational learning perspective, underlined the tensions generated by the decision of refining existing technology and developing a new one. The authors remarked the lower learning speed associated with the exploration of new technologies. Furthermore, they noted that improvements in existing competences, procedures and technology made exploration's activities less attractive. Even before, Thompson (1967), depicted this paradoxical relation between efficiency and flexibility as an administration's trade-off not surmountable.

Back to March (1991), the author also sustains that companies' allocation choices between exploration and exploitation depend on many different factors such as internal organization's procedures, rules, practices, goal settings and incentive systems. Organizations able to develop effective coordination mechanisms between the two activities "*can be expected to do better (on average)*" (p.84) and "*to become (also) more reliable*" (p.84) than those who have weakly coupled coordination's practices. The price of this better coordination is a smaller possibility to become market leaders because some companies can decide to forget exploration and just focus on exploitation.

Finally, Levinthal & March (1993) conclude that the long-term survival and success depends on the ability of organizations to "*engage in enough exploitation to ensure the organization's current viability and to engage in enough exploration to ensure (its) future viability*" (p. 105)

As we previously stated, over time, the original concept of organizational ambidexterity was subject to re-definitions, re-elaboration and misunderstandings. A valid and largely accepted definition of organizational ambidexterity, today, is given by O'Reilly and Tushman (2013):

Organizational ambidexterity is "*the ability of an organization to both explore and exploit – to compete in mature technologies and markets where efficiency, control, and incremental improvement are prized and to also compete in new technologies and markets where flexibility, autonomy, and experimentation are needed.*" (p. 2).

The academic success of this concept derives mainly from the empirical evidence collected by scholars along the time, that support the positive relation between ambidexterity's adoption and organizations' superior performances. More in detail, ambidexterity was found to be associated with sales growth and higher subjective rating performance, innovation, market valuation and firm survival. It is beneficial under conditions of uncertainty, especially to large established companies which have at disposition enough resources to invest and represent the target entities of this research.



## 2.4.2 Organizational ambidexterity as a dynamic capability

The great interest, raised by organizational ambidexterity, has gone almost hand by hand with the emerging of the dynamic capabilities-based view (Teece, 1997; Dosi et al., 2000; Teece, 2007). Before considering the bond between these two complementary streams of literature, a quick reconnaissance of the concept of dynamic capability and its background is reported below.

### Resources, Competences and Dynamic Capabilities

Following the dominance of Porter's model (1980; 1985) based on market structure and positioning's constructs, the traditional resource-based view (RBV) emerged from the works of Teece (1982) and Wenerfelt (1984). The early RBV emphasized only resources, and not capabilities, denying issues of human agency and managerial competencies in implementing organizational solutions. In this context, the dynamic capabilities-based view emerged thanks to the following contributions of Teece (1997); Dosi et al. (2000); Teece (2007). Basically, it went to complement the static early conceptualization of the resource-based view.

But, as the subtitle of this section suggests, what are the differences between resources, competences and capabilities? Under the RBV perspective, resources are almost impossible to be imitated, can be stocked, tangible but more likely intangible, idiosyncratic in nature, may satisfy the VRIN model conditions, are difficult to be traded and difficult to transfer. Competences instead are a particular kind of organizational resource, which result from activities performed quite repetitively. They “*enable economic tasks [...] that require collective effort.*” but “*represent distinctive bundles of organizational routines and problem solving*” (Katkalo et al., 2010; p.177). Competences are about doing thing right rather than understanding if what is going to do is the right thing. (Katkalo et al., 2010).

Dynamic capabilities are another different notion respect to resources and competences. They reflect “*the firm's capacities to, build and reconfigure internal and external resources and competences to address and shape rapidly changing business environments*” (Katkalo et al., 2010 building on Teece 1997; p.1177-1778). Dynamic capabilities may be ingrained in change's and analysis's routines and are deeply rooted in creative managerial acts. They reflect the speed and the degree to which firms are able to realign resources and competences to match the opportunities and the requirements of its business context of reference. Dynamic capabilities can't be bought, are embedded in human resources and in organizational routines, and can be considered as “*higher-order capabilities*” that facilitate operational but also long-term strategic decisions, allowing the protection and the extension of the competitive advantage (Katkalo et al., 2010). Finally, while core competences enable the creation of

temporal competitive advantage, dynamic capabilities allow to question the organizational status quo to create the conditions to generate competitive advantage when the business context evolves.

More recent studies specify that some dynamic capabilities directly reside in the abilities and the knowledge of executives, rather than in routines (Teece, 2012). The entrepreneurial capabilities, and the managerial proactivity in adapting organizational resources, competences, structures, capabilities and in shaping the ecosystem, are essential elements to produce superior performances (Teece, 2012).

Following, dynamic capabilities can be categorized into three clusters: sensing (the identification and the evaluation of opportunity), seizing (the allocation and mobilization of resources to face an opportunity and capture the originating value) and transforming (the continual renewal process) (Teece, 2012). Furthermore, they can be categorized into those aimed at creating value, and those aimed at capturing value (Teece, 2010).

To conclude, Teece (2012) affirms that dynamic capabilities are a critical source of organizational success, especially when a company wants to introduce innovation, or creating a new product-market category. Top managers' entrepreneurial and leadership skills are fundamental to sustain and strengthen dynamic capabilities in order to adapt their organizations and create long-term prosperity.

This short review provided us with the bases to dive into the relationship between ambidexterity and dynamical capabilities' literatures. In the future, further understanding of dynamic organizational capabilities can probably help researchers to shed light on more complex problems, such as the exploration-exploitation paradox, or the innovator's dilemma theorized by Christensen.

### **The raising of organizational ambidexterity as a dynamic capability**

According to Teece's (1997; 2007) original theory, dynamic capabilities research offered fertile humus to study organizational adaptation. This perspective recognized a strong centrality to managerial strategic leadership in pursuing adaptation, integration and reconfiguration activities in order to overcome organizational inertia (O'Reilly & Tushman, 2008). However, it lacked a clear and practical articulation of these capabilities that simultaneously can allow exploitation and exploration within the organizational boundaries (O'Reilly & Tushman, 2008).

In light of this consideration, O'Reilly & Tushman (2008) proposed to see ambidexterity as a dynamic capability. Dynamic capabilities are at the heart of the ability of a company to be ambidextrous. So, starting from the notion of organizational ambidexterity, the two authors specified those routines, competencies, and executives' capabilities needed to "orchestrate" the assets of the organization, in

order to chase simultaneously the exploitations of existing businesses and the exploration of new opportunities. Exploitation and exploration sometimes require handling inconsistent alignments but, dynamic capabilities provide a better frame of meaning to conceive this kind of paradoxes.

In detail, starting from the tripartite taxonomy of Teece (2007) (sensing, seizing, and transforming), Tushman and O'Reilly (2008) showed how ambidexterity requires: a specific and coherent alignment of competences, structures and cultures to pursue "*Exploration*"; a contrasting alignment to focus also on "*Exploitation*"; and executives with the right degree of cognitive flexibility to simultaneously "*Orchestrate*" the paradoxical tensions rising from exploitation and exploration. Then, they connected these three most salient concepts of the ambidexterity theory (Exploration, Exploitation, and Orchestration or Coordination) with the three categories of dynamical capabilities of Teece (2006).

"Exploration" must be seen as the organizational analogue of the "Sensing" category because sensing opportunities and threats in competitive environments requires a continuous process of scan, research and analysis of the surrounding landscape. This activity is associated with a set of specific routines and resources like flexible strategy-making process, tracking of new technologies, and provision of resources for competitive intelligence. It requires also a certain balance between centralization and decentralization to encourage feedbacks from the market, informal mechanism of coordination, an open culture that stimulates debate and accepts failure, and finally the commitment of senior leaders to encourage long-term development's plans.

"Exploitation" must be seen as the organizational analogue of the "Seizing" category. Seizing is connected to strategic execution. It is the managerial ability to create consistency between the vision, the strategy, and the company's assets. This process requires consensus among executives to favour a continuous business model re-alignment, overcoming inertia and decision traps. Without this ability, organizations would be able to identify opportunities and threats but not to effectively tackle them.

Finally, "Orchestration" or coordination, must be seen as the organizational analogue of the "Transforming" category. Reconfiguring or "transforming" is the managerial force that pushes the company toward a continuous self-renewal, putting in place practices of reallocation of resources, assets and renovation of organizational structures (Teece, 2007). It is famously aforementioned as "asset orchestration" because its core focus is on keeping ecological fitness with environmental changes (Teece, 2007). Transforming requires also senior managers commitment toward long-term, the right allocation of resources to sustain both current and future businesses, ad hoc structural

organizational designs and incentive systems. The critical point here is not only realizing the separation of exploitation and exploration but integrating these two activities in a value-enhancing way.

Considering this parallelism between the three ambidexterity's core components and the three dynamic capabilities' categories just shown, it is evident their affinity. The formers represent the practical instantiation of the last. For this reason, ambidexterity has been embedded by the dynamic capabilities' perspective, with scholars' wide consensus. A definition of ambidexterity as a dynamic capability is directly given by Tushman and O'Reilly (2008; p. 200): *“As a dynamic capability, ambidexterity helps organizations sense and seize new opportunities and to mitigate the effects of path dependence. In this regard, ambidexterity does not mean random variation or tolerating inefficiency but a deliberate approach to variation-selection-retention that uses existing firm assets and capabilities and reconfigures them to address new opportunities. When done explicitly, this involves deliberate investments and promotes organizational learning that results in a repeatable process.”*

Even if accepted, this perspective is not exonerated from critics. One of the most interesting contributions has been given by Birkinshaw et al. (2016), who agree with the vision of O'Reilly & Tushman (2008) but find it still unprecise. They sustain the impossibility to create and categorize a universal set of dynamic capabilities to accommodate exploration and exploitation because these capabilities are context-specific, therefore directly influenceable by the ambidextrous adaptation modes chosen by the company and by other factors. Moreover, the authors sustain the multi-level nature of dynamic capabilities because they can be held at different organizational hierarchical levels. As a matter of fact, accepting the parallelism between sensing-exploration and seizing-exploitation, such a view lead to shape *“transforming”* as a higher-order capability that *“involves the choice of a mode of adaptation to allow “sensing” and “seizing” transpire, and then building the complementary reconfiguring capabilities to sustain that chosen model”* (Birkinshaw et al., 2016; p. 39).

Nevertheless, the discussion is still open to further enrichments, but for this research, the dynamic capabilities perspective represent a new interesting and stimulating lens through which consider organizational adaptation and framing flexibility, which has been conceptualized as a dynamic capability.

### **2.4.3 How Organizational Ambidexterity is achieved. A focus on Antecedents.**

Until now, the concept of organizational ambidexterity has been treated from a theoretical perspective. Now the review will focus on the real structural practices to achieve exploitation and exploration simultaneously within the organizational boundaries.

In literature, there are several examples of companies that decided to externalize one of the two activities or decided to pursue alliances or joint ventures, usually for the management of exploration activities (Christensen et al., 2015; Christensen & Raynor, 2003; Hill & Birkinshaw, 2012; Raish et al., 2009). Another solution documented by scholars is the so-called sequential ambidexterity (Puranam, 2006), that foresees the temporal alternation of exploitative and explorative cycles and can be suitable for small firms, with few resources that operate in slow-move environments (Tushman & O'Reilly, 2013). Duncan (1976) was the forerunner of the idea, affirming that organizations should adapt their structures to align the organization with the firm strategy over time. Consequently, his proposal has to be classified in a sequential fashion (Tushman & O'Reilly, 2013). Other forms of sequential solutions, less explored, are the realization of semi and parallel structures to switch back and forth between two or more configurations (Brown & Eisenhardt, 1997). Finally, Siggelkow and Levnithal (2003) proposed “*sequencing changes*” in organizational structures to promote temporary decentralization in support of alternative cycles between exploration and exploitation.

Although valid, these solutions do not address the purpose to run exploitation and exploration simultaneously and within the same organization. Ambidexterity becomes a dynamic capability only when managers create the right synergic effect among these two contradictory activities, realizing their strategical integration (O'Reilly & Tushman, 2008). The literature mainly underlined three different approaches to realize organizational ambidexterity in this way:

The first solution is called structural ambidexterity because it is based on structural mechanisms (Gibson & Birkinshaw, 2004), through which managers realize a spatial division between the exploration and exploitation's activities (O'Reilly & Tushman, 1996; 2004; 2016). This idea was mainly advanced by Tushman & O'Reilly (1996) who suggest the creation of separated exploitative and explorative sub-units which must operate simultaneously. The authors believe that the separation of the two activities, at the corporate level or even at the business unit level, can lead companies to superior performance. Spatial separation ensures each unit is configured to perfectly meet the requests of their environment of reference and to keep separated different competencies. Explorations units are expected to be small, flexible, governed by informal mechanisms of coordination and decentralized; while exploitation's units to be larger, more formalized, more centralized and more goal-oriented.

Regarding the level of integration between these separated units, there are opposing considerations between who sustains a net separation (Christensen, 1997), and who, (Tushman & O'Reilly, 1997), invokes a stronger integration at the senior management level.

The structural ambidexterity view has been recently completed by O'Reilly and Tushman (2008; 2011; 2013). The authors underlined specific mechanisms necessary to lead organizations and managers to overcome the exploration-exploitation paradox with separate organizational subunits. Here these mechanisms are reported:

1. *A compelling strategic intent that intellectually justifies exploration and exploitation*
2. *The creation of a common vision and a set of values reflected in an organizational identity that embraces and represents both the explorative and exploitative subunits.*
3. *Senior management that holds and manage the strategy of both explorative and exploitative units. There is "common-fate reward system" and the strategy must be communicated relentlessly.*
4. *Distinct but aligned organizational architectures, such as business models, structures, incentive systems, metrics, and cultures, between exploitative and explorative units. Targeted integration at the senior level to foster integration and synergies using similar organizational assets.*
5. *The problem-solving ability of the top management to solve the inevitable tension between exploration and exploitation, arising from distinct alignments*

However, in this first solution, top management is incredibly put under pressure (it should create and coordinate new units with different procedures and cultures, which are managed differently to achieve completely different targets), therefore top executives can become the real bottleneck of the solution if not able to manage the strong tensions coming from competing demands (Chen, 2017)

A second solution to foster ambidextrous behaviours is called contextual ambidexterity and originally was proposed by Birkinshaw & Gibson (2004). Contextual ambidexterity is the business unit's ability to demonstrate alignment and adaptability without the need to put in place dual structural separations. The key element of the solution is the managerial capability to create a supportive culture within the business unit's context. This context should be designed to push people to self-regulate on the management of their time to pursue both exploration and exploitation. This solution is more individual-centric and requires the achievement of a strong consensus among individuals.

A critical point of contextual ambidexterity has been raised by Chen (2017); O'Reilly & Tushman (2013); Kauppila (2010), who sustain that new radical initiatives or disruptive changes, that strongly differ from the current activities of the business unit or of the company of reference, aren't suitable and easy to be managed in the same context. These situations more often require structural separation. The third and final solution presented is ingrained in the new leadership's studies that are deepening the figure of top executives. Tushman & O'Reilly (1996) and Gibson & Birkinshaw, (2004), demonstrated that leadership's processes are fundamental to support structural and contextual

solutions. But more recent research, have conceptualized leadership's processes as independent antecedents of organizational ambidexterity. In their study, Floyd and Lane (2000) attributed explorations to managers at operating levels, while exploitation to top managers. Volberda et al. (2001) noted that top managers, individually manage the balance between exploration and exploitation, by bringing new competences in some business units, and exploiting existing ones in others. Beckman (2006) found that team diversity is an important element to foster ambidexterity. Finally, Jansen, Vera and Crossan (2009), associated transactional leadership style with exploitative innovations, and transformational leadership style with exploratory ones. This association is meaningful since exploitation is linked to transactional leader's behaviours characterized by the maximization of internal competences and results; while exploration is linked to transformational leader's behaviours, who aim at inspiring organizations members to challenge the status quo and to think out of the box.

Although different, all these solutions are potentially valid. They should not be conceived as mutually exclusive but rather complementary. In fact, many recent studies found that organizations are used to recombine these mechanisms, at different organizational levels, to realize ambidexterity. An example is shown by Chen's (2017) paper, that describes Alphabet's organizational setting.

#### **2.4.4 Ambidexterity criticisms**

Nevertheless, the great efforts put in place by scholars to understand and frame ambidexterity, four criticalities requires further explorations (Raisch et al., 2009).

The first one regards the relation between structural separation (differentiation) and contextual ambidexterity (integration). Differentiation and integration are not contrasting but complementary solutions to obtain ambidexterity. Balancing integration and differentiation, it is a crucial managerial skill that should always consider the actual needs and the context of application. (Raisch et al., 2009).

The second tension refers to the organizational levels in which ambidexterity manifests. Recent studies are demonstrating that ambidexterity ability is embedded at the individual level, rather than at the organizational one. Ambidexterity is a personal managerial ability that varies according to the character of the manager and the context in which it is used. Moreover, it can be owned by top executives as by middle or lower-level managers. This vision contrast with the early study of antecedents mainly focused on structural mechanisms to enable ambidexterity. In this new research domain, the literature on micro-level and meso level framing can open new further insightful scenarios. Raisch et al. (2009).

The third tension is connected to the relative static lens through which ambidexterity has been considered by the previous literature. Ambidexterity today is considered a dynamic capability, and consequently further investigations assuming this perspective are required. The introduction of time is an important lens of analysis that can lead us to find new interesting dynamical insights regarding how companies support ambidexterity along an extended period and how, step by step, strategic and operational alignment is pursued (Raisch et al., 2009). Recent works are proposing models of what is called dynamic ambidexterity (Yan Chen, 2017), where structural, contextual and sequential ambidexterity are put in place simultaneously at three different organizational levels (organizational level, business unit level and project level). Andriopoulos et al. (2009) proposed a dynamic model to manage the exploration and exploitation's tension, mainly based on the dynamicity of three factors: company strategic intent, personal drivers, and customer orientation. Westerman, McFarlan, Iansiti (2006), examining how firms adapt to changes in strategic contingencies over the innovation life cycle, discovered that firms use three different adaptations modes (Separated early, Integrated early, Wait-than-Transform), none of which completely autonomous and integrated, but all subjected to evolutions over time. All the three adaptations modes optimize for one contingency but not for others and have pro and cons in different moments over the innovation life cycle. In light of it, firms should choose the adaptation mode more suitable to their capabilities and strategic context. Finally, also O'Reilly & Tushman (2013) sustain that time can be a key variable of interest in implementing different mechanisms to realize ambidextrous organizations. At the very beginning, structural separation is good to create the right context where incumbents can explore new opportunities. Then, when they gain traction, structural ambidexterity can be converted in contextual or more integrated forms of ambidexterity.

Finally, the last tension is connected to the accommodation of the ambidexterity's concept with the recent open innovation's trend. It's critical to understand how internal and external knowledge is reconciled in the internal exploitation and exploration's processes. Internal and external management of the knowledge flow can have a strong impact on ambidexterity. In light of it, one recent finding illustrated how an ambidextrous company, exploiting also external partnerships, enhances its ability to explore and exploit simultaneously (Kauppila, 2010).

#### **2.4.5 Organizational Ambidexterity and its evolution**

As reported in the previous sections, starting from March (1991)'s seminal work, the discussion on ambidexterity shifted from the organizational learning's plane towards the investigation of organizational mechanisms enabling the effective management of competing demands. In literature,



the original discussion, regarding the company's ability to manage and embrace the tensions coming from exploration and exploitation, is recognized under the label of "*Organizational Ambidexterity*".

While, at the very beginning, scholars of organizational ambidexterity sustained the impossibility to overcome the paradoxical tensions coming from exploitation and exploration and the necessity to see the problem as a simple trade-off, modern studies, starting from the assumption that this paradox can be embraced by well-managed organizations, found solutions to realize ambidextrous organizations.

The discussion on organizational ambidexterity brought researchers to focus on four different levels of analysis:

- Corporate level (Duncan, 1976; Tushman & O'Really, 1996; Adler et al., 1999)
- Business unit level: (Birkinshaw & Gibson, 2004; Raisch et al., 2009)
- Project level: (Liu & Leitner 2012; Turner, Maylor & Swart, 2013)
- Individual level: (Beckman, 2006; Jansen, Vera & Crossan, 2009); Tushman, 2011; 2013)

As time goes by, the original notion of ambidexterity was gradually imported in numerous different branches of the organizational theory and unfortunately, nowadays this term is often subjected to conceptual misunderstandings among different streams of literature and connected to a vocabulary not always transparent. Moreover, the original debate about organizational ambidexterity started to become disconnected with the time, due to enormous contributions deriving from diverse corners of the literature *such as the organizational learning, technological innovation, organizational adaptation, strategic management and organizational design*; and due to the applications of this concept to disparate domains to analyse networks, product and software development processes, technologies, and intellectual capital.

In light of it, Raish and Birkinshaw (2008) decided to reorganize the overall body of knowledge regarding organizational ambidexterity, in order to clarify the situation and making ambidexterity gaps easier to be identified for future investigations. The authors developed a clear framework showed in figure 2.5, distinguishing and reorganizing the body of knowledge around three consecutive causal clusters: organizational antecedents, ambidexterity streams, and performance outcomes.

Moreover, the authors identified two other general clusters of factors that can influence the causal path just described which are indicated in the framework with the labels of environmental factors and other moderators.

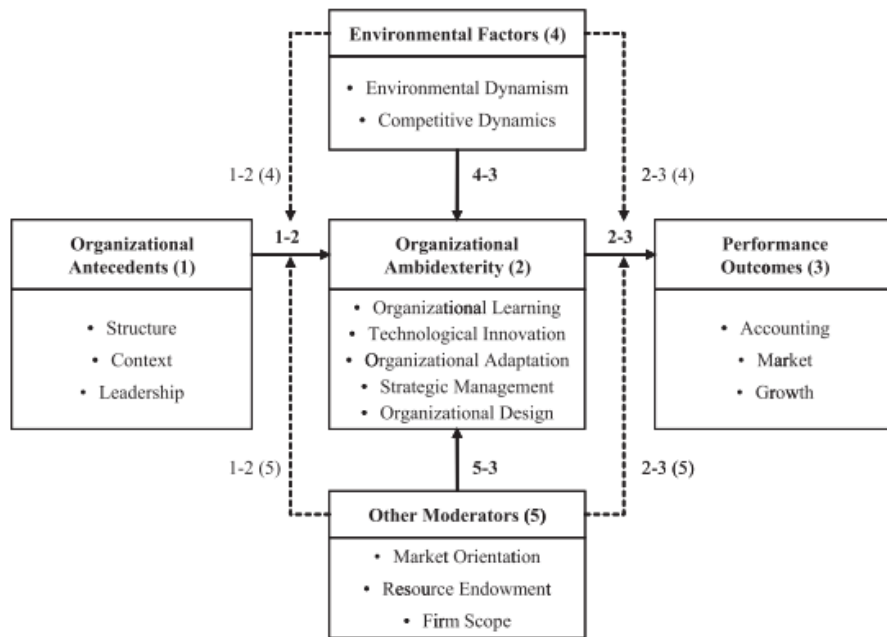


Figure 2.5 Framework of synthesis to understand ambidexterity research. Source: Raish and Birkinshaw (2008) p.381

For the purpose of this research, only the technological innovation stream of literature, with the Innovation Ambidexterity concept will be subjected to a quick further investigation (section 2.4.6), because salient to support the subject of investigation of this research.

## 2.4.6 Innovation Ambidexterity

One of the most important subjects in the literature of technological innovation is related to the classification of innovations. This stream of research tends to distinguish incremental innovation from radical innovation (Tushman & Anderson, 1986; Abernathy & Clark, 1985). Incremental innovation refers to small incremental adaptations, modifications, improvements of existing technology, products, services, or business concepts. A radical one instead, foresees a deep change, improvement, or modification in technology, products, services, or business concepts.

To understand how organizational ambidexterity concept was imported in the innovation's stream of literature, we have to consider an early definition of ambidexterity, given by Tushman & O'Reilly (1996), who defined it as: "*the ability to simultaneously pursue both incremental and discontinuous innovation*" (p. 24). Considering a subsequent work of Tushman and Smith (2002), the authors describe incremental innovations as "*exploitative*", while radical innovations as "*explorative*". The first satisfies the needs of current customers and markets, broadens existing knowledge and capabilities, improves established design, expands existing products or services, and increases the efficiency of distribution channels (Danneels, 2002; Benner & Tushman, 2003; Abernathy & Clark,

1985). The second satisfies emerging customers, creates new markets and develop new distribution channels. It requires new knowledge and often a complete set of new capabilities (Benner & Tushman, 2002; Abernathy & Clark, 1985). This unconventional way to categorize incremental (exploitation) and radical innovations (exploration), experienced a great resonance in the literature of innovation ambidexterity. Many scholars started to adopt this view, enriching the technological innovation perspective with further empirical evidence.

In this stream of literature, one of the most critical points lies in the difficult management of the growing tensions emerging from the simultaneous implementation of these two innovations. For example, deepening only incremental innovation can constrain the ability of the organizations to explore radically different technologies or products, making more difficult pursuing both activities (Leonard-Barton, 1992). Another critical issue is the managing of competence enhancing and competence destroying technologies (Tushman & Anderson, 1986, section 2.3.8). The second type is usually radical and envisages the cannibalization of existing capabilities. In these conditions, the rising of tensions, between old and new, incremental and radical, are even more marked, as it will be possible to see in the case studies presented in chapter 6.

Recently scholars are advancing many proposals to solve these problematics. One of the most interesting views is explained by Andriopoulos et al. (2009) who proposed a dynamic model to handle the innovative exploration's and exploitation's tensions, based on the dynamics among three distinct factors: company strategic intent, personal drivers and customer orientation.

Nevertheless, research has to progress to further understand the innovation ambidexterity's issues. The study of antecedents can increase our understanding to manage exploitative and explorative innovation successfully. For example, Jansen; Volberda & Van De Bosch (2006) investigated the impact of formal and informal coordination mechanisms on the innovation's management. Centralization negatively affects exploration, while formalization positively pushes exploitative innovations. Moreover, both exploitative and explorative innovations benefit from informal communication and coordination's mechanisms within business units. New studies in organizational culture, organizational identity and leadership can open new meaningful scenarios and can bring further contributions to shed light on this issue (Jansen; Volberda & Van De Bosch, 2006).

#### **2.4.7 Ambidexterity literature and Identity – a trajectory for further investigation**

Despite the great attention and the huge effort lavished by organizational scholars in the last 30 years, ambidexterity requires other answers to further questions. For example, even now remains not clear

the role of the senior team and its leadership behaviours in balancing the tensions raised by exploration and exploitation. *“How do individual factors affect organizational ambidexterity? What are similarities and contradictions, and interrelations between an individual’s, a group’s, and an organization’s activities that affect ambidexterity?”* (Birkinshaw et al., 2008; p. 693). Another question mark is how leaders manage the interfaces between exploitative and explorative units to achieve integration and pursue synergic value creation, leveraging on existing assets: *“How do the interfaces of old and new look like?”* (O’Reilly & Tushman, 2013; p. 18). A further unexplored field of research for ambidexterity can be the application of this concept to business ecosystems rather than only to firms.

Among all these questions not already answered, from the organizational ambidexterity perspective, this research will try to address the gap left around the concepts of organizational identity, intended as a strategic capability to host organizational ambidexterity over time. More specifically, this research will try to partially respond to the call of O’Reilly & Tushman (2013; p. 19), who, taking inspiration from the work of Shultz & Hernes (2013), deepened the organizational identity temporal perspective and formulated this request of investigation:

*“How can firms and their leaders promote new cultures and identities that accommodate exploration and exploitation? How can they take advantage of their history even they move to different futures?”*

However, as will be presented in chapter 3, the final research questions have been reframed respect to the original inquiry of O’Reilly & Tushman (2013), to make them more centred on the identity management’s process, on framing and on the case studies presented in (chapter 6). In light of it, this project will not tackle directly both organizational culture and organizational identity issues but, it will focus only on the second aspect (see paragraph 2.1). Moreover, following the recent lively debate on organizational change among academics, it will try to consider and integrate the emerging conceptual stream of framing flexibility (see paragraph 2.2) attempting to give a more complete explanation to this broad and fascinating theoretical black box. Finally, it will focus on the accommodation of a competence destroying or enhancing transition in response to the emerging of disruptive innovation (see chapter 2.3) rather than directly focus on the simultaneous accommodation of exploitation and exploration’s activities, which will have indirect implications in any case.

Connecting innovation ambidexterity theory with these three literature’s streams can increase our overall comprehension regarding the simultaneous management of the exploitative and explorative tensions in case of disruptions, formulating new critical insights for organizational change management.

## 3 Research Questions

In the previous paragraph, Organizational Identity (paragraph 2.1), Framing (paragraph 2.2), Disruptive Innovation theory (paragraph 2.3), and Organizational Ambidexterity (paragraph 2.4), bodies of knowledge were reviewed and critically discussed. This third chapter, instead, is dedicated to outline the research questions for this project of thesis and to introduce a preliminary explanatory framework emerged from the critical review of the literature previously presented.

### 3.1 Research Questions

Driven by an extensive literature review presented in chapter 2, the two final research questions object of investigation in this master thesis, are reported below:

*When disruptive innovations occur, how can incumbents and their leaders promote new organizational identities that effectively accommodate a competence enhancing or a competence destroying transition?*

*How can they take advantage of their history even as they move to different futures?*

Their broad scope is in line with the exploratory character of this research project, which allows us to investigate the principal and the secondary theoretical gaps and intuitions highlighted in the literary review in sections: 2.1.11; 2.1.12; 2.2.10; 2.4.7.

### 3.2 Emerging Framework from the Literature Review

Settled the research questions, a preliminary explanation of the two queries has been synthesized in the explanatory model presented in figure 3.1. This provisional framework has emerged from the critical review of the literature presented in chapter 2 and it has no ambition to be definitive. However, it schematizes the vast wealth of knowledge previously outlined, remarking some interesting new links between the most relevant concepts discussed. Its scope is providing a solid compass to guide the project in this complex, but fascinating investigation.

Successively, the empirical evidence deriving from the application of the multiple case study methodology will lead to delineate a final model that will confirm, expand, deny, or supplement some of the aspects underlined in this preliminary proposal.

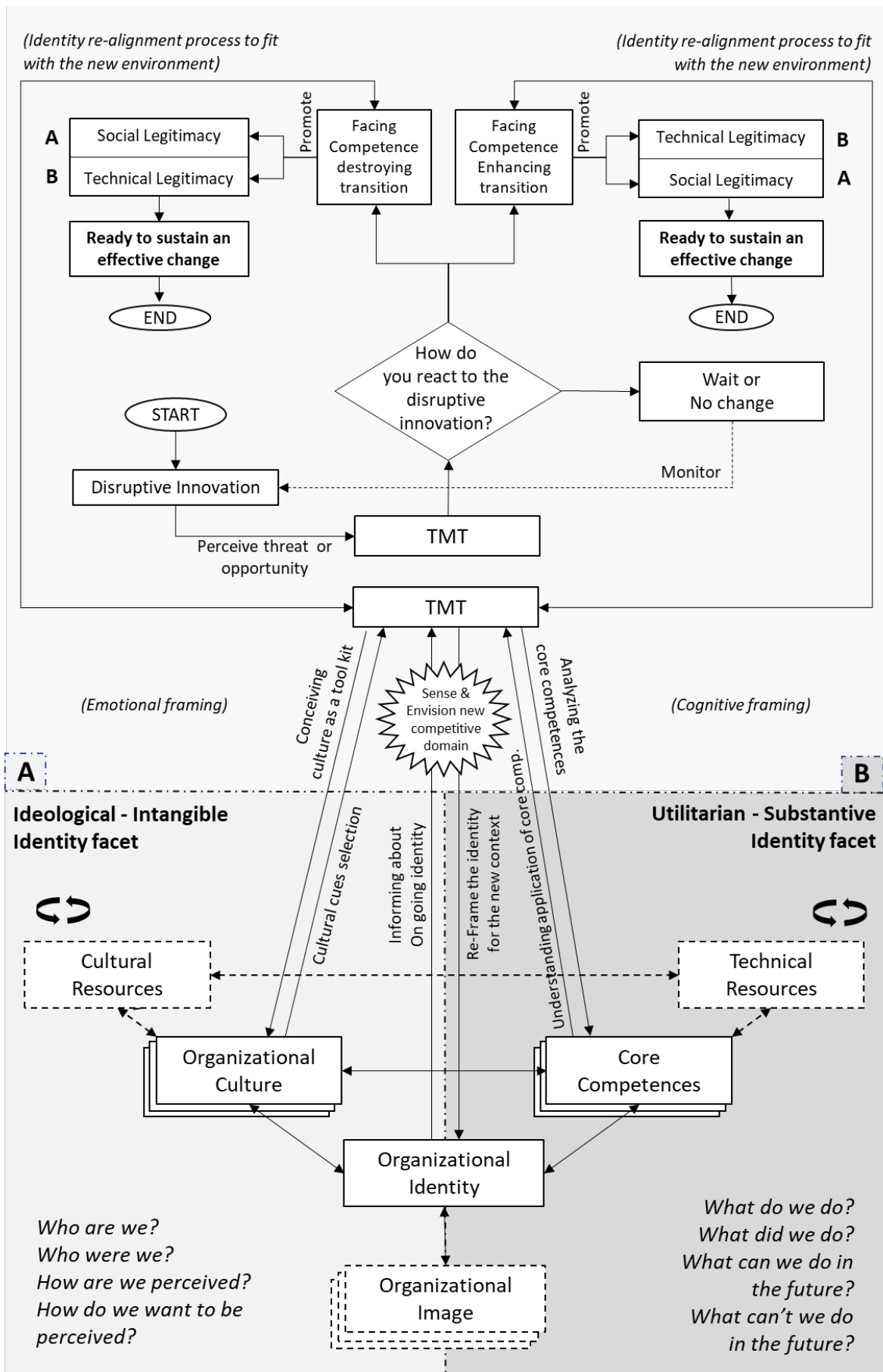


Figure 3.1: The emerging framework inspired by the literature review that partially answers to the research questions settled

## **4 The Photographic Film Industry**

This chapter is dedicated to an in-depth presentation of the Photographic Film Industry, a business domain in which the participating companies have had to undergo two major waves of disruptive innovation, first with the shift from film to digital photography and then with the advent of the smartphone revolution (Kanga and Song, 2016). The occurrence of these major transformations has made this industry the ideal ground for carrying out this research. In fact, the four case studies presented in Chapter 6 have been developed on the four leading companies of the Photo-Film industry: Fujifilm, Polaroid, Konica, and Kodak.

Coming to the articulation of the chapter, it is composed of four paragraphs. In the first one an introduction of the Photographic Film industry before the emerging of the digital revolution is provided (paragraph 4.1). Then, the consequences triggered by the substitution of films with digital imaging and the emerging of the digital camera industry are presented (paragraph 4.2). Subsequently, the disruption of the digital camera market driven by the Smartphone Revolution's period is analyzed (paragraph 4.3). Finally, a quick snapshot of the current film-camera industry (paragraph 4.4) closes the chapter.

### **4.1 The Photographic Film industry before the emerging of the digital revolution**

#### **4.1.1 History of the photographic film's innovation path**

Quickly retracing the milestones of the photographic film industry's history, it is possible to set its starting date with the marketing of the first Kodak camera in 1888, a simple box containing, a 100-exposure roll film, which represented a revolutionary method for taking photographs (Lucas & Goh, 2009; Palandri, 2015). Eastman Kodak, the founder of the homonymous American company, completely revolutionized the old photographic dry plates concept creating a paper on which a thin layer of gelatine was sprinkled and then wrapped in a roll (Gavetti, Henderson & Giorgi, 2004). In the beginning, film rolls could shoot photos only in black and white. But then, thanks to the large investments in Research Development, Kodak in 1935 came out with the first color film roll, legendary known as Kodachrome (Larish, 2012). The new photographic film was first used to produce movies and then introduced also for the amateur photographic market. Its strong chemical complexity reduced soon the number of competitors in the industry pushing away many rivals of that time, the most

famous: 3M (Gavetti, Henderson & Giorgi, 2004). Only four companies remained in the business: Fujifilm and Konica, two Japanese manufacturers, and AGFA-Gevaert, a Belgian-German chemical company (Gavetti, Henderson & Giorgi, 2004). Continuing with the innovative path of photographic film, the next crucial technological step was taken by Fujifilm when it introduced the first 400-speed color film in 1976. With this strategic move, Fujifilm proposed itself as a global player ready to compete with Kodak for market supremacy, after a long period of an undisputed global monopoly of the American company (Gavetti, Henderson & Giorgi, 2004). The definitive "Pearl Harbor"'s attack was the sponsorship deal won by Fujifilm against Kodak for the Los Angeles Olympic Games in 1984. From then on, the supremacy of the photographic film market was a two-sided fight, with AGFA and Konica playing the role of third and fourth strengths of the market (Mondave et al.,2002). The industry peaked in 2001 the year in which, for the first time, Fujifilm overcome Kodak in the global sales of film rolls, after more than one century of domination (Komori, 2015; Gavetti, Henderson & Giorgi, 2004).

A separate discussion is required for instant photography. This market was built from scratch by Polaroid thanks to the introduction of the Land camera in 1948, the first model of snapshot camera on the market capable to print a picture in few minutes (Bonanos, 2012). The Land camera, in the beginning, produced only sepia color pictures but soon the compatible black and white films were introduced. In fact, in 1964 with the Color Pack Camera model, Polaroid also covered colour photography, introducing its famous Colorpack films (Bonanos 2012). The kind of films required for the functioning of this new device was different from traditional ones but worked with a quite similar chemical principle based on thin photographic gelatine scattered on a rectangular paper surface (Bonanos, 2012). These rectangular papers were grouped, piled up and sold in a compact box to insert directly in the camera print box. The quality of the photographs taken with instant films was lower, but customers liked the idea to see instantaneously the shot taken and share the picture with friends and loved ones (Tripsas & Gavetti, 2000). So the sales of Polaroid machines and their related films boomed. In the beginning, Polaroid outsourced the production of its films but then brought in-house also the manufacturing process, because the highest margin of the business was done on software (films) and not on hardware (the cameras) (Tripsas & Gavetti, 2000). In the meanwhile of the climb to success, to protect its business, Polaroid's founder created around its invention a huge number of patents making impossible for other film companies such as Kodak and Fujifilm to enter in its market domain (Bonanos, 2012; Tripsas & Gavetti 2000). Polaroid's became the undisputed monopolist of the instant photography business and when Kodak tried to enter in its domain, it was obliged to pay the highest fine in the America history until that time for patent infringement (Bonanos, 2012). For



this reason, Polaroid is not included in many statistics regarding the mainstream photographic film industry. However, it has to be considered as a photo-film-camera company (Gavetti, Henderson & Giorgi, 2004). Instant photography was so successful that Polaroid in 1991 reached a peak of 1 billion packages of film sold in a single year (Gordon, 2010).

#### **4.1.2 The reason why the photographic film business grew in Europe, U.S.A and Japan**

Before drawing the reasons why the film industry developed in Europe, U.S.A. and Japan, an assumption is required. The film business history is strictly intertwined with the camera one because the two products were conceived as complementary (Founding Universe n.d. – Nikon.).

The first attempt of photography was undertaken in Europe, in particular by a German professor called Johann Heinrich Schulze, around 1717, who capture cut out letters on a bottle sprinkled with a photosensitive material (Tolmachev, 2019). Then, for almost two centuries, many other experiments followed in the European area between England, France, Belgium and Germany, until when Joseph Nicéphore Niépce invented the first box camera, exploiting wet photographic plates (1820). The device became available only 50 years later but it was bulky, heavy and difficult to use (Tolmachev, 2019).

Around 18 years later, Eastman Kodak came out with its roll format revolutionizing the traditional wet and then dry photographic plates for box cameras, because he was not satisfied with the difficulties to take pictures with that current technology (Palandri, 2015; Larish, 2012). The film was introduced together with the Brownie camera, one of the most successful box cameras of that time. From that invention, Eastman founded the film industry in Rochester, (U.S.), which developed quite independently until the 21st century (Larish, 2012). The Novecento, in the U.S., was also accompanied by the emerging of another strong film manufacturer, called Polaroid, that created the instant photography market, introducing another innovation in terms of films and snapshot cameras (Bonanos, 2012).

Coming back to Europe where all began, a German company called Zeiss Ikon decided to reproduce the Brownie camera and sell it under its brand in the European area (Palandri 2015). In the late 19<sup>th</sup> century and at the beginning of 20<sup>th</sup> one, Germany knowledge and competences in Optical technologies were the most advanced of the industry of that time. It is not a case that the first 35mm film and the related 35mm camera, called Leica I, were invented by a German Optical engineer who worked for Ernst Leitz Gmbh in 1925 (Founding Universe n.d. – Nikon). The camera produced high-quality photographs exploiting a movie film tape properly cut. The new device was also portable and lighter. Leica I became the industry standard and the invention strengthened the film-camera industry

in Europe, that in the meanwhile saw the emergence of AGFA Gevaert, the main European film producers located between Belgium and Germany (Mondave et al., 2002).

What does Japan have to do with all this? Everything Started from the influence of the World War II when Germany, Italy and Japan made the tripartite pact (Founding Universe n.d. - Nikon). Japan at that time have no advanced experience in optical technologies necessary to build military equipment, so Germany sent its engineers to Japan. Japanese government pushed its optical companies to learn the know-how from German allies, who were the industry top performer in optical equipment (Founding Universe n.d. - Nikon). The objective of Japan was to become self-sufficient in the production of military weapons so in this period Japanese camera and film manufacturers' competences grown significantly (Founding Universe n.d.- Nikon). After the global conflict, the Optical industry in Japan was well equipped. Japanese manufacturers met the standard in terms of lens, cameras and films quality respect to Europe (Germany) and the U.S. Japanese were also able to introduce some meaningful innovation as the single-lens reflex system (by Nikon) and the 400-speed color film (Fujifilm) setting new standards for the film and camera industry (Founding Universe n.d. – Nikon; Komori, 2015). Gradually its national products, thanks to the Korean World and the American influence on its territory started to be used by American professional photographers and then thanks to their incredible quality, they spread globally, especially in the U.S (Larish, 2012). Then the mass production, the low cost of labour, the government subsidies and the protectionist market reforms taken by the Japanese government to protect the Japanese companies did the rest, launching Japan as one of the major competitive power in the photographic film and camera industry in the world (Komori, 2015; Gavetti, Henderson & Giorgi, 2004; Mondave et al., 2002).

#### 4.1.3 The photographic film market in its maturity's stage

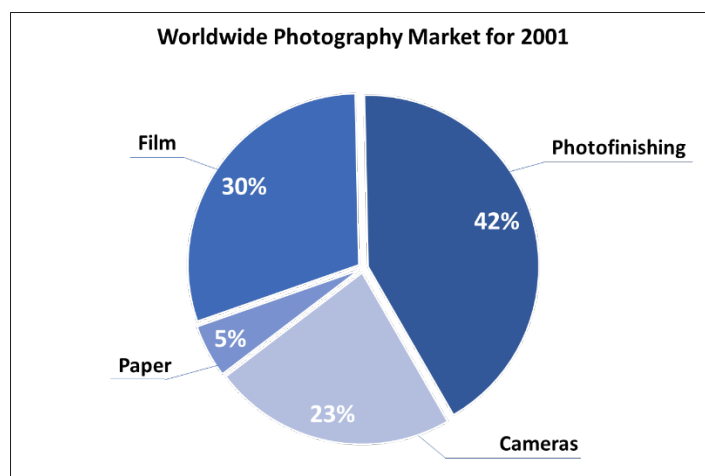


Figure 4.1: Worldwide Photography Market for 2001 –  
Source: IDIS 169.1 Business Policy in High Technology Firms – (Mondave et al., 2002)

Without considering Polaroid that was declared in bankruptcy in 2001 (Bonanos, 2012), in the same year, the worldwide Photography market was evaluated 86.4 billion \$ (Mondave et al., 2002). As it is possible to notice from figure 4.1, the Film business produced the 23% of the global revenues of the Photography market together with the Photofinishing (42%), the Paper (5%) and the Camera businesses (30%) (Mondave et al. 2002). Entering more in detail of the film business, from table 4.1, it is possible to notice how the competitive domain under consideration was in the hand of four major players located in three distinct geographical areas: U.S.A, Japan, and Belgium-Germany (Europe) (Gavetti, Henderson & Giorgi, 2004).

Table 4.1: Market shares evolution in the film business in the period (1990-2002). Source: Merrill Lynch and Photo Market, taken from Kodak (A). Gavetti et al. (2004)

	Fuji	Kodak	Konica	Agfa	Others
1990	15	60	7	15	3
1991	17	58	7	15	3
1992	19	56	7	15	3
1993	21	54	7	15	3
1994	23	52	7	15	3
1995	25	50	7	15	3
1996	27	48	7	15	3
1997	29	46	7	15	3
1998	31	42	7	15	5
1999	33	40	7	15	5
2000	35	38	7	15	5
2001	37	36	7	15	5
2002E	39	34	7	15	5

In 2001 Kodak, Fujifilm, Agfa and Konica controlled the 95 % of the global market, and for the first time, Fujifilm obtained the leadership of the photographic film industry ousting Kodak after more than a century. In the same period (2000-2001) the market reached its peak as it is possible to notice from picture 4.2 (Fujifilm integrated annual report, 2007).

### Trends in total world demand for color film and changes in revenue composition

■ Index is based on 100 for FY2001/3



Figure 4.2: Photographic Film Global Demand. Source: Fujifilm integrated report (2007)

The market was very concentrated and characterized by high entry barriers due to the large economies of scale and the specific silver halide chemical knowledge required (Komori, 2015; Mondave et al., 2002). Films were already considered commodities and the business model put in place by the four major players was based on consumables -the films- (Mondave et al., 2002). For this reason, the objective of the top management of these companies was to rationalize costs and incentivize the purchase of photographic films selling at a very cheap price the hardware (cameras). The margin on films was extremely high, independently if the company decided to put in place a differentiation or cost strategy (Gavetti, Henderson & Giorgi, 2004; Mondave et al., 2002; Tripsas and Gavetti 2000). On average the margin on the sale of a single roll was at least 60% (Larish 2012; Tripsas & Gavetti 2000). The main threat was represented by substitutes, in fact, digital photography was quickly expanding revolutionizing the entire film market. Digital photography did not require films and other consumables such as papers anymore. The skills and analogic photographic core competences would have been quickly obsolete (Mondave et al., 2002).

As we already anticipated Kodak was the undisputed market leader for many decades and the main innovator in the film business, as well the real founder. For this reason, it always tried to command the rules of the game and to adopt a differentiation strategy (Mondave et al., 2002). On the other side, the other three-major players adopted a cost leadership strategy (Mondave et al., 2002), even if Fujifilm at a certain point tried to challenge Kodak also on the innovation, quality, and marketing perspective (Gavetti, Henderson & Giorgi, 2004). More deeply, in table 4.2, it is possible to compare all the four major competitors in terms of ranking in the World, U.S, Japan, and Europe, the corporate strategy adopted and their strengths and weakness (Mondave et al., 2002).

Table 4.2: Film Business major competitors' comparison. Source: IDIS 169.1 Business Policy in High Technology Firms – Source: Mondave (2002)

Film Segment Competitors				
Film	Kodak	FujiFilm	Agfa-Gevaer	Konica
<b>Rank</b> World, U.S., Japan, Europe	1: 1: 3: 1	2: 2: 1: 2	3: 3: 4: 3	4: 4: 2: 4
<b>World Market Share</b>	40%	30%	10%	9%
<b>Generic Strategy</b>	<b>Differentiation</b> The brand name allows premium pricing everywhere but in Japan.	<b>Cost Leadership</b> Fuji's ASP is 75% of Kodak's ASP	<b>Cost Leadership</b> Agfa's influence is limited to its home geography.	<b>Cost Leadership</b> Konica's influence is limited to its home geography.
<b>Competitive Strengths</b>	Kodak has 65% share in the U.S. (largest market). It has a strong leadership position in all markets but Japan. Kodak is vertically integrated into all areas of imaging.	FujiFilm has a strong materials background and is innovative in film products and processes.	Agfa-Gevaert is a digital minilab market leader.	Konica has a Strong brand name in Asian markets
<b>Weakness</b>	Kodak has been and continues to be the innovation leader in the film segment. One weakness for Kodak as a company is its overwhelming dependence on film revenues for a major portion of company revenue	FujiFilm competes on price in most of the world. Its digital strategy is undefined. It seems more focused on minilabs and output.	Agfa discontinued digital cameras and scanners sales in 2001. Agfa is undergoing a large and costly reorganization. It is not clear what its digital strategy will be.	Konica experienced film revenue erosion caused by price competition. This forced a shift in focus to emerging markets to escape some of the pricing pressure.

For what consist Polaroid instead, the American company leader of the instant photography market respect to the data just provided, in 2001 it was declared in bankruptcy, so following we will refer to data taken from the period 1980-2000. Polaroid was the global leader in the instant photography segment, both in instant films and camera sales (Gordon, 2010). It was ranked in the first position in the U.S, Europe and also in Japan where created a partnership with Fujifilm for the production and commercialization of its films. The strategy adopted by the American company was always differentiation, with the aim to continue promoting the unique features of its products (Larish, 2012, Gavetti & Tripsas 2000). The competitive strength resided in the big patent protection built around its products, while the weakness in understanding the customer needs, integrating marketing data in the production and the slowness in capturing the changes in the market (Larish 2012).

All the companies presented founded most of their revenues stream on the film. Such a dependency from a so profitable business, with a so elevated margin, will challenge their survival. All these major players will find in the position to face a competence enhancing or destroying transition and to realign their traditional corporate identity to the new type of direction undertaken. For the purpose of this research, from now on, only the Japanese and the American film industry's players will be the object of analysis (Fujifilm, Konica, Polaroid and Konica). AGFA will be excluded from the reasoning.

In the next section, the transition from film to digital photography will be taken in analysis, underlining the film decline and the industry shift from the Photo-Film to the new Information and Imaging Competitive Domain.

## 4.2 The advent of a new market: from analogic to digital technology

### 4.2.1 The milestones of the change

After having described the birth, the innovation path, and the competitive structure of the film industry, this second section is dedicated to show a precise but quick snapshot of the period of transition from film to digital photography, articulating the criticalities of the change, the characteristics of the new emerging market, and the composition of the competitive domain.

To start, a quick historical overview of the main milestones that brought to the realization of the transition are synthesized in table 4.3. The most relevant events have been grouped into four macro stages.

Table 4.3: Timeline of the most significant events in the transition from film to digital photography

Stage	Year	Event - Description
Early Stage	1975	Steve Sasson builds the first digital camera with a resolution of 0.01 megapixel
	1988	1 <sup>st</sup> one-megapixel image sensor (CCD)
	1988	Digital imaging market not matured – CCD market produced only 27.5 million \$
	1988	First commercialized digital camera: Fujifilm DS-1P
Hybrid Stage (Film-Digital)	1992	Photo CD System. Picture captured on films then scanned on a CD and visualized on the screen of a pc or a television
	1995	No Players knew if switching to digital would have taken 5 or 30 years
	1995	Microsoft 95 is launched on the market.
	1996	APS (Advanced Photo System) – Roll of films carrying a magnetic coating on which data such as lighting conditions were recorded to help the processor to improve the quality of the picture
Growth Stage	1996	Digital camera price average 1000\$
	1998	5.6 billion pictures taken digitally in the U.S.A.
	2000	3 million digital cameras sold
	2001	6 million cameras sold (+50% respect to 2000). 45 billion pictures taken digitally in the U.S.A. Only 33% were printed
	2002	Digital camera price average 350\$
Maturity Stage	2003	Digital cameras sales overcame the analogue traditional ones
	2006	Only 206 million of film rolls sold in the U.S. against 710 million in 1987
	2008	60% of American had a digital camera
	2010	The market of Digital cameras peaked at 121 million units (Worldwide)

The early stage is a period in which film companies and other electronics and computing companies started to discover digital imaging and familiarize with the first rudimental sensors to capture pictures

digitally (Benner & Tripsas, 2012). A real profitable market still did not exist. (Gavetti, Anderson & Giorgi, 2005). The Hybrid stage was a period of extreme uncertainty where analysts and companies were convinced about the enormous potentialities of digital imaging, but nobody knew when the market would have boomed (Profile of Kodak, 2010). So basically, in this period, film companies and camera manufacturers decided to create hybrid devices to improve the quality of pictures taken with films by mounting digital sensors (Gavetti, Anderson & Giorgi, 2005). Moving on, the growth stage, was the time in which digital photography started to get a foothold. The quality of digital sensors increased, and the price of devices diminished. Consequently, digital cameras sales took off (Gavetti, Anderson & Giorgi, 2005; Mondave et al., 2002). Finally the mature stage, it is the period in which digital cameras sales boomed. Companies developed different products for any price range and customers' needs, catching up the quality of film photography (Kanga & Song, 2016; Benner & Tripsas, 2012; Profile of Kodak, 2010).

#### **4.2.2 A competence destroying transition – Why digital imaging disrupted films**

From the perspective of the film manufacturers, digital photography represented a competence destroying transition because, in the new digital imaging competitive domain, all the chemical and manufacturing competences necessary to produce photographic films became obsolete (Benner & Tripsas, 2012; Danneels, 2004; Christensen & Raynor, 2003; Gavetti & Tripsas, 2000). As Benner, & Tripsas perfectly commented (2012): *“Digital camera technology utilizes semiconductor chips such as charge-coupled devices (CCDs) to capture and convert light images to binary data, replacing the role of silver halide film in analog cameras.”* (p. 282).

The new technology, allowed users to visualize the pictures' preview on the display of their digital camera before printing them, deciding if keeping or erase the shoots just taken, without waiting to bring them to the photo-shop. Digital camera had also a memory that allowed an almost infinite number of shots, while digital pictures allowed users to easily manipulate them through the utilization of photo-software, store them in many digital devices, CDs, or digital platform, visualize photos on televisions or PCs and share them to other people through the internet (Benner & Tripsas, 2012). Another relevant advantage of digital photography is that digital cameras were more expensive to purchase than the combination of analogic cameras plus films, but less expensive to use (Danneels, 2004). This characteristic was the killer feature for film companies, which based their profit on consumables. The new digital device, in fact, was basically based on a one-shot hardware business model, which reduced the periodical profitability of the photographic industry (Profile of Kodak, 2010; Gavetti and Tripsas, 2000)

At the beginning of the new industry, the characteristics of digital imaging respect to film photography were particularly convenient to some specific categories of professionals, who contributed to the quick diffusion of the new technology (Benner & Tripsas, 2012). For example, the industry of news, magazines and advertising was one of the most enthusiastic regarding digital photography because many journalists around the world could easily send and share pictures to the headquarter, and graphic specialists could modify them to make it attractive in the newspapers, periodicals etc...Another affected category of business was the one of wedding professional photographers who could take a higher number of pictures without paying for expensive film rolls, increasing the possibility to take creative shoots (Mondave et al., 2002). However, the most important sector was the Aérospatiale one. Nasa required and used a digital camera to transmit high-quality pictures from its missions quickly. In particular, the Aérospatiale sector gave a big contribution to leverage the feature of digital cameras (Founding Universe n.d.- Nikon)

#### **4.2.3 A new market: The Information and Imaging domain**

Digital imaging, rather than be established thanks to the launch on the market of a new innovative product by a single player, or a small number of companies, developed as a global trend (Benner & Tripsas, 2012). Since the '80s, the digital imaging technology was supported by many industrial environments and governmental policies, but mostly by a new information technology infrastructure that was rising in that historical period (Benner & Tripsas, 2012). Especially the advent of the internet and the launch of Microsoft 95 were essential for its quick diffusion (Larish, 2012).

Consequently, in the same period, many companies, from industries far from the film photography one, started to explore the digital imaging technology and to be interested in the new nascent digital camera market (Benner & Tripsas, 2012). In detail, keeping the distinction of Benner & Tripsas (2012), three macro-categories of firms entered this new market space, in the period 1991-2001:

- 1) Photography. In this category, we find film and camera manufacturers. Film companies were the most at risk because their profitable market based on consumables was declining and could quickly disappear. For them, digital imaging was a disruptive innovation (Danneels 2004). Camera manufacturers on the other side saw digital cameras perfectly in continuity with their business. They had only to substitute film with an image sensor. In particular, for Single Lens Reflex (SLR) manufacturers, this adjustment was not particularly complicated and expensive. Digital imaging for them was only a competence enhancing transition (Kanga & Song, 2016). The total number of interested companies were 25 (Benner & Tripsas, 2012).



- 2) Computing. In this category, we find 19 new entrants, producers of PC, peripherals, and software. They were extremely interested in the processing stage of digital pictures and in all the consequent services that could raise, such as storing and photo editing (Benner & Tripsas, 2012).
- 3) Consumer electronics companies. In this cluster, Mp3, tv, stereos, camcorders' manufacturer fall. They were interested in this field mainly to extend their categories of products, enhancing their electronic capabilities and streams of revenues. The total number of entrants was 25 (Benner & Tripsas, 2012).

Table 4.4: Companies entering in the digital camera market grouped for industry affiliation. Source: Benner, M. J. & Tripsas, M. (2012). *The influence of prior industry affiliation of framing in nascent industries: the evolutions of digital cameras.* Strategic Management Journal

Agfa	Casio	Apple
Argus	Creative DXG	BTC
Canon	Hitachi	BenQ
Chinon	JVC	D-Link
Concord	LG Electronics	Dolphin
Fuji Photo Film	Mitsubishi	Epson
Jazz Photo	Oregon Scientific	Gallant Computer
Kodak	Panasonic	Gateway
Konica	Philips	Hawking Technology
Kyocera	RCA	Hewlett-Packard
Leica	Relisys	IO Magic
Minolta	Samsung	Intel
Minox	Sanyo	Jenimage
Nikon	Sharp	KB Gear
Olympus	SiPix	Logitech
Pentax	Sony	Micro Innovations
	Syntax Brilliant	
Polaroid		Microtek Labs
Praktica		Mustek
Premier		NEC
Ricoh		Soundvision
Ritz Camera		Spot Technology
Rollei		Toshiba
Sigma		UMAX Technologies
Vivitar		Visioneer

In table 4.4 the complete list of the companies interested in the digital camera industry is displayed. To these companies, we need to add 9 ex-novo start-ups and five not related incumbent companies that were looking for opportunities to diversify, like Mattel and Disney.

This important number of companies interested in the new emerging industry of digital cameras turned in a tough price competition to gain the largest market share (Benner & Tripsas, 2012). Digital imaging being developed and widespread as a worldwide trend allowed the creation of a super-efficient supply chain that could give to all companies the access to the same core features and standard components to build their own branded camera (Komori, 2015). So even if companies were not specialized for example in lens, displays, CCD, CMOS

sensors, batteries, or memory cards, they could easily buy the needed component to assembly their own devices. Moreover, there was also a large OEM/ODM industry which provided design, integration and manufacturing services to all the companies that wanted to enter the digital camera market (Benner & Tripsas, 2012). Many Japanese and Taiwanese companies offered this service absorbing a great part of the margins in the camera industry. Only a few companies developed in-house proprietary technology, expanding their competence register (Benner & Tripsas, 2012).

As a result, most of the digital cameras launched on the market had very similar specifications, so the competition was based on price. Consequently, the prices of digital cameras quickly decreased reducing the margins for the companies which participated in the market. Only who developed in-

house proprietary components, especially CCD (the most expensive part of a digital camera), such as Fujifilm, Sony, Nikon, were able to differentiate their products and have a larger mark-up (Komori, 2015; Benner & Tripsas, 2012, Kanga & Song, 2016).

However, from the perspective of the film manufacturers, this market was not sufficiently profitable to substitute their previous business based on consumables. It was evident that film companies to survive had to extend their presence in other markets far from the digital photography, putting in place a competence enhancing transition, or on the other side, invest in other stages of the Information and Digital Imaging value chain (Komori, 2015; Gavetti, Anderson & Giorgi, 2004):

As it is possible to observe from picture 4.3, the digital imaging value chain was a broad business portfolio composed of eight remunerative stages (Gavetti, Anderson & Giorgi, 2004):

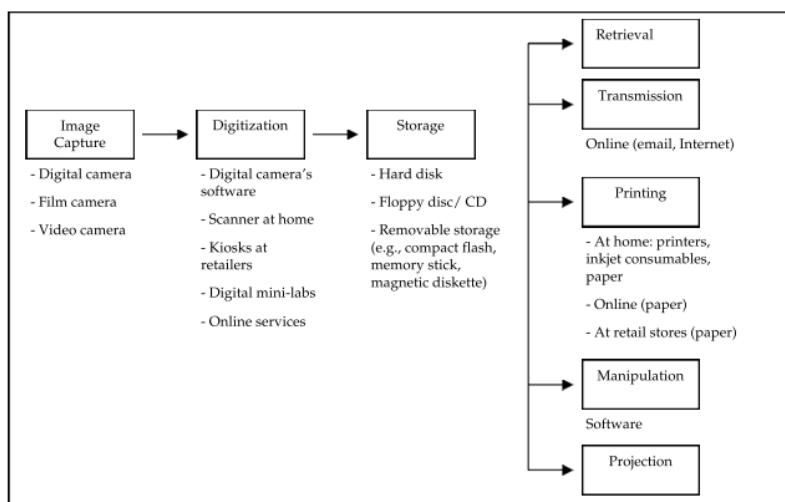


Figure 4.3: Digital imaging value chain. Source: Gavetti, G., Henderson, R. & Giorgi, S. (2004). Kodak (A). Harvard Business School. P.12

The information & imaging value chain represents a broad market generated from the convergency of many different industries, such as, as we previously underlined, the photography, the computing and the consumer electronics, encouraged by a revolution in the information technology structure and the diffusion of the image science trend. In this vast market, the four major domains were: digital cameras, home printing, online services, and retail solutions (Gavetti, Anderson & Giorgi, 2004). Following another type of classification, such a broad industry can be decomposed into three other more general macro areas: Devices, Infrastructure, and Service & Media. As it is possible to observe from figure 5.4, in 2002 this market generated 385 million \$ with Devices that counted for 50% of revenues, Service & media for 36% and Infrastructure for 17%. (Mondave et al., 2002).

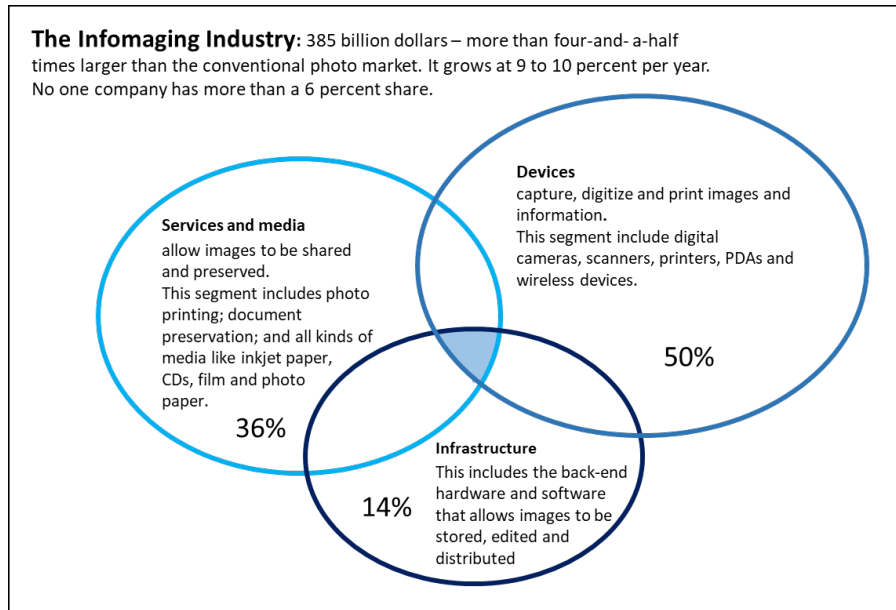


Figure 4.4: The Information and Imaging industry decomposed in its three more characteristic macro-businesses. Source: IDIS 169.1 Business Policy in High Technology Firms – (Mondave et al., 2002)

#### 4.2.4 The consequences of the change and the new competitive structure of the digital camera industry

Taking the perspective of film manufacturers, the transition towards digital photography represented an epochal painful change. From a context in which the film photographic domain was dominated for the 90-95% of the market share by only five companies, which possessed the entire value chain of their industry -film, papers, processing/photofinishing- called the holy trinity for the margins it allowed, these manufacturers had to face a new and crowded environment in which their competences were obsolete and their products were not demanded anymore (Gavetti, Anderson & Giorgi, 2005).

But the path was traced. Digital photography was coming, and these companies needed to survive learning how to compete in the new information and imaging industry. As it is possible to see from table 4.5 in the period (1997-2004), digital cameras' sales were quickly growing, cannibalizing the sales of instant and traditional cameras. Moreover, looking at table 4.6 it is possible to observe how the film business, in its most significant products, was declining in favour of digital cameras in the period 2000-2006 (Gavetti, Anderson & Giorgi, 2004).

Table 4.5: Worldwide camera sales expressed in million \$ - period of reference (1997-2004). Source: Gavetti, G., Henderson, R. & Giorgi, S. (2004). Kodak (A). Harvard Business School.

	1997	1998	1999	2000	2001	2002E	2003E	2004E
<b>Digital</b>	1,210	2,565	3,915	7,236	8,362	10,242	11,253	11,862
<b>Traditional</b>	16,000	16,250	16,750	14,740	14,070	12,864	11,539	9,809
<b>Instant</b>	413	450	788	1,013	962	904	841	774

Table 4.6: Worldwide Cameras, Film, Paper, photofinishing revenues expressed in million \$ - period of reference (1997-2004). Source: Gavetti, G., Henderson, R. & Giorgi, S. (2004). Kodak (A). Harvard Business School.

	2000	2001	2002E	2003E	2004E	2005E	2006E
<b>Cameras</b>	22,988	23,394	24,101	23,615	22,443	20,556	19,373
Digital cameras	7,236	8,362	10,242	11,235	11,862	12,596	13,222
Traditional cameras	14,740	14,070	12,864	11,539	9,808	7,356	5,517
Instant cameras	1,013	962	904	841	774	704	634
<b>Film</b>	17,257	17,314	16,940	16,522	16,113	15,691	15,280
<b>Paper</b>	4,304	4,391	4,549	4,818	5,292	6,081	6,900
Paper	4,299	4,381	4,410	4,417	4,596	4,792	5,112
CD's	5	10	93	185	364	674	935
DVD's	0	0	46	163	332	615	853
<b>Photofinishing</b>	36,545	37,389	36,939	35,936	34,996	34,114	33,290
Amateur	27,244	27,890	27,725	27,183	26,680	26,214	25,785
Professional	9,301	9,499	9,214	8,753	8,316	7,900	7,505

In the late '90s, the digital camera market started to expand quickly. In 2000 the number of units sold was 3 million, and only one year they duplicated. The product was approaching to the mass market especially in the U.S where the installed base had reached 13'000 million of users. In 2002 the sales grew again of 60% but of course, the competition was tough, and the digital cameras' price was decreasing as it is possible to notice from table 4.7 (Gavetti, Anderson & Giorgi, 2004).

Table 4.7: Average price of cameras per degree of resolution in terms of megapixel (price in \$). Source: Gavetti, G., Henderson, R. & Giorgi, S. (2004). Kodak (A). Harvard Business School.

	2000	2001	2002E	2003E	2004E	2005E	2006E
<b>1MP</b>	412	263	212	156	121	101	91
<b>2MP</b>	590	442	315	250	218	194	181
<b>3MP</b>	865	688	396	323	265	242	226
<b>4MP</b>	-	854	576	402	336	301	283
<b>5MP</b>	-	1,176	986	798	673	596	553
<b>6+MP</b>	-	-	1,201	1,002	833	754	668

Between 1991 and 2000, the market was already very fragmented. Considering a separation based on the quality and price of the product, three market levels could be considered (Gavetti, Anderson & Giorgi, 2004):

- 1) High end: digital cameras for professional working in photography studios, magazines, commercial photography governmental agencies, hospitals, Aérospatiale industry. In this segment, Sony, Kodak, Kanimage and Dicomed, Canon, Nikon were the main exponents.
- 2) Middle level: Cameras for photojournalist and professional photographers. Segment occupied mainly by Kodak, Fujifilm and Canon.
- 3) Low end: digital photographic devices for consumers, insurances, advertising, web services, children. This segment was very crowded. The main players were Apple with its QuickTake 100, Logitech and Kodak.

However with the time, the market gradually consolidated and around 75% of the worldwide market of digital cameras was in the hand of six players in 2002 (Mondave et al., 2002). In this situation, Kodak and Fujifilm were able to face the competence destroying transition and to enter the new market playing the role of protagonist. On the other hand, Polaroid failed. While AGFA left the business to enter new markets. Konica instead, first introduced good quality digital cameras merging with Minolta. Then sold its consumer imaging division and undertook a competence enhancing transition towards the office machines and the LCD screens business (Mondave et al., 2002). The new major vendors of the digital photography industry became Sony, Olympus, Fujifilm, Canon, Kodak, and HP. In table 5.8 the ranking, the worldwide market share, the type of strategy, the points of strengths and weakness of the six new major players are discussed and compared. To these six companies, we need to add Nikon which was, with Canon, the leader of the digital interchange-lens camera market with more the 90% of the market share (Mondave et al., 2002).

Table 4.8: Worldwide digital camera competitor analysis in 2002. Source: IDIS 169.1 Business Policy in High Technology Firms – Source: Mondave et al., (2002).

Digital Camera Segment Competitors						
Firm	Sony	Olympus	Fujifilm	Canon	Kodak	HP
<b>Rank</b> World, U.S., Japan, Europe	1: 1: 1: 2	2: 2: 2: 1	3: 5: 3: 3	4: 6: 4: 4	5: 4: 6: 5	7: 3: ? : 7
<b>World Market Share</b>	22%	18%	15%	12%	18%	8%
<b>Generic Strategy</b>	Differentiation For consumer electronic design	Differentiation Reputation for excellence in optics design and MFG	Cost Leadership Influence is limited sharply to Japan, known for chemicals and materials	Differentiation Proven strength in the film SLR market with the EOS brand. ELPH brand of compacts in both APS and Digital are very popular	Differentiation Focused strategy on workflow and ease of picture transfer, Knowledge of image science	Differentiation Brand strength in us, likely to appeal to beginners with simple solutions
<b>Competitive Strengths</b>	High vertical integration, Manufactures many complements	Optics and Electronics	Substantial experience in the image industry with a film background. Vertically integrated	Technology- intensive corporation. 2001 was the tenth consecutive year Canon was in the top three organizations receiving U.S. patents.	Substantial experience in the image industry with a film background, Vertically integrated with the exception of Memory	Strong consumer electronics reputation with computers. Vertically integrated with printers, cameras, computers and software.
<b>Weakness</b>	Limited to capital purchase part of the value chain, Although Sony has proven its ability to extract handsome profits from consumer electronics	Limited to capital purchase part of the value chain, Olympus has been successful with cameras but profits suffered from price competition in 2001	Not well recognized in the US market. Has the same issue as Kodak in that it is known as an analogic film company	A small player in the output market, trying to get into higher resolution inkjet home market.	Camera experience and reputation limited to inexpensive and disposables cameras Imaging	Imaging strength not evident although HP has a long history in the printer business

The competitive structure of the market, in terms of major players, remained quite similar to the one described in table 4.8 until 2008 (apart for the strong decline of Kodak that in 2012 will be declared in bankruptcy). In the period of reference 2002-2008, the digital camera expanded quickly, triplicating worldwide sales (Kanga & Song, 2016; Benner & Tripsas, 2012; Profile of Kodak, 2010).

Then, gradually, entry-level customers started to ask always lighter and smaller cameras with higher resolution. The market seemed saturated but the introduction of the Mirrorless technology that substituted the pentaprism, the mirror box and the optical viewfinder components in the traditional DSLR camera (Digital Single Lens Reflex) allowed the creation of incredible light, thin and small cameras (Kanga & Song, 2016). They fostered, even more, the increase of the sales of digital cameras, which touched in 2010 the maximum peak of 121 million units sold in a year, despite the Lehman Brothers shock (Kanga & Song, 2016). In this second phase, new emerging players such as Panasonic, Samsung and Ricoh emerged going to redistribute the worldwide global market share with the existing players of the market, which in response, learned how to apply the mirrorless technology also on their cameras (Kanga & Song, 2016).

## 4.3 The Smartphone Revolution

### 4.3.1 The milestones of the smartphone's revolution

Assuming for a while the perspective of the smartphone industry, in table 4.9 the most significant moments that characterized the affirmation of this revolutionary device and the consequent disruption of the digital camera market, have been grouped into four distinct stages: 1) The precursive stage; 2) The Early Stage; 3) The explosion stage (exponential growth); 4) The Maturity Stage.

Table 4.9: Smartphone Revolutions: the milestones toward the digital camera disruption.

Stage	Year	Event - Description
Precursive Stage	Jun 2000	Samsung launches the first telephone with a built-in camera: Samsung SCH-V200 followed by Sharp Electronics with its J-Phone
	2002	Digital camera outsold film cameras for the first time (24,6 vs 23,7 million of units sold)
	2003	First mobile phones with an integrated camera outsold digital camera unit sold (25 vs 20 million)
	2004	Mobile phones' sales with integrated camera skyrocketed: 257 million
	April 1, 2006	Konica Minolta sold imaging division to Sony
	2007	Mobile phones with integrated camera reach 1 billion of installed base
Smartphone industry Early stage	June 29, 2007	First iPhone launch – Starts the era of the smartphone. A telephone equipped with a touch screen that allows internet navigation, use of applications and good quality pictures.
	Dec 2007	The smartphone industry, mainly driven by Apple sells 122 million units
	Jul 2008	Mirrorless technology introduced on the camera market
	2010	25 billion photos uploaded on Facebook every month
	June 24, 2010	iPhone 4 launch
	Dec 2010	Digital camera sales record: 121.5 million while Smartphones reach 296 million of units sold
Explosion Stage	Jan 19, 2012	Kodak bankruptcy
	Sept 20, 2013	iPhone 5S launch. This smartphone overcomes the quality of the picture of the top of the line compact cameras.
	Dec 2013	Smartphones worldwide sales reach 970 million units in a year
	Dec 2018	Smartphones worldwide sales reach 1.536 billion units in a year
Maturity Stage	Dec 2019	Digital camera sales: only 15.2 million (87% sales drop respect to 2010)
	2018-2020	Smartphone sales stable around 1.5 billion units per year

As synthesized in the table, *the precursive stage* is characterized by the emergence of the first telephones with integrated cameras on the back of the device. A precursor typology of the smartphone that already outsold the sales of cameras in the period 2000-2007. This device had to alarm companies operating in the digital camera industry. It represented somehow an indirect threat to their business.

But the fact that these devices belonged more to the telecommunications sector and had very poor performances in terms of photo quality, brought camera manufacturers to underestimate their menace (Kmia, 2018).

Passing to the *early stage*, the consequence of the telephone’s underestimation was the launch of the first smartphone, a touchscreen phone better known with the name of iPhone (Larish, 2012). However, for the same reasons elucidated in the *precursive stage*, also this product was underestimated at this stage. For sure its camera-resolution was not at the level of current digital cameras but satisfied the less exigent customers offering much more than just a camera. This device had the presumption to be “*your life in your pocket*”. The sales quickly took off overcoming digital cameras sales in only three years (Kmia, 2018; Cardinal, 2020).

In the *explosion stage*, the product started to penetrate the consumer market across different customer segments globally. Smartphones’ camera module quickly improved, and it became one of the most important competitive characteristics among manufacturers of this industry. The quality of this devices improved so much that the iPhone 5s in 2013 had a better resolution and quality than the top of the line cameras on the market in that period (Cardinal, 2020; Bibbiani 2018). Consequently, customers were pushed to buy a good smartphone rather than a good digital camera, abandoning completely the photographic industry (Mansurov, 2019). Moreover, the launch of new social networks and application and the improvement of other features dug an even bigger gap between smartphones and digital cameras (Cardinal, 2020; Mansurov, 2019). In figure 4.5 the smartphones’ sales explosion is clearly visualized and quantified in numbers (O’Dea, 2020).

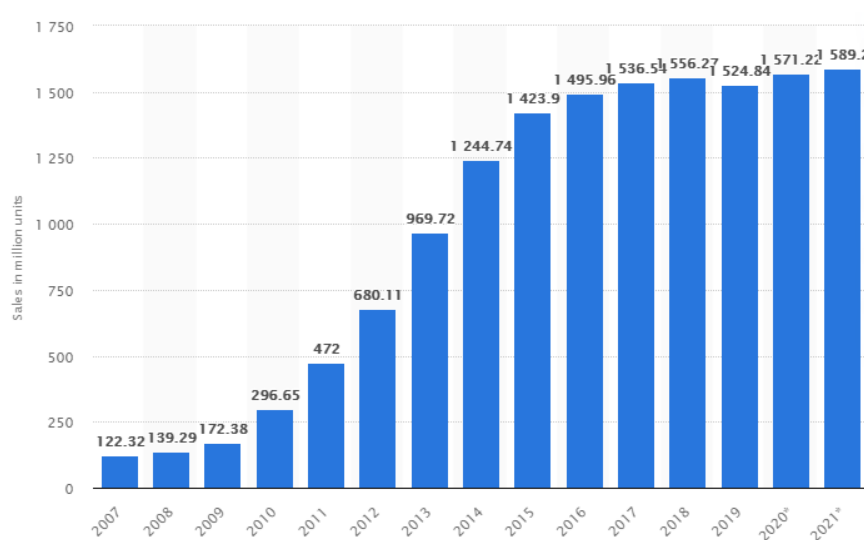


Figure 4.5: Yearly unit of smartphones sold worldwide – Source: CIPA association, cited by Statista.



Finally, moving to nowadays, currently, we are living *the maturity stage* of the Smartphone industry. Today these devices fulfil an indispensable role in our daily life. The smartphone has become an essential complementary product to pay, order to eat, read, listen to music, watch tv, and so on.... Their global sales are stable at 1.5 billion per year, but the market is quite saturated (O’Dea, 2020). On the other side, the digital camera market in the period 2020-2019 recorded a drastic downscale (Richter, 2020). Only the high-end interchangeable lens cameras are still surviving thanks to photography enthusiasts and professional users. But the degree of performances reached by the iPhone XS and its competitors such as the Huawei Mate 50 Pro 5G is astonishing and they are binding cameras to a simple hobby sector (Duncan 2020, Pageau, 2019).

### **4.3.2 A new market disruption – The effects of the Smartphone on the Digital Camera Industry**

*“The shift from film to digital was way faster than we expected,”* stated Kakushi Kiuchi, a Fujifilm professional photography’s executive at Photo Imaging Expo in Tokyo (Doi, 2006). In fact from 2002, when digital cameras outsold traditional analogic camera selling 24.6 million units against 23,7 million ones, digital photographic devices expanded at an extremely quick rate reaching in 2010, 121 million units sold in a year, revolutionizing the traditional film camera business (Richter 2020; Gavetti, Anderson & Giorgi, 2005). However, due to the tough competition and the elimination of consumables, as Kodak’s CEO Antonio Pérez remembered, this competitive domain revealed to be a *“Crappy business”* because no margins were attached (Kmia, 2018).

However, as we anticipated, the enormous sales’ growth knew by digital cameras started to decline with the introduction of the iPhone on June 29, 2007, which gave rise to the smartphone industry, a new competitive domain that took away customers from the digital photography industry, mortifying the investments did by traditional camera manufacturers (Kmia, 2018). The leap from digital cameras to instant selfie was incredibly short. In 2012 the iPhone 5 reached the specifications of the top line compact camera and in the third quarter of 2012, the smartphone industry outperformed digital cameras with 161,7 million units sold (Savvides, 2012).

As it is possible to observe from figure 4.6 digital camera sales started their maturity phase in 2008 due to the Lehman Brother Scandal and the introduction of Smartphones (Pageau, 2019). However, the launch of mirrorless technology in late 2008 revamped digital camera sales in 2009 and 2010, bringing the camera industry to touch in this last year the sales record of 121.5 million units sold (Kanga & Song, 2016). However, after 2010, the influence of the smartphone industry caused a strong

decline of digital cameras' sales in particular for what concerns the low-end market of compact devices (Cameras with built-in lens) (Pageau, 2019). After that, in the period 2010-2018, mass market abandoned digital cameras to pass to the convenience of smartphones which granted sufficient quality and the possibility to have a camera always in the pocket, also capable to fulfil many further tasks (Duncan, 2020). On the other side, if we look at the red parts of the column, it is possible to notice that the market of professional cameras declined but more slowly than compact cameras and that there is still an important demand mainly from professional and photography enthusiasts. However, 84% of sales' decline from 2010 to 2018 (87% if 2019 is considered) remains dramatic to notice (Richter 2020; Pageau, 2019).

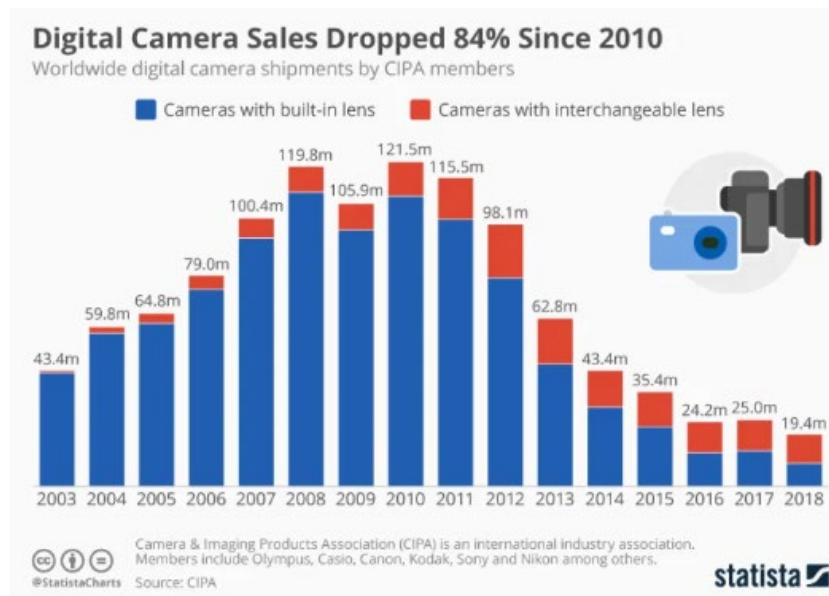


Figure 4.6: Digital camera market's sales – period (2003-2018) – Source: Statista that refers to CIPA (Camera & Imaging Products Association) statistics.

Moving on, picture 4.7 makes even clearer the impact of the smartphone industry on the digital photographic industry and more in general in the world economy. The yellow columns, without doubts, shows how this innovative product completely and exaggeratedly outperformed digital cameras sales (Duncan, 2020). Reconnecting figure 4.7 to Christensen M. C. disruption theory, especially to its second book, *The Innovator's solution* (2003), the shift from analogic to digital cameras, and from digital cameras to smartphones embody two different kinds of disruptive phenomena.

The first shift, from analogic to digital photography, represents a form of *low-end disruption* because the performance of the digital camera at the very beginning had lower resolution respect to film cameras. Digital camera manufacturers spent many years to catch up the film photo-quality, but then when digital camera met the same standard of analogic ones, their sales boomed because they also

offered more features important for customers such as the easiness to store, share and display pictures on many devices and the possibility to see pictures preview instantaneously and to take an almost unlimited amount of photos (Christensen & Reger, 2003). However, respect the traditional concept of low-end disruption, the initial price of a digital camera was premium, and it started to appeal to the high-end customer segment. For this reason, it was then renamed: high-end disruption, but its effect was similar respect to traditional low-end ones (Govindarajan & Kopalle, 2006).

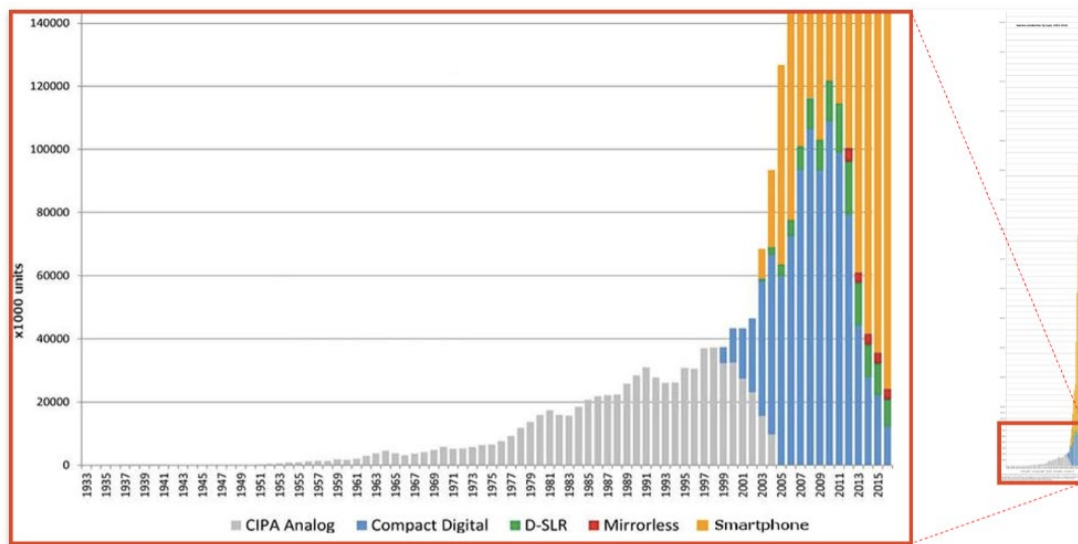


Figure 4.7: The explosive growths of smartphones shipments respect to stand-alone cameras in the period 1933-2015. Source: CIPA cited by David Cardinal (2020) in DXOMARK's website.

Considering instead the shift from digital camera to smartphones, this was clearly a *new market disruption* according to Christensen's theory because the advent of a new product, from a different industry respect to the original product of reference, capable to offer sufficient pictures quality but different features such as usability, lightweight, applications to edit pictures, the possibility to immediately share moments on social networks, connectivity, phone-calls, mail answering etc.. took away the customer base from the original market (the digital camera one), emptying it completely, and filling the new one.

The succession of these two events, if we took the incumbent film manufacturers perspective, assumes even more dramatic and critical conditions to manage. The first leap from analogic to digital was complex to manage because eliminated consumables and destroyed companies' previous competences (Gavetti, Anderson & Giorgi, 2005, Tripsas & Gavetti, 2000). The advent of the smartphones then thwarted their effort to change towards digital cameras, accelerating their difficult financial position (Kmia, 2018; Richter, 2018). Kodak gradually lost market share, from 27% in 1999 to 7% globally in 2010 (Gavetti, Anderson & Giorgi, 2005; Profile of Kodak, 2010). A bad diversification strategy and the incapacity to change brought the American colossus to declare bankruptcy in 2012. Konica,

become Konica Minolta, sold out the digital camera division to Sony and entered the B2B office and commercial machines business (Cheng, 2006). Only Fujifilm survived and today, it is still part of the digital camera market. However, the Japanese manufacturer had to diversify in other industries such as the Healthcare to continue to grow and cover the margin gap left partially uncovered by the film business disappearance (Komori, 2015; Doi, 2006).

### **4.3.3 Why customers have chosen smartphones instead of digital cameras**

Many cameras' supporters, even today, still try to defend the role of cameras in the world claiming superiority in terms of picture's quality respect to smartphones. This discussion could be valid for the high-end camera models because they mount light sensors so big that cannot be replaced with digital-electronic technology today (Mansurov, 2020). However customers have already chosen, and the number of smartphones sold in the period 2007-2020, respect to cameras is an evidence (Duncan, 2020). But why have most of the people passed to the smartphone since 2007?

The first answer is convenience. As the famous photographer C. Jarvis stated: "*The best camera is the one you have with you*". The smartphone is a very handy device, easy to use, easy to bring with you, light, usable for many purposes, not only to take pictures (Duncan, 2020). With time, smartphones have become indispensable in our life. It has become a complementary product to fulfil many tasks and services (Duncan, 2020; Bibbiani, 2018).

From the camera perspective in the early stage smartphones granted only an acceptable quality in terms of picture definition and color fidelity. But in less than five years they reached the quality of the top of the line compact cameras, and today their cameras can be compared with some traditional professional SLR cameras, thanks to the incredible technological advancements had in this decennium (Duncan, 2020; Pageau, 2019; Bibbiani, 2018).

Most importantly, what smartphone was able to do was to read changes in social trends and provide to people an effective mean to express this change. In 2007 Facebook and other social networks were booming, people wanted a simple device through which communicate their everyday life on a digital platform, sharing their experience (Alrashed, A. N. 2015; Dan, 2012). A new language based on images was developing. The smartphone was able to support the casual photography trend: the necessity of people to take pictures everywhere at the moment things were happening unexpectedly (Duncan, 2020). Smartphones were easier to bring with you and could capture every moments everywhere, every time, modify the shoots, upload them instantaneously on social media, store them

on cloud or send to friends (Bibbiani, 2018). The smartphone gave the possibility to do everything quickly in a unique device. For this reason, another important innovation introduced by the smartphone was its capability to revolutionize the photographic workflow (Duncan, 2020). Figure 5.8 shows the traditional steps before smartphone introduction.

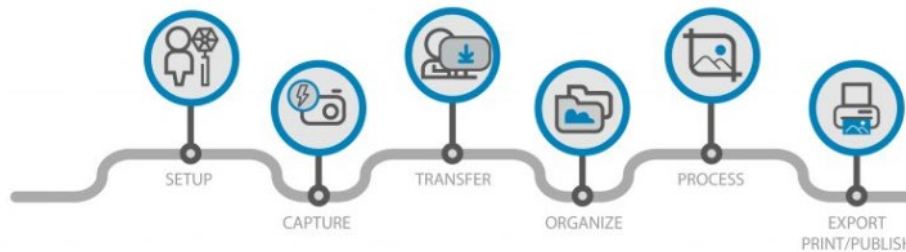


Figure 4.8: Traditional photographic workflow. Source: *Smartphones vs Cameras: Closing the gap on image quality.* David Cardinal 2020.

All these six steps required an incredible amount of time that the introduction of the cloud system and smartphones application have completely shortened (Duncan, 2020)

Finally, it is important not to underestimate the role of applications. Today, thanks to apps the devices have become a production studio where users can edit professionally their pictures quickly (Bibbiani, 2018).

On the other side, evaluating digital cameras in the period 2010-2018, it is possible to affirm that after the introduction of the mirrorless technology, digital camera manufacturers have not been able to effectively react by bringing some interesting innovations or adding smartphones features on digital cameras (Pageau, 2019). Many models six months later cannibalized their predecessors and did not offer any possibility to share pictures or connect directly to the internet (Savvides, 2012). Potentially they gave the possibility to add a new lens, flash, and other components to increase the artistic possibilities of users but these “add on” were too expensive (Savvides, 2012). The user interface remained poor and not intuitive and their price was still perceived too high if compared to smartphones with the same camera quality (Savvides, 2012). Finally, almost all the models were created without keeping in mind the specific customer for which they were created. Many marketing problems aroused around digital cameras (Savvides, 2012).

For all these reasons smartphones substituted cameras in our daily life. In the next section will briefly investigate the situation of the camera industry today, and then move on to the explanation of the cases.

## 4.4 Photographic industry today

### 4.4.1 A snapshot of the current camera industry

As anticipated in the previous paragraph, respect to 2010 in which the overall digital camera's units sold were 121,5 million, in 2018 the industry experienced a - 84% of shipment's decrease and in 2019 a -87% with only 15,7 million of units sold, the same quantity delivered in the mid-'90s (Lebending, 2020). Despite the introduction of new models such as the Canon R, the Nikon Z6 and Z7, the Fujifilm GFX50R and X-T3 the landscape is not changed today but is getting worse, also thanks to the Covid-19's global situation (Lebending, 2020). Looking at the statistics provided by CIPA, in August 2020, respect the previous year (same month), cameras with interchangeable lens' sales decreased of the 43,3%, while cameras with built-in lens went down of the 52,2%. The overall effect of compact and interchangeable lens cameras' sales decline, compared with 2019 and 2020, is synthetized in figure 5.9 (Burgett, 2020).

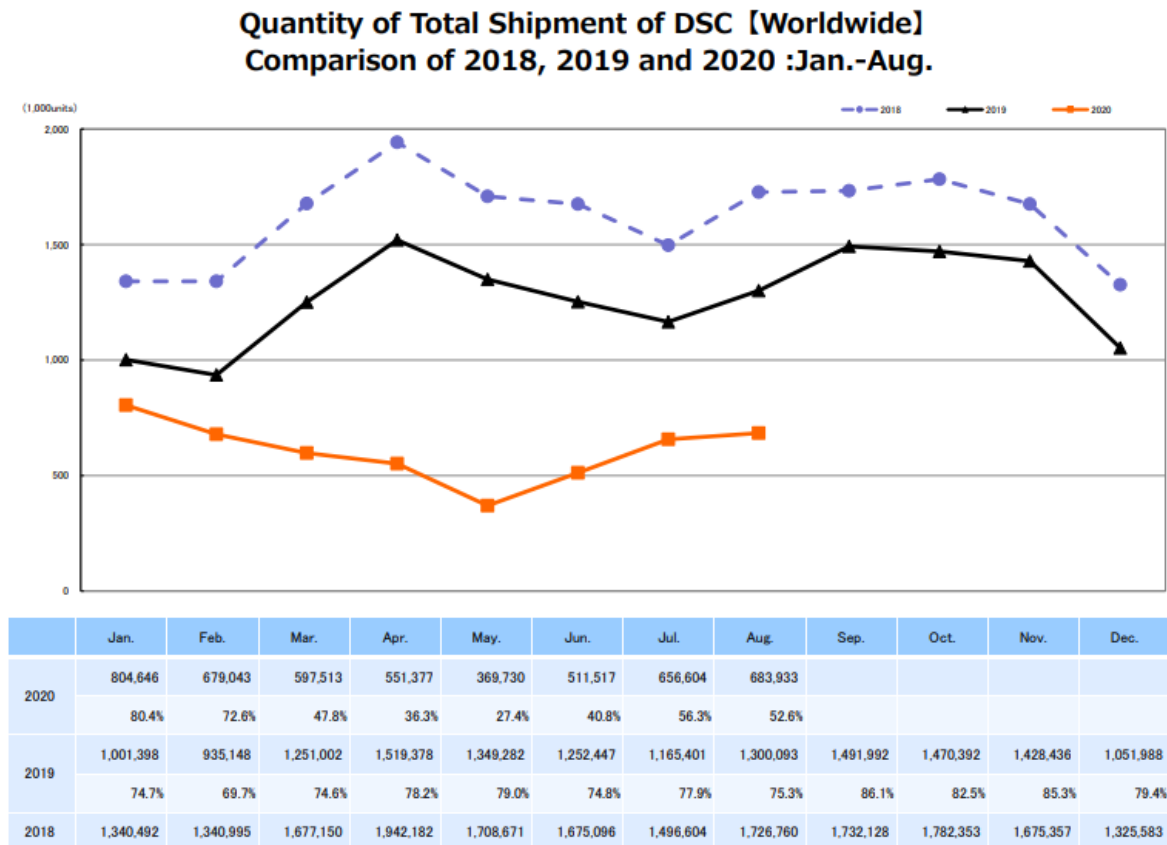


Figure 4.9: Comparison of worldwide total shipments of digital cameras 2018,2019,2020. Source: CIPA

From the figure, it is possible to observe the unstoppable decline that this industry is experiencing. Year per year the market is shrinking, and consequently the prices within the industry increases. To

foster a relaunch of the sales camera manufacturers have to innovate and sustain high Research and Development cost to bring on the market new and more attractive models. But if the demand continues to decline, and the price continues to rise to cover expenses, automatically the number of potential customers reduces. And so the vicious cycle continues (Lebending, 2020).

Today, the digital photography market seems to be confined to become a small market niche aimed at enthusiasts and professionals. Mirrorless cameras overcame the units sold of DSLR, but their positive trend is not sufficient (Lebending, 2020; Burgett 2020; Hornyak, 2019). The market seems also to be very fragmented in different product's areas such as DSLR, Mirrorless, compact cameras, Action Cameras, 360/VR cameras, Camera for drones and others... However, if the broad camera domain is considered, today the undiscussed leader is still the smartphone (Lebending, 2020; Hornyak, 2019). Even with the Covid-19 global emergency, Smartphones are forecasted to reach in 2020 and 2021 respectively 1.57 and 1.59 billion units sold. Their camera is still improving with the addition of more lenses on the back and the front side of the phones (Lebending 2020, Duncam, 2020). Moreover, current technology is trying to improve shoots in low light conditions, the depth of the picture, the zoom and the resistance to water, dust and extreme conditions, going to challenge high-end professional DSLR or mirrorless cameras and the action cameras segment (Duncan, 2020; Pageau, 2019).

#### **4.4.2 Incumbents company situation**

In this negative and dramatic scenario, it is interesting to understand the conditions of the major incumbent companies of the digital photographic market. As it is possible to predict, no-one of these companies can survive basing it's the future of its business portfolio on this "crappy" old business (Kmia, 2019; Gampat, 2015). However in a society so interconnected that communicate every day with billions of images, for sure the necessity of camera modules will not end. What is happening, in particular for Japanese manufacturers, is a certain tendency to shift from B2C to new B2B businesses, enhancing the organizational competences towards new industries (Hornyak, 2019).

For instance, Nikon's Imaging Products business segment is experiencing an important decline in the last five years. Its camera business, that was its dominant segment in 2014, generating more the 70 % of the firm's revenues, today counts only the 38,2% of the company revenues (Hornyak, 2019; Nikon annual report 2019). Nikon, with many difficulties, is facing a competence enhancing transition and after the implementation of a new vision: "*Unlock the future with the power of light*" is trying to diversify its business portfolio in additive manufacturing, machines for smart-factories following the

4.0 industry revolution's trend, healthcare, and robotics/vision systems which together are generating the 20% of the company sales. However, the remaining 40% per cent of its revenues are still based on other Nikon's traditional business such as lithography systems, precision instruments, microscope, and optical glasses (Nikon annual report 2017-2018-2019).

Following, Canon which is the leader of the DSLR camera segment with more than the 60% of the global market share, is experiencing a strong decrease of the demand and it is entering in financial difficulties because one-fourth of its business portfolio is based on the revenues coming from digital cameras (Hornyak, 2019). In fact, in the last two financial reports available (2019-2018) the Imaging system divisions knew a revenue reduction respectively of -16,8% and -11,7% compared to their previous years. For this reason, in 2018 Canon started a phase of restructuration and acquisitions, integrating Toshiba Medical System, Océ, a Dutch company leader in high-speed printing technology and Axis, a Swedish Security cameras company, with the final intent to open new attractive business initiatives to sustain the future growth of its corporation (Hornyak, 2019). Today the only Canon's division that closed 2019 in growth numbers was the one dedicated to Medical Systems, with only +0,2% of sales increase (Canon annual report 2019).

Among the most famous camera players, the only company still profitable in this field is Sony, with revenues' growth of 1,96% and +38,9% of gross profit in the period 2018-2019 thanks to its capability to wedge its camera sensors technology in the smartphones industry (Hornyak, 2019).

Go-Pro instead, the founder and the company leader of the action camera segment, after one of the most successful IPO of 2014, also experienced a strong decrease in the units sold from 6.6 million in 2014 to 4,2 million in 2019 and consequently was subjected to revenues' downscaling (Pettitt, 2019; Hornyak, 2019; Dwesar & Singht, 2018). Consequently, its stock price declined from 90\$ to 4-5 \$ in 2020. Go-Pro after a phase of diversification in the entertainment and drone industry, today is still refocusing on what knows to do best. Currently is promoting new storytelling devices, but its position does not seem to radically improve. (Pettitt, 2019; Dwesar & Singht, 2018).

Finally, coming back to the only film company survived on the digital camera landscape, it is extremely important to mention Fujifilm's situation. Currently, its Photo Imaging segment counts only for 11% of the company's revenues in 2019 (Hornyak, 2019). The Japanese manufacturer still survives thanks to its clever diversification strategy in the Healthcare and Material solutions business which generates the 43% of the company's sales. The remaining revenues are generated by its traditional document solutions business, based on the partnership with Fuji Xerox that counts for the 41%, and



the optical devices. The electronic imaging business counts only for 5% of the overall Photo Imaging Division (Hornyak, 2019; Kmia, 2018).

Today Fujifilm is not a film company anymore as it is possible to comprehend from its business portfolio, but it's trying to complete the organizational transition towards becoming a Healthcare company (Komori, 2015). Its new famous line of skincare products and the recent investments in medicinal products are evidence of it (Shibata et al., 2019). However, Fujifilm has no intention to retire from the photographic business. In recent years it is pointing on the nostalgia factors with its INSTAX line of products. Fujifilm is trying to make instant photography live again with products such as INSTAX mini Liplay (known as "Cheki" in Japan), and its Mini 90 and Wide 300, selling two kinds of instant color films (the Mini and the Wide) (Hornyak, 2019). This revival is currently going well, with sales that overcome 7 million of films' packs units per-year (Gampat 2015).

#### **4.4.3 The "Analog & Film Renaissance"**

Connecting to Fujifilm's idea to make instant photography and photographic films relive, today this trend is quite hot in the photographic landscape and it has been renamed by insiders "*Analog and Film Renaissance*" (Keinan, Eckhardt, & Beverland, 2018). This social trend is in sharp contrast to our current habits because film photography is expensive, you cannot make mistakes because you have a limited amount of shots and you cannot see the preview, and finally, it is slow (apart from instant photography), in fact, you can see the result only after the development stage in a dark room. Despite all these cons, a new generation of photographers in particular young users from 16 to 25 years old and old professionals are continuing to appreciate film photography and analogic cameras because they impose a more reasoned photograph that must be carefully thought out before being taken (Laurent, 2017). Film photography allows you to express a wider artistic potential based on the type of film you choose. It has more vivid color and according to many photographers, it has more soul. Year by year more people re-approach to this kind of photography and after some shots, they fell in love with the magic of films (Laurent, 2017).

Following this trend, many new and old companies are still providing films, new products and revivals launching in the last 3-4 years (Gampat, 2015). Kodak Aliris, an independent branch from Kodak corporation, decided to reintroduce the famous Ektachrome, a color film discontinued in 2012 (Gampat, 2015). Fujifilm is selling more than 7 million of color instant films per year in two dimensions: mini and wide (Gampat, 2015; Keinan, Eckhardt, & Beverland, 2018). Also "The impossible project", an initiative launched from ex- Polaroid employees, launched its own instant films

following Fujifilm (Bonanos, 2012; Gampat, 2015). Thanks to the increasing demand, the Impossible Project was capable to acquire the Polaroid brand. The name Polaroid has entered once again in the market, providing new films and old and new Polaroid models (Gampat, 2015). Lomography instead, an Austrian company settled in Vienna, has a rising business in providing limited editions and experimental films for enthusiastic film photographers in order to give more sensational and unique artistic means to them.

Also from the perspectives of old analogue cameras, there is a positive growth in the demand. The most required models are the old Leica and the Rolleiflex. An important second-hand market-based in Tokyo is constantly growing and the prices of these devices are continuing to increase. New and old brands such as Yashica, Reflex, Hassleblad, Leica, Canon, Nikon, Polaroid, in the wake of this trend are proposing the revival of old analogic cameras, manufacturing them once again (Gampat, 2015).

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To conclude, in this chapter we have retraced the great change that the photographic industry has undergone over a century and a half. The trajectory of technological innovation, especially in recent decades, has been important and lightning fast in this sector. Taking the perspective of incumbent film manufacturers, the last 35-40 years were particularly challenging because these companies faced many changes to survive in this industry. For this reason, they represent an incredible opportunity for the purpose of the research project undertaken. Chapter 6 will be so dedicated to dive into the cases of four major film companies that experienced successful and unsuccessful transitions. We will start comparing Fujifilm with Polaroid and then proceed with the cases of Konica and Kodak. But before, a careful explanation of the methodology used is given in chapter 5.

## **5 Methodology**

This paragraph is dedicated to the illustration of the research methodology adopted in the project. The narration will follow the traditional schema: Research setting (section 5.1), Case studies' selection (section 5.2), Data collection (section 5.3), Data analysis (section 5.4).

### **5.1 Research Setting**

The structure of a research project strictly depends on the aim the scholar wants to achieve (Eisenhardt 1989). The purpose of this project is to understand how incumbents and their leaders promote new organizational identities to effectively accommodate a competence enhancing or competence destroying transition, and secondly, comprehend how they can take advantage of their history even as they move to different futures.

As highlighted in Chapter 2, finding evidence that can answer and clarify these research questions is important for two reasons. The first motivation is to provide a clear conceptual map to help business practitioners to make more sense of organizational identity management and raise awareness around the importance to consistently re-align the organizational identity respect the kind of transition undertaken, giving result to the main problems they can face in this managerial process. The second one is the extension of the current literature and the necessity to fuel a recent lively debate.

More concretely, the final mission of this research project is theory building, in specific the realization of a theoretical framework for organizational identity management. To achieve this purpose the research strategy adopted is the explorative multiple case studies methodology, based on Eisenhardt (1989; 2007), Yin (2013; 2014) and Pettigrew (1990) studies.

A case study, in general, is an extremely powerful qualitative research's method used in organizational studies, to build new theoretical constructs, propositions, mid/range theory or empirical evidence based on an inductive theoretical approach (Eisenhardt, 1989). This means that theory emerges from the relationships' patterns recognized within and across the cases presented in the research. But the induction of theoretical constructs from qualitative evidence is only a face of the mirror (Eisenhardt & Graebner, 2007). In fact, theories, once developed, require to be tested deductively with data taken from extensive samples (Eisenhardt & Graebner, 2007). However, this second part of the research cycle is usually left to the application of quantitative methods.

Papers implementing the case study methodology are often mentioned as the “most interesting” projects (Bartunek, Rynes & Ireland, 2006) and are the most cited works in the academic social science landscape (Eisenhardt 1989) with “*impact disproportionate to their numbers*” (Eisenhardt & Graebner, 2007). It is a suitable methodology to answer to “How” and “Why” research questions (Yin, 2014; De Massis & Kotlar, 2014) and to study complex and dynamic phenomena in their real-life settings (Yin, 2013; Eisenhardt, 1989). Usually, a case study is a “*rich empirical description of particular instances of a particular phenomenon that are typically based on a variety of sources*” (Eisenhardt & Graebner, 2007 based on Yin, 1994; p. 25). It is often based on qualitative data which offer more revealing insights regarding social processes respect to quantitative data. However, the utilization of quantitative measures is not denied. They have to be used in synergy with qualitative ones (De Massis & Kotlar, 2014; Eisenhardt, 2007). Furtherly, a case study can be exploratory (aimed at understanding how a phenomenon occurs), descriptive (to convince someone that a certain phenomenon is important in given situations) or explanatory (oriented to explain why a phenomenon occurs) (De Massis & Kotlar, 2014; Yin, 2013). Moreover, it can be historical or contemporary (Eisenhardt & Graebner, 2007) and scholars can decide to implement single or multiple case studies.

As anticipated, the method adopted for this research is the multiple case study. The kind of cases presented will be explorative given the theory-building purpose of the research and the willingness to understand how specific social dynamics take place within the organizations analysed. Respect to a single case study method, multiple cases represents a more robust method for theory generation. It allows a broader analysis of the problem, a wider theoretical elaboration, a more precise definition of the emerging constructs and the generation of more generalizable and testable theories (Yin, 2013; Eisenhardt, 1998; De Massis & Kotlar, 2014).

In the multiple case studies methodology, every single case represents a single discrete experiment, with their evidence and explicative analytical power. Like a series of laboratory experiments, the creation of multiple cases allows the researcher to “*replicate, extend or contrast*” the emerging theory and then, the existing literature (Eisenhardt & Graebner, 2007).

For the purpose of the research, the setting chosen has been the Photographic Film Industry. (period of reference 1977-2012). The reason for this choice, first, follows Pettigrew’s (1990) logic to go for “*Extreme situations, critical incidents and social dramas*”. The manufacturers’ leaders of this industry were subjected in the last 40-30 years to two different waves of disruptive innovations: the introduction of Digital Photography (which is a high-end disruptive innovation, an anomaly of the low-end one) and the Smartphone Revolution (which is a new market disruptive innovation) that completely

revolutionized the photographic business domain. Given the fact that incumbent's organizational identity's traits become particularly relevant and problematic in a moment of important changes potentially deadly (Albert & Whetten, 1985; Gioia; Shultz & Corley, 2000), such as those introduced by new disruptive innovations on the market, the choice of this industry resulted particularly suitable for the purpose of this investigation.

The second influential reason was the willingness to compare the Eastern (Japanese) and the Western (The U.S.) managerial culture. The first one characterized by a long tradition of multi-centennial companies capable of surviving from violent market changes (Gittleston, K., 2012), while the second one characterized by fast companies recycle and low business continuity (Tushman & O'Reilly, 2011). This contraposition, following Pettigrew's (1990) suggestion to look for cases in extreme situations to make the process under analysis emerge more transparently, was perfectly supported by the pool of companies presented in the photographic film industry. In specific, looking at this business domain in the period 1977-2012, the most relevant companies were American (Kodak and Polaroid), Japanese (Fujifilm and Konica), and European (AGFA Gevaert). Furthermore, this comparison was favoured by the Author's exchange student experience in Japan, which amplified his interest in study Asian organizations and facilitated the process to collect meaningful data and documentation.

## **5.2 Case Studies Selection**

The purpose of this research is theory building, not theory testing. For this reason, theoretical sampling is preferred to random or statistical sampling which is, instead, more suitable for quantitative methods and deductive approaches (Eisenhardt & Graebner, 2007; Eisenhardt, 1989). Theoretical sampling means that *cases are selected because they are particularly suitable for illuminating and extending relationships and logic among the constructs* (Eisenhardt & Graebner, 2007; p. 17).

For the purpose of this research, the multiple case studies approach has been preferred to the single case because it provides a stronger base for theory building (Eisenhardt, 1989). Overall, the emergent theory from the multiple case studies approach is considered more robust, more accurate and more generalizable because grounded on more empirical evidence (Eisenhardt & Graebner, 2007). In detail, multiple cases allow researchers to understand if findings related to a single case are only idiosyncratic or consistently replicated by other cases (De Massis & Kotlar, 2014). Consequently, the choice of case studies is crucial, and it has to be done selecting the most suitable ones to extend and replicate emergent theory, eliminate alternative explanations, fill theoretical categories or provide contrast examples (Eisenhardt, 1989; Yin, 2003).

For what concerns the number of cases to select, there is not a predetermined rule. Theorists affirm that a number between 4-10 allows you to generate enough empirical evidence to sustain the development of an emerging theory. In addition, as remarked by Pettigrew (1990), given the limited number of cases which is possible to examine, it is strategic to select particularly extreme cases or “polar types” in a way that the process of interest can be more “*transparent observable*”. In detail, “polar types” approach is particularly effective because through its implementation the researcher *can more easily observe contrasting patterns in the data* (Eisenhardt & Graebner, 2007). Usually “polar types” (Successful vs Unsuccessful cases) positively impressed reviewers and readers because the emerging theory is likely to be consistently supported by the empirical evidence, moreover, it *leads to very clear pattern recognition of the central constructs, relationships, and logic of the focal phenomenon* (Eisenhardt & Graebner, 2007; p.27).

Coming to the theoretical sampling implemented in the research, four incumbent companies have been selected from the photographic film industry in the period of reference (1977-2012). As anticipated, this business domain was very concentrated. It was dominated for the 97% of the market share by only five companies (Gavetti et al., 2004 – see Table 5.1), coming from three different countries: Kodak (U.S.A.); Polaroid (U.S.A.); Fujifilm (Japan); Konica (Japan); AGFA Gevaert (Belgium-Germany). Polaroid usually is not juxtaposed with the other film companies by many analysts because the instant photography market, created by Polaroid, was protected by a huge number of patents which made impossible for other companies to enter. However, for this research, the essential element was to be an incumbent film manufacturer in the period (1977-2012). For this reason, even if it was a kind of monopolist, Polaroid being the leading manufacturer in the production of instant films (more than 90% of the global market share) and basing most of its revenues on this business, it has been included in the pool of companies to select (Table 5.1).

Two criteria were taken into consideration to set the definitive theoretical sampling:

- 1) The country of origin.
- 2) The companies’ ability to successfully face or fail a competence enhancing or a competence destroying transition.

For what concern the application of the first parameter, since the beginning, the leading idea has been to implement a comparison between Western and the Eastern managerial cultures. Looking at the composition of the industry and keeping in mind Pettigrew’s suggestion (1990) to go for extreme cases, from the cultural perspective, American and Japanese companies embody completely opposite

managerial styles when we speak about business continuity and organizational change for survival, while European companies are halfway there.

Table 5.1: The Photographic Film Industry: Companies' geographical area and market shares' evolution in the period of reference: 1990-1995-2000. Sources: Gavetti et al. 2004 and Victor K. McElheny 1999

	Film Manufacturer's name	Country	Year of reference	Market Share
Traditional Film	Kodak	The U.S.A.	1990	60%
			1995	50%
			2000	38%
	Fujifilm	Japan	1990	15%
			1995	25%
			2000	35%
	AGFA Gevaert	Belgium-Germany	1990	15%
			1995	15%
			2000	15%
	Konica	Japan	1990	7%
			1995	7%
			2000	7%
Instant film	Polaroid	The U.S.A.	1990	91%
			1995	85%
			2000	---

More deeply, in American corporate history, business continuity is a problematic issue. According to Tushman and O'Reilly (2011), only a tiny fraction of firms founded in the U.S. are capable to reach 40 years old of activity, probably less than 0.1 %. This is particularly true for incumbent companies: *“Despite their size, their vast financial and human resources, average large firms do not ‘live’ as long as ordinary Americans”* (Tushman & O'Reilly, 2011; p.1). Ormerod (2005), noted over the 10% of American companies fail every year. while Ilan Mochari (2016), in a study for Inc. Consultancy, affirmed that: *“In 1965, the average tenure of companies on the S&P 500 was 33 years. By 1990, it was 20 years. It's forecast to shrink to 14 years by 2026.”*. On the other side, the Japanese context seems to be particularly adapted to investigate corporate longevity. In fact, in Japan, there are more than 20,000 companies that are more than 100 years old, with a handful that are more than 1,000 years old, according to credit rating agency Tokyo Shoko Research (Gittleston, K., 2012). In the Japanese dictionary, there is even a specific word for long-lived companies that is: Shinise 老舗.

In light of this reflection, AGFA, the only European company, was eliminated from the pool of manufacturers selected because the remaining ones perfectly allowed the interesting parallelism between these two extreme managerial styles, enhancing the possibility to transparently observe the phenomenon under investigation in this research project.

Eliminated AGFA from the selected companies, the second criterium utilized was the discernment between companies which undertook successfully or unsuccessfully, the competence destroying transition from film to digital photography in the historical period in which digital imaging was emerging (1980-2002); and secondly, a competence enhancing transition from digital camera to other business fields in the period (2003-2012), marked by the advent of the smartphone industry. The results deriving from the application of this criterion are summarized in table 5.2. In light blue, the final cases selected are displayed.

Table 5.2: Successful and unsuccessful competence destroying and competence enhancing transitions undertaken by American and Japanese film manufacturers.

Film manufacturer's name	Country	Competence Destroying Transition (1980-2002)	S: Successful F: Failure	Competence Enhancing Transition (2002-2012)	S: Successful F: Failure
Fujifilm	Japan	Digital Camera	S	Skincare, Pharma	S
Kodak	U.S.A.	Digital Camera	F/S	Digital Services	F
Konica	Japan	Digital Camera	F	Printing Mach., LCD	S
Polaroid	U.S.A.	Digital Camera	F	-----	F

The final theoretical sampling has been composed considering once again the implementation of the “polar types” principle (Eisenhardt & Graebner, 2007, De Massis & Kotlar, 2014). The idea was to select four cases counterposing a successful competence destroying transition’s case to an unsuccessful one, and a successful competence enhancing transition’s case to an unsuccessful one. Then, due to the fact that all the transitions undertaken by the U.S. companies considered were not successful or not completely successful, the decision has been forced. All the two successful cases derive from Japanese film manufacturers, while the two unsuccessful ones from US firms, confirming

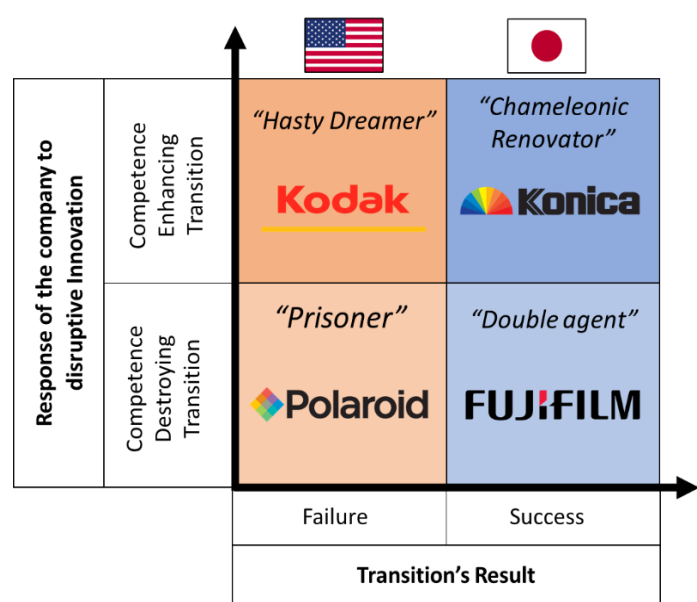


Figure 5.1: Case selection matrix (or theoretical sample)

the starting assumption regarding the poor propensity of U.S. companies to foster business continuity and change. The final theoretical sampling is displayed in the case selection matrix, figure 5.1.

The four cases selected have been positioned in four different quadrants of the matrix 5.1, from which each company, according to the behaviour assumed in the case described in chapter 6, have taken a representative label that will be furtherly explained in sections 6.1.2; 6.2.2; 6.3.2; 6.4.4.



### 5.3 Data collection

As previously mentioned, multiple case study research is based on a qualitative methodology, but not for this reason, case studies must rely only on qualitative data (De Massis & Kotlar, 2014). As Yin (1984) remarks, a case study research can involve only qualitative or only quantitative data, or both. Qualitative data are suitable to interpret quantitative data or to directly suggest a theory then confirmed by quantitative measure. Vice versa, quantitative data can clarify the researcher's false impressions or corroborate findings. For this reason, in the elaboration of the cases and of the emerging theory, the author has utilized annual reports, companies' KPIs and other statics to confirm some constructs.

Theory building researchers, in particular, who decided to utilize the multiple case study methodology, usually combine multiple data sources such as interviews, on-field observations, archival sources. These primary sources then are combined with scientific papers, historical books, biographies, specialized magazines, press, master-thesis which represent secondary sources of information (De Massis & Kotlar, 2014; Eisenhardt & Graebner, 2007; Eisenhardt, 1989). The choice of data sources is not standard. Researchers are free to choose the best sources according to the purpose of their research project and the difficulties they have to face. However the utilization of many, diverse sources it is important to enhance data credibility (Patton 1990), provide stronger substantiation, and visualize the same phenomenon from many different perspectives, "triangulating" data (De Massis & Kotlar, 2014; Yin, 1984).

Normally, the interviews are the primary data source to elaborate a case study. According to Eisenhardt & Graebner (2007), *they are a highly efficient way to gather rich, empirical data, especially when the phenomenon of interest is highly episodic and frequent* (p. 28), even if they can be biased by retrospective sensemaking and impression management. The initial idea for this research project was to exploit the opportunity of the Author's annual exchange program in Japan to realize interviews with Fujifilm and Konica Minolta and then complete the research with other secondary sources. However, the problem of the language barrier to enter in contact with Japanese corporations and their managers was very marked. Even with the help of Keio University's staff (Tokyo) and of an interpreter, for a non-Japanese speaker its quite problematic organize a series of interview. When finally a personal meeting with Fujifilm and one of its top managers was scheduled, the advent of the pandemics in February/ March 2020, destroyed the plans. The following e-mails to organize a call through modern video communication applications were not successful, above all for the company's emergencies triggered by the Covid-19 and for cultural reasons. In Japan, the first business meetings must always be done in person.

So given the situation and since the research was already in an advanced state, the author in accordance with its supervisor, decided to base the research only on secondary sources. The choice of the Photographic Film industry revealed to be particularly strategic because this business domain and its most characteristics corporations have been the object of study of numerous scholars worldwide. A wide library of publications in the most illustrious journals such as the Harvard Business Review, the Journal of product innovation management, Elsevier-Technovation, The MIT Sloan Management Review, Strategic Management Journal, Academy of Management Journal and others were available. Many founders or CEO's biographies, books, master/ PhD thesis, specialized magazines, and web sites have been written on these companies and industry. Moreover, the availability of annual reports and the utilization of online portals such as "*WayBack Machine*" to visualize past web sites, corroborated the set of sources at disposition.

All the available sources were filtered and screened by reputability, contemporaneity and authors' qualification, before to elaborate the case studies, in order to guarantee validity and reliability to the research. Figure 5.3 clearly display the typologies and the number of sources utilized for each company. Without considering annual reports and past web sites, a total amount of 50 authoritative sources have been used to produce this multiple case studies research. The specifications of the sources implemented, are available in the table of synthesis 5.3, and in tables 5.4; 5.5; 5.6; 5.7 singularly dedicated to each single companies.

Despite the impossibility of finding primary sources of data, the vast availability and heterogeneity of secondary sources made it possible to study the four cases from different perspectives, allowing an appropriate triangulation. For this reason and thanks to the high-quality sources selected, the empirical validity of the research is guaranteed and consistently supported throughout the project.

Table 5.3: Case studies data sources' synthesis.

Sources:	Fujifilm	Polaroid	Konica	Kodak	Total
CEO / Founder's Biographies	1	2	X	X	3
Books focused on the company investigated	X	2	X	2	4
Scientific Papers directly focused on the company investigated	3	1	6	5	15
Master/ PhD Thesis dedicated	X	X	X	1	1
Scientific Papers indirectly focused on the company investigated	2	7	4	3	16
Articles on specialized web sites	1	1	4	3	9
Books indirectly focused on the company investigated	X	X	X	2	2
	7	13	14	16	50

Annual Reports	Yes	No	Yes	No	2/4.
Official Web Site	Yes	Yes	Yes	Yes	4/4.

Table 5.4: Fujifilm case study's data sources

<b>Fujifilm:</b>	
<i>CEO Biography</i>	Komori, S. (2015). Innovating out of Crisis. How Fujifilm survived (and thrived) as its core business was vanishing. Berkeley: Stone Bridge Press.
<i>Scientific Papers directly focused on Fujifilm</i>	<p>Fukushima, Y. (2018). How are we keeping "Who are We?": Organizational Identity of FUJIFILM. Annals of Business Administrative Science, 17, 2. DOI: 10.7880/abas.0180204a.</p> <p>Shibata, T., Baba, Y., Kodama, M. &amp; Suzuki, J. (2018). Managing ambidextrous organizations for corporate transformation: a case study of Fujifilm. Managing ambidextrous organizations for corporate transformation. R&amp;D Management. DOI:10.1111/radm.12326.</p> <p>Stainlage, A. J. (2016). Fujifilm: Outlasting the "Kodak Moment". Technology &amp; Operations Management, Harvard Business Review.</p>
<i>Scientific Papers indirectly focused on Fujifilm</i>	<p>King, A. A. &amp; Baartartogtokh, B. (2015). How Useful Is the Theory of Disruptive Innovation? MIT Sloan Management Review, 57, 77-90.</p> <p>Tripsas, M. (2009). Technology, Identity, and Inertia Through the Lens of "The Digital Photography Company". Organization Science, 20, 441-460. DOI:10.1287/orsc.1080.0419</p>
<i>Articles on specialized web sites</i>	Kmia, O. (2015). Why Kodak Died and Fujifilm Thrived: A Tale of Two Film Companies. Retrieved from: <a href="https://petapixel.com/2018/10/19/why-kodak-died-and-fujifilm-thrived-a-tale-of-two-film-companies/">https://petapixel.com/2018/10/19/why-kodak-died-and-fujifilm-thrived-a-tale-of-two-film-companies/</a> [2020, June 24].
<i>Annual Reports</i>	From 2000- 2018
<i>Official web site</i>	Yes

Table 5.5: Polaroid case study's data sources

<b>Polaroid:</b>	
<i>Founder Biography</i>	<p>Fierstein, R. K. (2015). A Triumph of a Genius: Edwin Land, Polaroid, and the Kodak patent War. Chicago: American Bar Association.</p> <p>McElheny, V. K. (1999). Insisting on the impossible: the life of Edwin Land. Perseus Books.</p>
<i>Books on Polaroid</i>	<p>Bonanos, C. (2012). Instant: The Story of Polaroid; Princeton Architectural Press. New York: Princeton Architectural Press.</p> <p>Wensberg, P. C. (1987). Land's Polaroid: a company and the man who invented it. Houghton Mifflin.</p>
<i>Scientific Paper directly focused on studying Polaroid</i>	<p>Tripsas, M. &amp; Gavetti, G. (2000). Capabilities, cognition, and inertia: Evidence from digital imaging. Strategic Management Journal - J, 21, 1147-1161. DOI:10.1002/1097-0266(200010/11)21:10/113.0.CO;2-R.</p>
<i>Scientific Papers indirectly focused on studying Polaroid</i>	<p>Bouchikhi, H. &amp; Kimberly, J. R. (2003). Escaping the Identity Trap. MIT Sloan Management Review.</p> <p>Bower, J. L. &amp; Christensen, C. M. (1995). Disruptive Technologies: Catching the Wave. Harvard Business Review.</p> <p>Danneels, E. (2004). Disruptive Technology Reconsidered: A Critique and Research Agenda. Journal of Product Innovation Management, 21, 4.</p> <p>Eggers, J.P. &amp; Kaplan, S. (2013). Cognition &amp; Capabilities: A Multi-Level Perspective. The Academy of Management Annals, 7. DOI:10.1080/19416520.2013.769318.</p> <p>O'Reilly, C. &amp; Tushman, M. (2013). Organizational Ambidexterity: Past, Present and Future. SSRN Electronic Journal, 27. DOI:10.2139/ssrn.2285704.</p> <p>O'Reilly, C. &amp; Tushman, M. (2008). Ambidexterity as a dynamic capability: Resolving the innovator's dilemma. Research in Organizational Behavior, 28, 185-206.</p> <p>Raffaelli, R., Tushman, M. &amp; Glynn, M. A. (2018). Frame Flexibility: The Role of Cognitive and Emotional Framing in Innovation Adoption by Incumbent Firms. Harvard Business Review.</p>
<i>Articles on specialized web sites</i>	<p>Gordon, M. E. (2010). Who Killed Polaroid? Retrieved from: <a href="https://negocios.udd.cl/files/2012/09/POLAROID-COMPLETE.pdf">https://negocios.udd.cl/files/2012/09/POLAROID-COMPLETE.pdf</a> [2020, June 25].</p>
<i>Official Web Site</i>	Yes

Table 5.6: Konica case study's data sources

<b>Konica:</b>	
<i>Scientific Papers directly focused on Konica</i>	<p>Au, K. &amp; Yuen Man Chung, R. (2019). Konica Minolta Business Solutions (HK) Ltd.: Pioneering corporate social entrepreneurship. Ivey Publishing.</p> <p>Fujishima, Y. (2007). コーポレートガバナンスとM&amp;A : 戦略編～統治改革をもたらす3つのアドバンテージ～. DIR, 13.</p> <p>Kothandaraman, P., Mani, S., &amp; Healy, W. (2016). Konica Minolta Business Solutions: A Professional Approach to Selling (A). <i>Case Research Journal</i>, 111-127.</p> <p>Kothandaraman, P., Mani, S., &amp; Healy, W. (2016). Konica Minolta Business Solutions: A Professional Approach to Selling (B). <i>Case Research Journal</i>, 111-127.</p> <p>Kothandaraman, P., Mani, S., &amp; Healy, W. (2016). Konica Minolta Business Solutions: A Professional Approach to Selling (C). <i>Case Research Journal</i>, 111-127.</p> <p>Shiozawa, K. (1996). Development of Digital Image Technology in Konica. Konica Technical Report, 9.</p>
<i>Scientific Papers indirectly focused on Konica</i>	<p>Benner, M. J. &amp; Tripsas, M. (2009). The influence of prior industry affiliation on framing in nascent industries: the evolution of digital cameras. <i>Strategic Management Journal</i>, 11-007.</p> <p>Gavetti, G., Henderson, R. &amp; Giorgi, S. (2003). Kodak (A). Harvard Business School Case 703-503.</p> <p>Mondave, C., et al. (2002). <i>IDIS 619.1 Business Policy in High Technology Firms Fall Quarter</i>.</p> <p>Shibata, T., Baba, Y., Kodama, M. &amp; Suzuki, J. (2018). Managing ambidextrous organizations for corporate transformation: a case study of Fujifilm. <i>Managing ambidextrous organizations for corporate transformation</i>. R&amp;D Management. DOI:10.1111/radm.12326.</p>
<i>Articles on specialized web sites</i>	<p>Cheng, E. (2006). Konica Minolta withdraw from camera and photo business. Retrieved from: <a href="https://wetpixel.com/articles/konica-minolta-withdraw-from-camera-and-photo-business">https://wetpixel.com/articles/konica-minolta-withdraw-from-camera-and-photo-business</a> [2020, June 25].</p> <p>DP Review. (2003). Konica and Minolta Agree on Merger. Retrieved from: <a href="https://www.dpreview.com/articles/6837083068/konicaminoltamerger">https://www.dpreview.com/articles/6837083068/konicaminoltamerger</a> [2020, June 25].</p> <p>Funding Universe. (2000). Konica Corporation History. Retrieved from: <a href="http://www.fundinguniverse.com/company-histories/konica-corporation-history/">http://www.fundinguniverse.com/company-histories/konica-corporation-history/</a> [2020, June 25].</p> <p>Funding Universe. (1997). Minolta Co., Ltd. History. Retrieved from: <a href="http://www.fundinguniverse.com/company-histories/minolta-co-ltd-history/">http://www.fundinguniverse.com/company-histories/minolta-co-ltd-history/</a> [2020, June 25].</p>
<i>Annual Report</i>	1998-2019
<i>Web Sites Archives</i>	Yes

Table 5.7: Kodak case study's data sources

<b>Kodak:</b>	
<i>Books on Kodak</i>	<p>Larish, J. (2012). Out of Focus: the story of how Kodak lost its direction. Createspace Independent Publishing Platform.</p> <p>Snyder, P. (2013). Is this something George Eastman would have done? Createspace Independent Pub.</p>
<i>Scientific Papers directly focused on Kodak</i>	<p>Keinan, A., Eckhardt G. M. &amp; Beverland, M. B. (2018). Kodak: The rebirth of an iconic brand. Harvard Business Review.</p> <p>Alrashed, A. N. (2015). Kodak EasyShare Gallery: Holding memories hostage. Journal of Business Cases and Applications.</p> <p>Anthony, S. D. (2016). Kodak's Downfall Wasn't About Technology. Harvard Business Review.</p> <p>Gavetti, G., Henderson, R. &amp; Giorgi, S. (2005). Kodak and the digital revolution (A). Harvard Business Review.</p> <p>Gavetti, G., Henderson, R. &amp; Giorgi, S. (2004). Kodak (B). Harvard Business Review.</p> <p>Lucas, H. &amp; Goh, J. (2009). Disruptive technology: How Kodak missed the digital photography revolution. The Journal of Strategic Information Systems, 41, 46-55. DOI:10.1016/j.jsis.2009.01.002.</p>
<i>Master Thesis on Kodak</i>	<p>Moon, P. T. Jr. (2019). Missed Moments: Kodak's Failure to Define the Consumer Market for Digital Photography. State University of New York College at Buffalo - Buffalo State College. History Theses, 48.</p>
<i>Scientific Papers indirectly focused on Kodak</i>	<p>Christensen, C.M. (2006). The Ongoing Process of Building a Theory of Disruption. Journal of Product Innovation Management, 23, 39-55. DOI:10.1111/j.1540-5885.2005.00180.x</p> <p>Giorgi, S. (2017). The Mind and Heart of Resonance: The Role of Cognition and Emotions in Frame Effectiveness. Jour. of Manage. Stud., 54, 711-738. DOI:10.1111/joms.12278</p> <p>Raffaelli, R., Tushman, M. &amp; Glynn, M. A. (2018). Frame Flexibility: The Role of Cognitive and Emotional Framing in Innovation Adoption by Incumbent Firms. Harvard Business Review.</p>
<i>Articles on specialized web sites</i>	<p>Dan, A. (2012). Kodak Failed By Asking The Wrong Marketing Question. Retrieved from: <a href="https://www.forbes.com/sites/avidan/2012/01/23/kodak-failed-by-asking-the-wrong-marketing-question/#2a148e083d47">https://www.forbes.com/sites/avidan/2012/01/23/kodak-failed-by-asking-the-wrong-marketing-question/#2a148e083d47</a> [2020, June 25].</p> <p>Kmia, O. (2015). Why Kodak Died and Fujifilm Thrived: A Tale of Two Film Companies. Retrieved from: <a href="https://petapixel.com/2018/10/19/why-kodak-died-and-fujifilm-thrived-a-tale-of-two-film-companies/">https://petapixel.com/2018/10/19/why-kodak-died-and-fujifilm-thrived-a-tale-of-two-film-companies/</a> [2020, June 24].</p> <p>Mui, C. (2012). How Kodak Failed. Retrieved from: <a href="https://www.forbes.com/sites/chunkamui/2012/01/18/how-kodak-failed/#6f6ce5de6f27">https://www.forbes.com/sites/chunkamui/2012/01/18/how-kodak-failed/#6f6ce5de6f27</a> [2020, June 25].</p>
<i>Indirect Books on Kodak</i>	<p>Barabba, V. (2011). The Decision Loom: A Design for Interactive Decision-making in Organizations. Triarchy Press.</p> <p>Komori, S. (2015). Innovating out of Crisis. How Fujifilm survived (and thrived) as its core business was vanishing. Berkeley: Stone Bridge Press.</p>
<i>Web Site Archives</i>	<p>Yes</p>

## 5.4 Data analysis

As for many other qualitative methods, the application of the multiple case studies approach foresees the concurrent activity of data collection and data analysis. Data analysis is the *heart of building theory*, but also the most *difficult and the least codified part* (Eisenhardt, 1989; p. 539). Following Eisenhardt methodology (1989), for the theory building's purpose of this research project, in this sequence, within-case and cross-case analysis have been applied.

The within-case analysis method requires a detailed case description capable to make the history emerge before acting a generalization of theoretical patterns across the cases (Eisenhardt, 1989). It is used to reduce the complexity that derives from dealing with a great amount of data and to generate preliminary theoretical insights that can accelerate the cross-case analysis and the definition of an emerging theory or theoretical framework (Eisenhardt & Graebner, 2007; Eisenhardt, 1989). However, before applying this kind of analysis, it is necessary to prepare the data gathered from the sources identified applying data reduction, data display, data categorization and data contextualization methods (De Massis & Kotlar, 2014). Once organized and purified, data can be used to provide a systematic and comprehensive description of the cases selected (De Massis & Kotlar, 2014).

To present the within-case analysis, there is not a standardized form (Quinn, 1980), but it is good practice organize data into a series of sections which directly mirror aspects that can be found in the final emerging theory (Yin, 2013). Concretely, the within-case analysis presented in section 6.1.2; 6.2.2; 6.3.2; 6.4.2 have been organized dividing the descriptions into a set of semi-predetermined sections that directly identify macro-categories of concepts, with the scope to help the reader in the comprehension of the case, channelling him towards the construction of the theoretical framework. The general sections utilized are summarized in table 5.8. They are semi-predetermined because, at times, for some cases, some of them have been merged or even better specified for narrative necessities or to emphasize some concepts considered by the author particularly relevant for the case's comprehension. Case by case, their titles have been slightly reframed to summarize the specific content but without changing the central topic. While their order has always been kept to facilitate the reader's orientation.

Then, the data from each case was summarized into a database, divided into six standard tables (tables 5.9; 5.10; 5.11; 5.12; 5.13; 5.14), which reflects the macro sections through which the within cases analysis have been organized. In each table then, these macro concepts have been decomposed into key theoretical constructs, directly utilized for the elaboration of the final theoretical model.

Table 5.8: Within-Case analysis's semi-predetermined structure

-Case contextualization

-Within case analysis:

- Type of transition to undertake
- Core Capabilities' & Organizational Culture's repertoire
- Sensing the new competitive domain
- Top Management's Decision
- Technical Legitimacy around the transition
- Organizational Design to pursue the transition
- Social Legitimacy around the transition
- Organizational Identity Re-alignment and Middle Management's Role
- The combined effect of Social and technical Legitimacy
- The result of the transition: Failure or Success

This procedure, although it may seem complex, has been put in place to guarantee to the research project a clear connection among the empirical evidence collected (“raw material”), the theoretical construct to which they refer to, and the emerging theory (“synthetic evidence”) that the constructs brought to define (De Massis & Kotlar, 2014). Moreover, the extensive utilization of tables implemented in the research is fundamental to demonstrate to the readers *the depth and detail of empirical grounding* in which the theory proposed emerged and to *indicate how the focal construct is measured, thus increasing its testability*. (Eisenhardt & Graebner, 2007; p. 29).

In the within-case analysis, each case is treated as a single experiment. But the multiple case studies methodology requires to consider cases as an aggregate and identify, across them, meaningful patterns, similarities and differences to achieve a more sophisticated comprehension of the problem under analysis, and consequently a more powerful theory (Eisenhardt, 1989). In fact, in the cross-case the final scope is improving the robustness and precision of the theory under elaboration, by adopting the case replication logic, that means utilizing cases to confirm, extend, refine, change the emerging theory (Yin, 1984; Eisenhardt, 1989). The possible danger to not adopt an accurate cross-case analysis is to draw premature and false conclusions, influenced by a series of cognitive biases of the researcher when drafting the within-case analysis (Eisenhardt, 2007). So it is important to put in place a consistent cross-case analysis comparing the data that emerged from the within-case analysis, under many divergent perspectives (Eisenhardt, 2007).



So moving on to the research project, to go beyond our premature impressions and evolve our initial idea of emerging theory, the first strategic decision was to put side by side the data captured and organized per macro-sections and theoretical constructs, in the tables (6.3;6.4;6.5;6.6;6.7;6.8) section 6.5, for each of the cases treated during the within-case analysis. These data were then compared per macro sections, across the four companies under analysis. In the meanwhile, the iterative process of comparing the data collected in the tables led to the definition of an explanatory model, refined over time as interesting patterns, differences and similarities emerged across the cases, in response to the research questions settled at the beginning of the research.

As anticipated, to present the results of the study, a theoretical framework in form of a diagram has been outlined. As remarked by De Massis and Kotlar (2014), figures are a very effective method to explain a *process unfolded* or present the *chain of evidence*. The final explanatory model, presented step by step in section 6.6, has been subjected to 3 major changes and 24 sessions of refinements and adjustments. This critical process was carefully undertaken to ensure a perfect fit between data captured from cases and the final solution presented (Eisenhardt, 1989). Moreover, to ensure a consistent application of the replication logic (Yin, 1984), once identified a convincing draft of the framework, in section 6.7, it was graphically applied to all the four cases introduced to understand how successful and unsuccessful companies have activated the framework's components. In detail, this further process allowed to consolidate the emerging explanatory model, refine the within case explanation, discover interesting new patterns among cases and finally deny some false impressions, increasing the validity of the relationships.

To finalize the research and increase the degree of generalizability of the findings, an external validity process was put in place. As Lucas (2003) affirms, a *primary goal in all the sciences, including social sciences is the production of general knowledge* (p. 236), not limited by time and contexts. So generalizability of the results is a key and desirable criterion to evaluate the goodness of a theory (Lucas, 2003). To increase our confidence regarding the generalizability of the emerging theory developed, external validity is necessary. External validity is the process of findings' generalization from a sample to a population (McTavish & Loether, 2002), and across populations, settings, and time (Monette, Sullivan & DeJong, 2002) other than those studied. To implement this process, replicating the theory with other experiments is required. When theories are supported by more and more tests and theory escape falsification, our confidence regards the theory's utility increases, and consequently its external validity increase. On contrary, when an experiment falsifies our emerging theory, it requires modification. It is only through this continuous replication process that general knowledge is produced (Lucas, 2003).

In light of it, in Chapter 7, the explanatory model emerged from chapter 6 has been verified to assess its external validity respect to a different sample of companies: GoPro (section 7.1) and Nikon (section 7.2), belonging to slightly different industries: the Action Camera and the professional High-End Digital Camera respectively, facing a competence transition for reasons other than disruptive innovations, in periods more contemporary to us than the cases previously presented. The results have been positive and have contributed to the theory's robustness and generalizability.

Finally, the theory built through the methodology described has been discussed and compared with extant literature, looking for similarities and conflicting findings of other scholars, in order to further improve its internal validity and enhance its conceptual level (Chapter 8) (Eisenhardt, 1989).

Table 5.9: External Generalization's – GoPro case study's data sources

<b>GoPro:</b>	
<i>Case Studies &amp; Scientific Papers</i>	<p>Dwesar, R. &amp; Singht, G. (2018). GoPro: The disruptive innovator faces challenges. Ivey Business School Foundation - Publishing. W18458.</p> <p>Marks, M. &amp; Foroughi, J. (2017). GoPro: Brand Extension. Graduate School of Stanford University. Case_SM-271.</p>
<i>Articles</i>	<p>Foster, T. (2018). The Untold Story of How Massive Success Made GoPro's CEO Lose His Way. Can He Recover? Retrieved from: <a href="https://www.inc.com/magazine/201802/tom-foster/gopro-camera-drone-challenges.html">https://www.inc.com/magazine/201802/tom-foster/gopro-camera-drone-challenges.html</a> [2020, June 26].</p> <p>O'Kane, S. (2019). GoPro is finally shaking off the pain of quitting the drone business. Retrieved from: <a href="https://www.theverge.com/2019/5/10/18563477/gopro-drones-hero-7-dji-osmo-action-q1-2019">https://www.theverge.com/2019/5/10/18563477/gopro-drones-hero-7-dji-osmo-action-q1-2019</a> [2020, June 26].</p> <p>Pettitt, J. (2019). GoPro CEO Nick Woodman opens up on the company's wild ride of failures and successes. Retrieved from: <a href="https://www.cnbc.com/2019/03/08/gopro-ceo-nick-woodman-opens-up-about-the-companys-struggles.html">https://www.cnbc.com/2019/03/08/gopro-ceo-nick-woodman-opens-up-about-the-companys-struggles.html</a> [2020, June 26].</p> <p>Vincent, J. (2018). Go Pro quits the drone business. Retrieved from: <a href="https://www.theverge.com/2018/1/8/16862680/gopro-drones-business-stopped-layoffs-exit">https://www.theverge.com/2018/1/8/16862680/gopro-drones-business-stopped-layoffs-exit</a> [2020, June 26].</p>
<i>Specialized Websites</i>	<p>GrindDrone. (n.d.). Drone Components and What They Do. Retrieved from: <a href="https://grinddrone.com/drone-features/drone-components">https://grinddrone.com/drone-features/drone-components</a> [2020, June 26].</p>
<i>Annual reports</i>	<p>Official documents shared on the investors' page in the company websites. Years of investigation 2015-2016-2017-2018-2019. Not before because the IPO is very recent (2014-2015)</p>

Table 5.10: External Generalization's – Nikon case study's data sources

<b>Nikon:</b>	
<i>Articles on Specialized Web Sites</i>	<p>Burns, E. (2013). Nikon Looking To Diversify Product Lines Beyond Cameras. Retrieved from: <a href="http://digitalphototime.blogspot.com/2013/07/nikon-looking-to-diversify-product.html">http://digitalphototime.blogspot.com/2013/07/nikon-looking-to-diversify-product.html</a> [2020, June 29].</p> <p>Grossman, J. (2018). Strategy Session: Nikon—Redefining the Imaging Ecosystem. Retrieved from: <a href="https://direporter.com/columnists/strategy-session-nikon-redefining-imaging-ecosystem">https://direporter.com/columnists/strategy-session-nikon-redefining-imaging-ecosystem</a> [2020, June 29].</p> <p>Hashimoto, T. (2020). Japanese camera makers diversify to survive smartphone wave. Retrieved from: <a href="https://asia.nikkei.com/Business/Business-trends/Japanese-camera-makers-diversify-to-survive-smartphone-wave">https://asia.nikkei.com/Business/Business-trends/Japanese-camera-makers-diversify-to-survive-smartphone-wave</a> [2020, June 29].</p> <p>Pageau, G. (2019). As Digital Cameras Struggle, Global Smartphones Reach Peak Sales Point. Retrieved from: <a href="https://thedeapixelssociety.com/as-digital-camera-struggle-global-smartphones-reaching-peak-sales-point/">https://thedeapixelssociety.com/as-digital-camera-struggle-global-smartphones-reaching-peak-sales-point/</a> [2020, June 29].</p> <p>Smith, M. (2020). 'No Longer Primarily a Camera Company': Is Nikon's New Medium-Term Strategy in the Wake of Poor Financial Results Any Good? Retrieved from: <a href="https://fstoppers.com/originals/no-longer-primarily-camera-company-nikons-new-medium-term-strategy-wake-poor-489674">https://fstoppers.com/originals/no-longer-primarily-camera-company-nikons-new-medium-term-strategy-wake-poor-489674</a> [2020, June 29].</p> <p>Smith, M. (2020). Where It All Went Wrong: Nikon's Strategic Failures. Retrieved from: <a href="https://fstoppers.com/originals/where-it-all-went-wrong-nikons-strategic-failures-488684">https://fstoppers.com/originals/where-it-all-went-wrong-nikons-strategic-failures-488684</a> [2020, June 29].</p> <p>Samuels, L. (2015). Nikon buys medical imaging company Optos for \$400 million; reduces exposure to the camera market. Retrieved from: <a href="https://www.diyphotography.net/nikon-buys-medical-imaging-company-optos-for-400-million-reduces-exposure-to-camera-market/">https://www.diyphotography.net/nikon-buys-medical-imaging-company-optos-for-400-million-reduces-exposure-to-camera-market/</a> [2020, June 29].</p> <p>Wing, Y., A., Y. (2019). Nikon's Imaging Business Strategy And Roadmap Till 2021. Retrieved from: <a href="https://wypictures.wordpress.com/2019/05/23/nikons-imaging-business-strategy-and-roadmap-till-2021/">https://wypictures.wordpress.com/2019/05/23/nikons-imaging-business-strategy-and-roadmap-till-2021/</a> [2020, June 29].</p> <p>Yahoo Finance (n.d.). Yahoo Finance. Retrieved from: <a href="https://finance.yahoo.com/">https://finance.yahoo.com/</a> [2020, June 29]</p> <p>Funding Universe. (n.d.). Nikon Corporation History. Retrieved from: <a href="http://www.fundinguniverse.com/company-histories/nikon-corporation-history/">http://www.fundinguniverse.com/company-histories/nikon-corporation-history/</a> [2020, June 29].</p>
<i>Annual Reports</i>	Years of investigation. From 2000 to 2020

## 6 Findings

This section is dedicated to display the empirical data collected in the form of four different case studies. The order of presentation of the four firms selected foresees first the contraposition between Fujifilm (6.1) and Polaroid (6.2) in their attempt to make sense of a competence destroying transition from film photography to digital imaging. Secondly, the narration will consider the cases of Konica (6.3) versus Kodak (6.4), two companies that decided to put in place a competence enhancing transition to escape from the unprofitable photo film and digital camera industries. After that, the chapter will introduce an accurate cross-case analysis (6.5) in the attempt to make emerge a theoretical explanatory model (6.6) for organizational identity management in case of a competence enhancing or destroying transition. The final two sections will be dedicated to the application of the theoretical model on the four cases presented (6.7) and to trace final meaningful comments and conclusions regarding the functioning of the model presented (6.8).

### 6.1 Fujifilm Case

The first company considered is Fujifilm, a well-noted Japanese manufacturer of photo-film related products and cameras, that in more than 85 years of activity, was able to renovate itself, successfully facing two critical waves of disruptive innovation in its market domain. First the digitalization of the photography, secondly the advent of the smartphone's industry. Today it is a well-diversified company. The 43% of its total revenues derive from the Healthcare & Material Solutions Division, the 41% from the Document Solutions one, and finally, its traditional Imaging Solution department counts for the remaining 16% of the 2019's total revenues. This quick snapshot suggests that Fujifilm, in its long organizational history, was subjected to an important evolution and faced several challenges to survive, but in the end, it learned how to adapt as the external context changed. The first case, presented below, treats the competence destroying transition, from analogic to digital photography, successfully faced by this Japanese manufacturer.

#### 6.1.1 Case contextualization – Competence Destroying Transition

Fujifilm was founded in 1934 under the name of Fuji Photo Film Co., Ltd, in the light of a governmental disposition to establish a domestic photographic film manufacturing industry. The company, in detail, was born from the split-off of the photo film operations department from Dainippon Celluloid Limited. The first factory was built in Minari Ashigara City, Kanagawa, near

mount Fuji, because of the need for clean, high-quality water and air to develop photo film products, in particular, motion picture films and plate-making films.

After only two years from its foundation, Fujifilm immediately introduced a new product: the X-ray film, opening de facto the path for a future company's development in sectors distant from the one of origin, such as the healthcare industry. This propensity to technological and product innovation has been always a central element that has characterized Fujifilm managerial tradition until today.

Going through its history, up to the '90s, Fujifilm remained quite adherent to its industry of origin, basically developing products in the photo-film and cameras business domain, exception did for X-ray industrial films and its famous digital diagnostic X-Ray imaging system (FCR). This behaviour was quite unusual for Japanese companies of that time, which made the diversification strategy one of their most known managerial mantras.

Briefly retracing its product innovation history in the period of reference 1934-1988, one of the most meaningful breakthroughs for Fujifilm was the introduction, in 1948, of the colour reversal film and its own first camera model made of still. Subsequently, in 1958, the first color negative film and the FUJITAC film were launched and found a quite large market consensus. The '60s were a very fruitful period. Fujifilm was able to introduce its first videotapes for broadcasting (1963), its 8mm motion picture film system (1965) and in 1969 came out with new microfilters for chemical films. The '70s were the years of the high-speed color negative film but it was in the '80s that some of the most famous, profitable, and innovative products emerged. In detail, in the 1982 Fujifilm produced a new motion picture film that awarded the scientific and Technical Academy Award and the Emmy Award. In 1984 Fujifilm outperform its main competitors, such as Kodak and Konica, with the introduction of the Minilab System, a solution to print photos at photographic centers exploiting a self-service logic. Then, in 1986, it came out with QuickSnap, the world's first one-time-use recyclable camera, and on the ending of the '80s, it launched the first commercialized digital still camera (1988) in the world.

Then, starting from the late '90s, an incredible phase of change stroke the photo-film and the camera industry. All the most important photo-film companies and camera manufacturers started to become aware of the preminent digital revolution. As we already mentioned, new digital technology placed a big challenge and a renovation dilemma, in particular for photo-film companies, such as Fujifilm, because the new digital technology required completely new competences, skills, and business models respect to the previous industry of origin. This disruptive wave represented a possible mortal threat for Fujifilm because, at that time, two-third of its sales and profit came from its traditional photo film

products. A new digital camera was not only less profitable for Fujifilm but also it entailed a drastic shrink in the customers' photo printing necessities. Moreover, the Lehman Brother shock in 2008, the subsequent appreciation of the Yen (the official Japanese currency), and the emerging of the smartphone industry (2007) generated a more violent turmoil in the new Fujifilm digital competitive domain that brought the Japanese manufacturer to question its traditional status quo once again.

Contrary to its previous and main direct competitors, Fujifilm was able to survive during these uncertain and not predictable events. Not only Fujifilm successfully transitioned to digital technology, developing from 1988 until today its digital camera models, and pursuing strong innovation in this competitive field with new products such as the Fujifilm FinePix Real 3D system for its first 3D digital image system (2008) or the new Fujifilm GFX100 (2019), the camera with the world's highest number of pixel definition (102 million pixels). But Fujifilm was also able to enter in new market spaces, far from the photo film industry: such as the medical industry with the development of Sapia (a digital endoscope system), the printing machines market exploiting its Fuji-Xerox subsidiary, the skincare domain with its new line of products branded Astalift, it created the LCD market taking advantage of its FUJITAC polarizer protective film, and more recently it entered in the healthcare-pharmaceutical industry creating and providing 360° solutions, from prevention products (as Meta-barrier and Oxi-barrier nutritional supplements), diagnosis devices (as the transnasal endoscope), and treatments' products (as Avigan, a recent well-known medicine also tested to face the Covid-19 emergency).

Despite its strong-rooted heritage and knowledge in the photo-film and camera domain, we can see how Fujifilm, today, is moving towards a broad range of fields and is looking for the next potential breakthrough. The Imaging Solutions division does not produce meaningful returns anymore (only 16% of the total revenues in 2019). The main source of income, as we mentioned, derives from the Healthcare & Material division and the Document Solutions department. In particular, healthcare has been designated to be the new driving force for Fujifilm's growth and represents the main future trajectory of evolution for Fujifilm's development in the next years.

As the Chairman and CEO, Shigetaka Komori, affirms in his biography, Fujifilm is planning to continuously invest in the healthcare, and *“By covering prevention, diagnosis, and treatment, Fujifilm has set its sights on becoming a comprehensive healthcare company.”*<sup>3</sup>

Starting from this wide contextualization, it is clear why Fujifilm represents an incredibly interesting opportunity to investigate the research topic of this project. In the next paragraph, we will deepen the

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<sup>3</sup> Source: Shigetaka Komori Biography; Innovating out of Crisis, 2015. Chapter 1. Online version – no page number.

Fujifilm case, making emerge the most interesting insights and information that answer to the research question previously settled, focusing on Fujifilm’s competence destroying transition from analogic to digital photography.

## 6.1.2 Within Case Analysis

### The competence destroying transition

2000 is one of the most important years in Fujifilm’s history, for its meaningful ambivalence. This is the fiscal year in which Fujifilm finally overcame its perennial global rival, Eastman Kodak, in terms of yearly sales, and it is the year in which the photo film market knew its peak of demand. This was an astonishing result, still largely celebrated and remembered by the Japanese film manufacturer in its organizational culture. However, on the other side, this date, signed the starting of a quick, tremendous decline in the global demand for color photo film, as it can be easily observed in picture 6.1.

**Total Global Demand for Color Photo Film (Y2000 represents 100)**

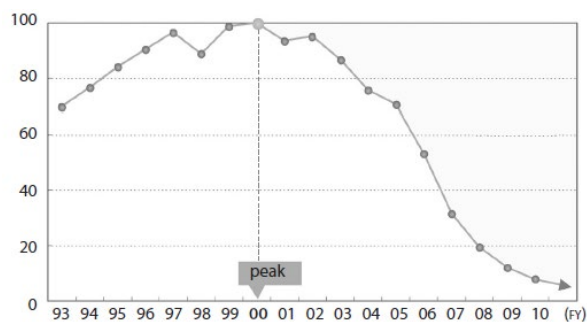


Figure 6.1: Color photo film worldwide demand, period 1993-2010. Source: Shigetaka Komori: *Innovating out of Crisis*, 2015

At that time, photographic material and its related products represented 58% of Fujifilm sales and two-third of the overall operating profit of the company. Considering these simple figures, the sudden shrink of this market, due to the diffusion of digital photography, represented a potential mortal event for Fujifilm and all the most famous photo-film companies such as Eastman Kodak, Konica and Polaroid. The CEO of that time, remembering this inconvenient situation stated: “*The disappearance of that market in roughly the blink of eye, as digital photography grew dominant, was for us an earth-shattering event. Photosensitive materials, our core money-maker, had fallen into the red in just four or five short years*”.<sup>4</sup>

<sup>4</sup> Source: Shigetaka Komori Biography; *Innovating out of Crisis*, 2015. Introduction. Online version - no page number

In this tragic market conditions, the most direct competitors struggled to embrace the transition towards digital technologies. Kodak and Polaroid for instance, nevertheless their big investments and knowledge developed in digital cameras, were not able to successfully shift in the new competitive arena and at the end declared bankruptcy. Fujifilm, instead, was able to embrace the change and it became the first company that profitably commercialized digital cameras.

Why Fujifilm survived and how it successfully promoted the organizational change, reframing its organizational identity, is the investigation's object of this case study.

### **Core Capabilities' & Organizational Culture's Repertoires**

To understand the successful technological transition from analogic to digital photography undertaken by Fujifilm between 1977 and 2006, it is appropriate to step back and to describe the core competences and the cultural heritage accumulated by the company before the shift. It is important to remember that such a transition was competence-destroying because it made the previous competences, accumulated in the photo-film domain, obsolete for the new market.

Starting from its origin, Fujifilm's headquarter, and factory was established in 1934, in Minami Ashigara City, Kanagawa, Japan. This location, as previously mentioned, was chosen because it provided high-quality water and clean air, indispensable for developing and producing photo-film products, at that time. Here Fujifilm developed many product lines, such as photographic film and photographic paper, X-ray film, graphic arts film, magnetic tape, and related equipment.

Since the beginning, one of the original attributes, that always characterized Fujifilm's business activity from the other Japanese companies, was the decision to internally develop all its own technology, without importing know-how from the Western side of the world. This is also the reason why, Fujifilm, always self-referred as a "*Technology-driven company*".

The first real challenge that the Japanese manufacturer faced, was the transition from monochrome photograph to modern colour film in the '50s. Colour film posed a series of great technical problems such as the control of the material and the quality at an incredible level of precision. From 30 original manufacturers of film, only 4 companies survived to the change: Eastman Kodak, Konica, Agfa-Gavaert, and Fujifilm.

Producing photo-films, and in detail color films, required deep chemical competences and a combination of different basic technologies. One of the most critical technical challenges was the



maintenance of a perfect balance between three primary colour materials: cyan, magenta, and yellow. If the balance among these three elements is not extremely precise, the photo that you take will have unrealistic and different colours. The complexity of such a product is understandable considering the 20 coated light-sensitive layers that composed a single film in a thickness of 20 microns. The reproduction of colours in a so thin thickness is very challenging. Only the semiconductor industry has been able to replace this technology by squeezing a huge number of transistors on a single chip.

By the way, at that time, the realization of such a product required expert knowledge not only in the high-precision coating but also in functional polymer, nano-dispersion, functional molecules, manipulation of the molecules' oxidation and good quality product's control processes.

Year by year, the expertise of Fujifilm increased, and during the '70s the technological level of Fujifilm reached and overcame Eastman Kodak's one. Evidence of this affirmation is the Fujifilm's introduction of the first high-speed color negative film in 1976. Fujifilm from that moment, aware of its technical capability, started to aggressively compete in all corners of the globe against Kodak, with its new slogan: "Challenging the World with our Technological Prowess".

The broad range of competences that Fujifilm developed in the realization of colour film in this period, created a strong technical repertoire from which Fujifilm naturally drew to develop its next products and its new businesses. For example, the coating of photosensitive material applied to aluminium plates created Fujifilm's master plate for printings. Or the substitution of silver halide with magnetic powder as a base coating allowed Fujifilm's production of audiotape, videotape, and computer memory tape.

Despite the idea to diversify the business started very soon, Fujifilm's conviction in pursuing this strategy was not strong enough and it was not motivated by an imminent threat. In fact, it is possible to notice that until the end of the '90s, Fujifilm products were mostly photo-film related and its principal money-maker was the colour photo film.

### **Sensing the digital revolution and the new competitive domain**

While Fujifilm was competing against Kodak, with almost the same technological level, for the market's leadership, the first signs of digitalization in the industry started to emerge. In the 1980s business analysts were already predicting that silver-based light-sensitive material would have been replaced by the digitalization of the photographic technology. Indeed, at that time, camera companies were starting to develop the first prototypes that exploited a photoelectric component to capture

images. These prototypes, called “electric cameras”, were the antecedents of what we name “digital cameras” today.

It is also relevant to notice that parallelly, in the printing industry, the signs of digitalization started to manifest more clearly. An Israeli company, in 1979, developed a computer-based solution to substitute silver halide plates. This was an incredible threat for film manufacturers, which made a large part of the profit through plate-making products sold to graphic-arts activities. Also the technology in X-ray’s solutions went in this direction. Fujifilm, in fact, in 1981 started to develop the first digital method for diagnostic X-ray imaging, utilizing a new photosensitive plate rather than a traditional X-Ray Film. The results of this exploration brought Fujifilm to create in 1983 the Fuji Computed Radiography (FCR) that became a standard in the medical environment.

The experience in developing the X-ray machine (FCR) exploiting a digital method made Fujifilm aware of the possible threat that its main industry domain would have experienced with the advent of the Digitalization Age. To the eyes of Fujifilm’s managers, and in particular to Shigetaka Komori, that at that time was not the company CEO yet, but was head of sales in the Consumer Photo Products Division, digital technology impact was clear:

*“The digital age, I sensed, would be different. It would be a world in which Fujifilm’s proprietary technical expertise – the photography technology built up over the years, including high-precision coating of chemicals on film – would no longer be relevant”*<sup>5</sup>

Moreover, reflecting on the digitalization of photography he added:

*“Digitalization, after all, is a kind of standardization. The black box is small, and there is little room for differentiating one product from another through technology. I believed that the digital age would not be a battle between rival technologies, but a price war. [...] The profits enjoyed by the photography industry would be a thing of the past. This is going to be a survival game of the most brutal kind”*.<sup>6</sup>

### **Top Management Decision**

Aware of the potential threat, the top management of Fujifilm, during the late ‘70s discussed the digitalization of photography and identified three different strategies to face the situation: first,

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<sup>5</sup> Source: Shigetaka Komori Biography; Innovating out of Crisis, 2015. Chapter 1. Online version – no page number.

<sup>6</sup> Source: Shigetaka Komori Biography; Innovating out of Crisis, 2015. Chapter 1. Online version – no page number.

developing original digital technology; second, extending the life of photosensitive materials by increasing the quality of the analogic image at a level far superior to the digital one; third, developing new businesses because the digital camera market was expected to become a price-based competition and could not ensure the same returns and profit of the old photo film products, with the same continuity. However, at the very beginning, this last third point (the diversification) was not undertaken with the right consciousness, also because the sales in photo-film were increasing year by year until 2000. However, some initial explorations were undertaken in the document printers' market, in the computer electronics industry, and finally in the pharmaceutical domain. Unfortunately, most of these explorative initiatives failed but increased the competence repertoire of Fujifilm.

Considering the first enounced strategy, in line with its long corporate tradition and heritage, top management's choice to develop in-house digital camera technology was not surprising. The goal was to become a pioneer in the new digital field and to turn the threat into an opportunity. However, the critical aspect to pursue this initiative was the conflictual management of traditional film business respect to the digital one, due to its cannibal potential.

### **Organizational Design and Technical Legitimacy.**

From the organizational design perspective, before the digital transition, Fujifilm was characterized by a bi-divisional structure, composed by the Consumer Photo Products Division, which was in charge of the photographic business, and the Industrial Materials & Products division settled in 1961, focused on photographic technology and its industrial application.

Once top management decided to embrace the digital revolution and to face a potential competence destroying transition, in 1977, Eiichi Mizuki, head of Fujifilm's central laboratory, initiated the digital camera development project, taking advantage of the knowledge already developed in the X-Ray film and its related digital system. The two core technologies related to this innovative device were the lens and the CCD. The lens is an optical technology, already developed and used on traditional film cameras, while the CCD, is a semiconductor that converts the light into digital data, making the photo easily transferable on a PC. Fujifilm had experience in the lens but not in the CCD. At the very beginning, the company decided to outsource the production of CCD, but due to its high cost per unit (3'000 yen), the company started to explore the semiconductor field in order to start its in-house production. In detail, in 1981, Hirozo Ueda, director of the Fujifilm Ashigara Laboratory, who became vice president and head of R&D from 1995 to 1998, decided to open a microelectronics research laboratory to accelerate the knowledge in CCD and start the internal production as soon as possible.

This decision will become crucial because the technical reason for the early future success of Fujifilm in the digital camera business will mainly derive from its new famous CCD image sensor, which will guarantee higher performance (brighter photo) and lower cost of production respect the competitors.

Continuing in the narration, in 1985, Fujifilm formally created an electronic imaging department to promote faster development and starting the commercialization of digital cameras. This department, separated from the film-products division that continued to release film camera products until 2005, started with 30 engineers and 5 marketing staff members. To understand the exponential growth of this department, in only 15 years, it counted more than 400 employees.

### **Social Legitimacy & Identity Re-Alignment – The Role of the Middle Management**

However, despite the situation, at that time Fujifilm top management was aware of the “cannibalistic” position between digital photography respect to the traditional Fujifilm Photo Film business. The former could make the latter obsolete and redundant. This could have generated resistance from the traditional photo film division towards the new one. For such a reason, a legitimation’s process was necessary to clarify the company position respect these two highly substitutable businesses.

The legitimation of the new business domain was enabled by a process of organizational identity redefinition in the middle of the ‘80s, which also involved the middle management of Fujifilm. The company, from being a photographic film manufacturer, leveraging on the meaning and the importance of photography’s culture also in the digitalized Age, redefined itself under the famous I&I slogan which means Imaging & Information company. In the light of this, Hirozo Ueda, head of the R&D stated:

*“This company is not a photographic film company, it’s an imaging company. With the I&I slogan, we make efforts to convert information into high-quality images.”*<sup>7</sup>

Important to remark, it is the direct involvement of the middle management in this redefinition process. In particular, in early 1987, a middle manager’s group, launched a strategic planning committee, comprising 10 members of different departments (R&D, Manufacturing, HR, Sales) in order to proactively discuss the identity of Fujifilm and its future business direction. This group met once a month and submitted a final report to the top management with whom they shared and discussed their business view. The output of the final discussion can be synthetized by picture n. 6.2.

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<sup>7</sup> Source: Interview to Hirozo Ueda, head of R&D; Shibata et al. 2018; p. 465.



*Figure 6.2: New Fujifilm's motto after the process of identity re-alignment. Source: Fujifilm: Outlasting the "Kodak Moment"; Harvard Business Review; A.J. Stainlage (2016)*

### **A perfect combination of Social and Technical Legitimacy**

However, at the end of 1987, one year before the first digital camera was commercialized, top and middle management had already finished discussing, and they agreed to undertake a new business direction that embraced both photo film products and digital cameras simultaneously. United under a new organizational identity meaning, Fujifilm's people increased their effort toward the new exploration side. Top and middle managers decided to change the traditional razor blade business model into a new margin generator's form based on hardware and not on software. More human and financial resources were dedicated to the development and the sales of the digital camera. Moreover, Fujifilm put the effort into opening new sales channels, due to the fact digital cameras belongs to the digital-electronics and home appliance product categories.

A harmonic view of the future brought to impressive technical improvements in Fujifilm digital camera's proprietary technology and in its business competencies in the new digital domain. Fujifilm, leveraging on its already existing capabilities, was able to drastically improve its products' performances and aggressively pursue the commercial launch of its digital cameras. As a matter of fact, in 1988, it successfully commercialized the first marketable full digital camera in the world called DS-1P. In the following years, new updated and more performing models, with a better resolution, were introduced, but the most important leap on the market was reached in 1998, with the FinePix4700Z, which had a comparable resolution (1.5 megapixels) respect to the traditional silver-halide film. It is not a case that the booming of the FinePix4700Z happened after the release of the famous Windows 95 version, with which it was possible to easily download the pictures from the camera.

### **A successful transition**

Thanks to its forward-looking activity, at the end of the '90s, Fujifilm was able to acquire the 28% of the domestic market share and 23% of the global market share of the digital camera industry. These numbers enlighten the excellent transition undertaken by the Japanese manufacturer in preparing itself for the digital age.

Discussing the successful transition of Fujifilm into the digital camera business, nevertheless its strong tradition and heritage in the photo film field, Hirozo Ueda revealed: “*I thought photographic film and digital could coexist*”<sup>8</sup>

In fact, they coexisted for twenty years, from the beginning of the ‘80s to 2005, when the photo-film market substantially disappeared. In this period, Fujifilm was able to successfully coordinate the exploitation of its traditional business and the exploration (and then also exploitation) of digital camera technology, in parallel.

Coming back to the fateful date, 2000, it was the year in which Shigetaka Komori became the new president of Fujifilm, substituting the outgoing Minoru Onishi. At that time, Fujifilm was the market leader in the photo film industry, and it reached the peak of sales in its history. Nevertheless these outstanding results, the digital revolution was around the corner. The photo film products (film, developer, and paper to print) continued to be profitable in 2000 (54% of Fujifilm total sales), counting for the two-third of Fujifilm operating profit, but then in less than half a decade, this business almost completely disappeared, knowing, after a slow decrease in the 2001 and 2002, a tragic 20% to 30% yearly sales’ reduction.

Lucky, when this event happened, the top’s management foresight and its decision to invest in digital cameras, 20 years before, facing a critical competence destroying transition, gave the expected results. With the expansion of the digital camera demands, Fujifilm was ready to compete in the new market, and gradually mitigate the shrinking of sales in the traditional business. In few years it became the market leader of the digital camera industry with 23% of market share, and despite its main historical rivals, it was able to maintain a top position also in the digital camera market domain.

By the way, with time, competition increased in this field. Fujifilm market share started to decrease up to 10% in 2005 and 8% in 2008. Moreover, from 2006, the global profitability for digital cameras started to decline due to the tough price-based competition in the market and the introduction, by a famous company in California, of a new revolutionary device with a small camera on the back: the iPhone (29<sup>th</sup> June 2007), which generated an incredible collateral shrink of sales in the sector of digital cameras, putting again at risk, the survival of Fujifilm and other digital camera companies.

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<sup>8</sup> Source: Interview to Hirozo Ueda, vice president & head of R&D; Shibata et al. 2018; p. 461

## 6.2 Polaroid Case

This second section is dedicated to Polaroid, the famous American company that introduced the first instant camera on the global market. It was mainly an instant camera manufacturer, that with the time, brought in-house the entire production of photographic films, at the beginning partially outsourced to Eastman Kodak. From the '50s till the end of the '80s, Polaroid and its products knew an incredible expansion, and still today, its vintage charm surprises many camera and film lovers and nostalgic enthusiasts around the world. However, from the '90s, its profitability and empire started to decline due to the digital photography revolution and a bad diversification strategy. Despite its competence in digital imaging and microelectronics developed through the years, Polaroid failed to embrace the digital transition and in 2001 declared bankruptcy. The identity's reasons behind this unsuccessful competence-destroying transition are the object of investigation of the case.

However, today, thanks to the effort of Andre Bosman, the last manager of Polaroid's plant in Netherland, and Dr Florian Kaps, a neurobiologist previously involved in the marketing promotion of the Lomo camera in Russia, Polaroid still lives among us. At the very beginning, the two new entrepreneurs founded the Impossible Project in 2010, with the intent to produce films for the old Polaroid Cameras. The success of the initiative brought Bosman and Kaps to acquire the original brand and its intellectual properties. In 2017, the company changed the name in Polaroid Originals but more recently, in March 2020, it was fixed in Polaroid Co. The dream of instant photography continues.

### 6.2.1 Case contextualization – Competence Destroying Transition

Polaroid was founded in 1934, by Edwin Land, In Cambridge, Massachusetts. The company was constituted in order to commercialize the first scientific discovery of its visionary funder: a synthetic polarizer, which originally had the shape of a small cylindric box, containing a fluid, filled with tiny floating crystals, aligned by the work of a big magnet. Quickly this rudimental solution became at thin plastic sheet made of a layer of microscopic crystals, aligned by stretching the sheet before the solution dried up. The product, after this transformation, was ready to be commercialized. Land with Donald Brown, a patent lawyer, and Julius Silver, a business lawyer, patented the solution and started the Polaroid business. The name Polaroid derived from the combination of the word “polarizer” and the suffix -oid which evoked a set of features linked to the original product such as “spheroid”, “celluloid based”, and because it sounded futuristic and high-tech.

The first 15 years of the company were not related to the film and the camera industry but to the commercialization of the polarized filter's sheet. This technology found a wide number of

applications. It was used to create glare reduction's glasses mainly for night drivers, it was exploited for the first attempts of 3D movies, applied to dermo-scopes, anti-glare desk lamps and, in the military field to realize special goggles, optics for reconnaissance, bombsights, and a system called "blind flying" that could darken a cockpit for a pilot but not for his co-pilot, during night missions. Moreover in these years, One of Polaroid projects turned into the production of a special medicine for treating malaria, which exploited the quinine, used for the crystals of the polarized filters.

Thanks to its technological orientation, Polaroid was able to successfully deliver original products in diverse industry domains. Beginning from its first license sold in 1934 to Eastman Kodak for 5'000 \$, gradually Polaroid started to grow, knowing a great expansion during the years of the second world war. In fact, before the global military event, Polaroid annual sales were only about 760.000 \$ and mainly derived from the sales of anti-glare glasses. But then, in the next 8 years, the sales reached 16 million \$, with 87 % of its income coming from military contracts. In this period the number of employees touched 1.200.

After the war, like many other companies, Polaroid needed a drastic downsizing. But a large restructuration was not necessary, because, in 1943, Land started to rock the idea of a new incredible product: a camera able to print instantly pictures. The legend told that Land was on vacation with his family in Santa Fe. He went out for a walk with his young daughter carrying a Rolleiflex. He did a picture of his daughter and then the little girl asked him: "*Why can't I see the picture now?*". Nobody knows if this story is true, but from that holiday, Land started to conceive the idea of the instant camera, by merging in a single product all the knowledge accumulated in tiny crystals, polarizing filters, optics, manufacturing and outsourcing activities. At that time, people had to wait seven days on average to develop their photos. In the countryside, this process could also require one month. Time reduction was the biggest innovation introduced by Polaroid cameras.

The record of this project started with a handwritten disclosure by one of Polaroid's executive called Richard Kriebel: "*On December 10, 1943, at his home, Edwin H. Land disclosed to me a novel self-developing film which when mounted in a camera of novel construction is adapted to produce a positive print shortly after exposure.*"<sup>9</sup>

The first instant camera was commercialized on November 26, 1948, under the name of Land Camera - model 95, at 89,75 \$. It was able to take a picture and print it in 60 seconds, in sepia scale's colours. From that moment, Polaroid R&D, once understood the profitability of the product, continued to

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<sup>9</sup> Source: Interview to Richard Kriebel; Bonanos 2012; p. 418.



improve the quality of the pictures taken with its camera and tried to solve the problem of the discoloration of the photo with the time.

Quickly retracing the Polaroid's product innovation trajectory, in 1950, the American company transitioned to the black and white film and in 1951 solved the "fading" problem introducing a test tube, filled with a viscous liquid that people had manually to strew on the printed photo and then let it dry. Land's camera one-step photography became so two-step photography. Then, in 1963, Polaroid introduced the first color print for its instant camera and in 1964 its new Colorpack Camera model. In 1965, it pushed on the market the first cheap Polaroid model (under 20 \$), called Swinger that signed the starting age of the razor blade business model. Polaroid idea was to make money not with the hardware (cameras) but mainly with the software (films). In 1972 with the SX-70 model returned to one-step photography and in 1978 it introduced the autofocus function exploiting the sonar technology. Important to remark, is that three years before (1975), Polaroid put on the market an innovative product, called Polavision, that was a video camera with a projector system exploiting films. But unlucky, it was a bloodletting exploration (it brought to a loss of 500 million \$). The failure was mainly due to the strong competition of Sony with its Betamax product exploiting VCR technology. From this specific moment, the leadership of Land started to decline, and in the 1980s resigned from the role of CEO.

In this incredible period (1948-1978), Polaroid's financial performances were extraordinary. It experienced a 23% of yearly growth in sales, 17% yearly growth in profit, and in the share price. (See picture 6.3; 6.4)

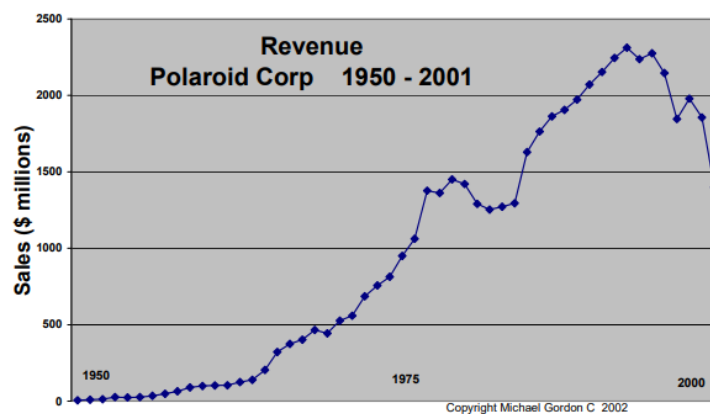


Figure 6.3: Polaroid Revenues - period 1950 – 2001. Source: *Who Killed Polaroid?* Gordon (2010)

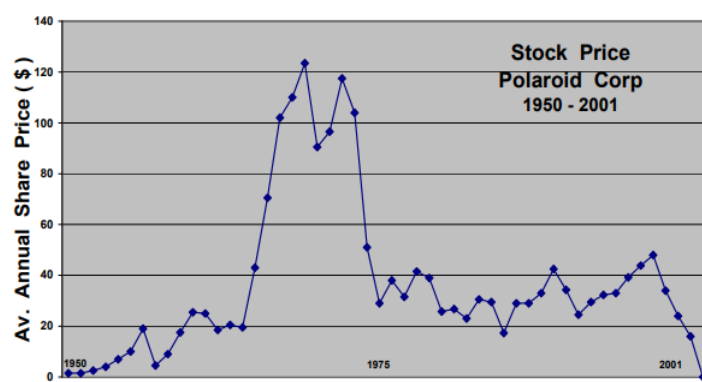


Figure 6.4: Polaroid's stock value, period (1950-2001). Source: *Who Killed Polaroid?* Source: Gordon (2010)

After that, Polaroid was not able to produce new incredible breakthroughs anymore. It continued to exploit its traditional business with new models and incremental improvements. The period between 1980 and 1995 is mainly remembered for the patent infringement's war between Eastman Kodak and Polaroid, when in 1976, the former tried to enter in the instant photography market dominated by Polaroid, with its instant camera EK4 & EK6 models, infringing, according to Polaroid, 14 of its own patents. The trial ended on October 12, 1990, with the winning of Polaroid which got the highest compensation for patent infringement in world history until that moment: 909.457,567 \$.

In the meanwhile of the juridical trial, in 1984, Polaroid invested in digital photography opening a microelectronics laboratory (MEL) to be able to compete in the new digital market, but with the idea that analog instant film would have remained in people's life as a necessity. Despite the great knowledge and the advanced technology developed in digital imaging, (Polaroid's R&D, in fact, invented the triangle pixels and a light-sensors technology that produced the best resolution in the nascent market, around 1.9 million pixels), the transition from analogic to digital photography failed. An internal managerial dissonance between top management and the digital division delayed the launch of the first digital camera (PDC-200) from 1992 to 1996. This delay resulted to be crucial. The digital competitive arena was already crowded when Polaroid approached the market, and its market share was not enough large to allow a sustainable and profitable business. Moreover, at that time, the mass market did not value the possibility to immediately print photos anymore, but it was interested in the possibility to download the picture into many devices. Polaroid's sales quickly shrink and gradually, the American manufacturer was not able to sustain the huge cost of its business operation, which were increasing from 1970, year in which Kodak decided to not produce the negatives for Polaroid films anymore. This situation got worse with Helios Medical Graphic Imaging project, that, another time despite its great technical features and scientific awards, resulted in another big expensive failure (600 million \$).

In 2001, a month after the attacks on New York and Washington to the twin towers, Polaroid was declared in bankruptcy, due to its awful financial position since 1988.

In the next paragraph, the narration will deepen the reasons behind Polaroid's failure in shifting from analogic to digital, despite the strong technical knowledge developed in this field.

## **6.2.2 Within Case Analysis**

### **The Competence Destroying Transition**

In 1948, as it was already mentioned, Polaroid introduced the first instant camera on the market, called the Land Camera model 95, that was able to print a picture after 60 seconds from the shot, with sepia tones. This debut signed the beginning of an incredible rise to success. Polaroid was able to create a completely new competitive domain building on a business of 2 billion \$ per year, thanks to its famous "Razor Blade" business model: making the largest profit not on the hardware (the camera) but on the software (the films). Furthermore, its strong technical orientation, and the addiction for patents of its funder Edwin Land, brought Polaroid to create an unbreakable empire rejecting any competitors that wanted enter in its own market domain, among which, the most famous was Eastman Kodak. Its funder E. Land will close its carrier with 535 registered patents.

Nevertheless these incredible market conditions, with the advent of digital photography, in 2000, the scenario completely changed. Photographic films became an item for nostalgic people and specialists. The possibility to download and share a photo on a personal computer outperformed the satisfaction of an instant photograph. Polaroid was aware of the potential risk that the digitalization could have generated. In fact, under the CEO Bill McCune, it decided to open a Microelectronics Laboratory and to create a digital image division respectively in 1981 and 1986.

Despite the advanced technical capability in semiconductors and light sensors' resolution that Polaroid was able to develop, the company completely failed the transition. Considering this, one of its last CEO, Gary DiCamillo, after some years from the first declaration of bankruptcy, stated during an interview to Yale magazine:

*"People were betting on hard copy and media that was going to be pick-up-able, visible, seeable, touchable... It's amazing, but kids today don't want hard copy anymore. This was the major mistake*

*we all made. Mac Booth, Gary DiCamillo, people after me... That was a major hypothesis, that I believed in my marrow, that was wrong.”*<sup>10</sup>

The reasons for the failure must be traced back to Polaroid organizational beliefs and to the cognitive rigidity of its top management in framing digital photography. To better understand Polaroid cultural managerial context, a step back, in Polaroid cultural and technical repertoire is required.

### **Core Capabilities’ & Organizational Culture’s Repertoires**

Since its foundation in 1934, under Edwin Land’s leadership, Polaroid was a technology-driven company. Wall Street analysts often criticized Land for its high expenditures in Research & Development and Polaroid, frequently, was identified as a “*scientific think tank*” rather than a manufacturing company. In this period, its understanding of synthetic polarized filters and instant photography technology remained unsurpassed. Polaroid had good knowledge of silver halide chemistry and foundation in optics and electronics. Moreover, in the middle of the ‘70s, it explored sonar technology to introduce an autofocus feature on some of its premium cameras. Polaroid was also a good manufacturer. At the end of the ‘60s, Land decided to bring in-house the production of both cameras and film. The result was an expansion of its technical knowledge in precision camera assembly and micro-film coating. Another essential point of strength was an excellent distribution channel, through mass-market retailers, which was a kind of innovation for the traditional sales of camera products.

The imprinting of its funder was very strong. Polaroid reflected his full dedication to science. This turned into a wide set of managerial beliefs, such as that success could only come by facing large-scale and long-term research projects. Indeed, a Land’s sentence became very famous within Polaroid’s culture: not undertake programs unless they are “*manifestly important and nearly impossible*”. Evidence of this philosophy is the SX-70 one-step camera launched in 1972 after 8 years of research and development, which eliminated the two steps process, solving the problem of discoloration.

Another important belief originated from the funder, was the scepticism towards marketing input for new product development. Science was the only means to create products able to satisfy human needs. In fact, Land believed that “*Marketing is what you do if your product is no good*” (Source: Instant; Bonanos 2012). A further belief was considering instant print as a primary necessity for customers.

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<sup>10</sup> Source: Interview to Gary DiCamillo; Bonanos 2012; p. 1974.

According to Polaroid, costumers valued a physical instant picture and its quality. In light of this, a famous Polaroid advertisement in the '70s enacted: *“If you're not taking color pictures with the new Polaroid Colorpack camera, there's something left out of your life”*<sup>11</sup>

Finally, maybe the most important managerial legacy was the firm conviction in the razor/blade business model. Before 1965, Polaroid made money with both cameras and films. But with the introduction of the Swinger (1965), a camera model sold for less than 20 \$, the objective was to achieve a large diffusion of the hardware, in order to encourage the consumption of films, where the profitability was much higher. The success of this strategy brought the top management to evaluate new products and opportunities only if they fitted with this model. They started to think that Polaroid could make money only on the software and not on the hardware. This created a fundamental cognitive rigidity when Polaroid tried to shift into the digital imaging domain.

In light of this, Gavetti & Tripsas (2000) report this following statement from an anonymous Polaroid ex-CEO: *“One of the things that's terribly important, and I think most people understand it but maybe not as fully as they should, is that in the photographic business all the money is in the software, none of it's in the hardware ... We were good at making hardware, but we never made money on it ... So the fundamental objective in these things was to find ways to advance products but that would be useful for improving the software sales”* (Source: Interview with the CEO; Gavetti & Trispsas, 2000; p. 1152)

Besides the business and the managerial culture imprinted by its founder, Polaroid's cultural repertoire was also influenced by the pop artistic register of that time. Since the '60s, Polaroid cameras started to be adopted by professional photographers such as Ansel Adams and Philippe Halsman. But it was with Bert Stern that Polaroid found a wide artistic consecration. This photographer, noted for Marilyn Monroe's final picture, realized a series of portraits of famous people such as Salvador Dali, Louis Armstrong, and his trumpet, Jessica Tandy and Hume Cronyn, using Polaroid's instant photography.

However, photographers were not the only kind of artists engaged with Polaroid. Some of the most known adopters were, for instance, Andy Warhol, Marie Cosindas, Lucas Samaras William Anastasi. The relationship between Polaroid and fine arts was always deep. Not only artists discovered instant pictures and gave their feedbacks to Polaroid, but also Polaroid looked for new artists to endorse. In fact, in the Land period, Polaroid provided films to artists in exchange for some of their best shots. In a few years, the company received so many artistic pictures, that decided to create a collection and small exhibitions in its buildings. When Polaroid failed, this artistic heritage was one of the most

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<sup>11</sup> Source: Instant; Bonanos 2012; p. 796.

valuable liquidation's assets. Polaroid was very interested in the artistic potential of instant photography, and as a matter of fact, Land created a project to investigate how to make instant pictures an indigenous form of American Art. This strong connection with the artistic register will bring Polaroid to create and implement this following dogma: technology had to be not only functional but also beautiful.

The core capabilities and the cultural managerial believes developed in the Land's period were very influential in the approach Polaroid had to digital photography. After Land resigned from its role as CEO in 1980, Bill McCune, a historical Polaroid employee, succeeded. He maintained the same approach towards the science of its predecessor and began a huge exploration in digital imaging. Polaroid started research in multiple digital imaging fields such as microelectronics, IC design, image processing, software design, fiber optics, advanced optics, and many others. All this research effort represented new areas of investigations, quite marginal respect Polaroid's previous core competences.

In this period, between 1980 to 1989, Polaroid, strengthened its expertise in instant photography selling different camera models such as the Pronto!, the Button, the Spirit, the 1000, the Sun Camera, especially the One Step and the Spectra, but in addition, it successfully developed a strong knowledge in the digital imaging domain. Respect to the competitors, Polaroid's light-sensors generated a resolution of 1.9 million pixels (four times the rivals), researchers invented the triangle pixels which enhance the possibility of color recovery, and they created a more efficient compression algorithm. So, from a technological point of view, Polaroid was well-positioned in the nascent digital domain.

However, if technically Polaroid expanded its repertoires of competences, its cultural believes in approaching digital imaging did not radically change respect to the past. Managers continued to push the implementation of solutions fitting with the razor/blade business model also in the digital segment. It was central to the idea that instant pictures would have remained an important human being necessity also in the future and it was great the effort to improve the quality of instant and digital cameras, matching the resolution of the traditional 35 millimetres devices. Such rigid believes combined with the newly acquired digital skills, brought Polaroid to consider the introduction of a hybrid camera called "PIF" (printer in the field), half digital and half analogic, with the possibility to print instant pictures, previously digitally captured. A clear reflection of this rigid managerial culture applied on digital imaging can be also seen analysing the Helios' project. Helios was a medical dry-film system, exploiting the laser technology and special medias (a kind of film), developed to substitute X-rays machines in the hospitals. The device, in terms of resolution and performances, was outstanding and perfectly embodied Polaroid's past believes and capabilities. The product leveraged on the chemical,

manufacturing, and new digital capabilities of Polaroid. Moreover, it respected the long-term and large-scale corporate philosophy. Polaroid invested 120 million \$ per year in this idea for five consecutive years since 1992. The device respected the razor/blade business model and the importance of printing on media. As reported by a Polaroid manager interviewed by Tripsas and Gavetti (2000):

Helios “*had an electronic front end, but it’s a film product and you make the money on films*”.<sup>12</sup>

Despite the affinity between the Helios’ and the PIF’s projects with Polaroid cultural beliefs, both revealed to be unsuccessful and expensive explorations. The only relevant cultural discontinuity factor with the past was higher attention dedicated to understanding the market, introducing market data as valuable input for product development. In this phase, Polaroid was gradually becoming a more market-driven company.

### **Sensing the digital revolution and the new competitive domain**

Top management at Polaroid, sensed digital photography as a cannibal technological shift. Aware of its potential disruptiveness, Bill McCune decided to heavily invest in digital imaging (transferring the 42% of R&D expenditures into this domain) and to create the digital imaging group to explore this field in search of opportunities. The idea of Polaroid’s management was to create a hybrid camera, which exploited semiconductors to capture the image, software to improve the shot and the film to produce the instant physical picture. This solution was consistent with the razor/blade business model and with the belief that customers valued instant pictures. In light of this, McCune sustained in the shareholders' letter of 1984 that Polaroid saw a big potential in hybrid cameras, mixing digital with analogic technology. This direction was also supported by Booth McAllister, the CEO who succeeded in 1986 to McCune. This managerial vision of the future does not surprise if the composition of the top management is taken into the examination. In fact, less than 25% of the executives were new in the period from 1980 to 1989.

However, soon the concept of this hybrid camera became a reason for internal friction when Polaroid Electronic division developed a first full digital prototype. At that time became clearer to top managers that the new market domain was preparing to be crowded by a wide range of newcomers ready to set a price competition. The old competitive advantage of Polaroid was to be doomed to collapse. For this reason, senior managers tried to continue believing in the PIF concept and the razor/blade model. As Tripsas and Gavetti (2000) reported the thought of a senior executive of Polaroid:

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<sup>12</sup> Source: Interview with a manager; Gavetti & Tripsas 2000; p. 1153.

*“We're not just going to be up against Kodak, Fuji, etc. We're going to be up against 30 consumer electronic companies-the Sonys, Toshibas, Hitachis, the Intels, etc. We need to have a unique idea that corresponds to our core capabilities and the way we relate to the market-place”*<sup>13</sup>

Moreover, Sheldon Buckler, a research executive of Polaroid, later stated: *“Polaroid could make the digital transition [...] But there's no money there, because there's no film. And there'd be no competitive advantage on the hardware side in the consumer arena, because there's Nikon and Sony and Canon and a host of others.”*<sup>14</sup>

### **Top Management decision & Technical Legitimacy**

Premium Polaroid models already had some electronic components to improve the quality of the picture. For this reason, to enter the digital camera market and deepen the knowledge in digital imaging, electronics and semiconductors, it was quite natural for Polaroid's researchers. Any means could increase the quality of the shoots was welcomed by Polaroid. Moreover, consistently with its scientific orientation, the exploration found immediately legitimacy from the top management and within the R&D department. In few years Polaroid was able to effectively expand its knowledge in digital photography. In detail, starting from its previous capabilities in manufacturing, chemistry, and electronics, it was able to initiate a series of related explorations in digital imaging which turned, in the end, into the creation of the PDC-2000, one of the most awarded cameras of its time.

Since the beginning, according to Polaroid DNA, top management (between 1980 and 1989) framed digital imaging as a technological rather than a market transition and consequently, they invested a huge amount of money in developing scientific knowledge in this domain, and in advanced proprietary technology. But they completely neglected investments in sensing the new market, the new possible customer needs, and in developing sales and marketing competences suitable for the new context.

Evidence of this is the opinion of Jerry Subdey, the vice president of Polaroid's manufacturing department, who stated: *“Electronic imaging is a technology, not a business. Polaroid is not trying to be in the consumer electronics business.”*<sup>15</sup>

This closed managerial cognition in framing digital imaging future market brought to an incurable divergence between the Electronic Imaging Division and the senior management.

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<sup>13</sup> Source: Interview with a senior executive; Gavetti & Tripsas 2000; p. 1155

<sup>14</sup> Source: Interview to Sheldon Buckler, research executive; Bonanos 2012; p. 1814

<sup>15</sup> Source: Interview to Jerry Subdey, Polaroid vice president; Bonanos 2012; p. 1858



## **Organizational Design**

Considering the organizational point of view, the years before Polaroids' investments in digital technologies, the company was organized in three different R&D and manufacturing departments, related to black and white films, colour films, and instant cameras. Despite such products' separation, the other departments were substantially integrated. In particular, the marketing and the sales departments commercialized all Polaroid's products without distinction and with no dedicated resources. The distribution channels were not differentiated between cameras and films. The configuration of the organization was typically "exploitative" considering the main instant picture business.

Then, once decided to explore the digital domain, Polaroid immediately opened the Electronic Imaging group in 1981. The division was completely autonomous and coordinated at the senior management level. Five years later, to accelerate the exploration, Polaroid created a specific microelectronics lab (MEL). The laboratory received great financial support since the beginning. Its budget was fixed at nearly 10 million \$ per year and it counted for 43% of the R&D Polaroid costs. The lab was sold to MIT in 1993, in the moment of most acute dissonance between the Electronic Imaging Division and the Top management

In 1990, when digital imaging was on the verge of occupying the analogic market, Polaroid reorganized its configuration. Created four divisions. Three of them were market-oriented: the Consumer, the Business, and the Scientific Imaging one. The last division was the Electronic Imaging division, with the scope to provide new digital products to the other three. It was always autonomous and free to explore the digital market in the short term.

Since the beginning, the Electronic Imaging Division was formed by a majority of new employees with technical capabilities in digital imaging. Initially, it was managed by a historical Polaroid employee, but from 1990, a series of new managers took the command of the division. In this period, also a marketing group fully dedicated to digital imaging was created. Respect the predecessors, these outsiders shared a completely different set of beliefs and perspectives regarding digital imaging, also because nearer to and more aware of the market's conditions. This was a critical reason for friction with top executives

### **Lack of Social Legitimacy & Organizational Identity Stillness - TMT & MMT Cultural Clash**

In 1992, the Electronic Imaging division created a prototype of a camera fully digital (the PDC-2000), far from the managerial conception of a hybrid device. This camera had technical characteristics

superior to competitors but the tensions between the division and the top management delayed the production. This dissonance, between the new employees and the top management, was a real cultural clash, based on different views of the imminent digital market.

The first and most important reason of friction was the selection of the appropriate business model. Top management defended the traditional razor/blade model while the middle managers of the Electronics Division encouraged the realization of profit through the sales of hardware (new Polaroid digital cameras). They believed the traditional model was obsolete for the new market.

On the other side, top managers sustained the impossibility of the Electronic Imaging Division's proposal because it was not profitable as the traditional business and because they did not consider the manufacturing limitations of Polaroid and its lack of capabilities in fast product development. This decision probably would have required huge further investments. Furthermore, senior executives did not believe in the possibility to compete for a war of price against the efficiency of the Japanese manufacturers.

Furthermore, the Electronic imaging division's middle management constantly required a diversified distribution channel and sales force, suitable for the commercialization of more expensive high-tech devices. But senior managers never agree even on this point.

A lack of cohesion permeated the entire company. In this period, an identity redefinition process is not registered. Employees started to suspect that the Polaroid innovator's soul was not reconcilable with the manufacturer one. The result of this strong internal dissonance generated a period of organizational inertia. The development and commercialization of the first digital camera were continuously delayed. Meanwhile, the microelectronic lab was closed and sold. In the end, only in 1996, the PDC-2000 model found the way of the market but was too late if we consider that the first digital camera launched on the market was the Fujifilm DS-1P, dated 1988. The market was already crowded and with four years of delay, the performance of Polaroid full digital camera was not superior to Japanese cameras anymore. The sales of this device were an incredible flop. Meanwhile, most of the new employees in the Electronic Imaging Division decided to leave Polaroid. From a peak of 300 employees in 1992, only 50 remained in 1998.

### **Technical Legitimacy does not meet with Social Legitimacy**

As previously reported, Polaroid managers, since the beginning, framed digital imaging as a technological shift. Polaroid leveraging on its strong technical and scientific orientation was able to

expand its repertoire of competences, developing advanced knowledge and creating a series of prototypes to shift into the digital domain with a competitive advantage. In particular, starting from its previous capabilities in manufacturing, chemistry, and electronics, it was able to start a series of related and semi-related explorations in digital imaging which turned, in the end, into the creation of the PDC-2000, one of the most awarded cameras of its time. Despite a technical legitimacy promoted with success inside the company, the same cannot be said for the social consensus created around the initiative. Top management's cognitive frame clashed against the perspective and the expectations of the Electronic Imaging Division and generated pervasive organizational inertia, which turned into a consequent mortal delay.

The technical legitimacy, in the case of Polaroid, was not enough to create a solid unity of purpose towards the change. With the time, an insurmountable dissonance emerged. Top managers were prisoners of the same cultural beliefs that originated the success of Polaroid many years before. They continued to rigidly frame the new market domain with the razor/blade business model and with the idea that people valued instant pictures. The cultural repertoire remained anchored to the past, in completed dissonance with the beliefs required to commercialize digital photography.

Polaroid was not able to create an appropriate social legitimacy, both in the pre and post commercialization of its first digital camera. The change never emotionally resounded in Polaroid and never united its different managerial levels

### **Failing the Transition**

In the end, despite Polaroid was able to commercialize its full digital camera, the PDC-2000, the market's reaction was not positive. Polaroid one year later insisted, introducing an updated version of this model, the PDC-3000, completely outsourced, but it was too late. Polaroid market share was not enough significant to create a sustainable business. The market was already crowded, and the price competition did not allow the profit of the past.

Nevertheless, the digital camera was not the only project that failed in the exploration of Polaroid in the new digital context, due to the top management's resistance. Given the razor/blade business model, the business of printers seemed suitable for Polaroid. For this reason, the company explored the inkjet technology. But the solutions did not allow the same quality of the instant image and for this reason, they were rejected.

Also the Helios project, a medical system with the scope to substitute X-ray machine through laser technology and a special film that remained impressed, failed. It was a huge investment, 3 or 4 times the resources conveyed to digital cameras. It received strong support because perfectly fitted with the capabilities and the cultural believes of Polaroid. After 10 years was brought to the market in 1995 but with no success, because of the lack of experience in the medical domain, a miscalculation of the film dimension required by radiologists, and a weak distribution channel. Kodak, in the same period, with its similar device called Imation, outperformed Polaroid and other competitors on the American market. In 1996, Helios was sold to Sterling Diagnostic.

The dismissal of the Helios project signed a general strong reduction in Polaroid commitment to the research in both digital and analogic solutions. In 1996 Gary DiCamillo succeeded to Booth MacAllister. He was the first outsider who covered the position of CEO. Also the top management changed. 15 executives on 25 changed with its arrival. Immediately DiCamillo decided to restructure Polaroid, drastically cutting one-third of the R&D expenses. Simultaneously, he fostered a market-oriented approach in instant and digital photography, increasing the expenditure in advertising (+10 million \$ from 1995 to 1996) and putting on the market a higher number of products each year, which were only a repackaging of the previous ones. These were the years of the Captiva, the JoyCam, the I-Zone model, and the digital camera called One, developed together with Olympus. Polaroid completely became a market-oriented company in these years.

Nevertheless his attempts to restructure Polaroid's debt and to gain time, DiCamillo was not able to revitalize the company. The stock price felt down. In 1988 Polaroid received an acquisition proposal, from a relative of Walt Disney's family called Stanley Gold, of 3 billion \$ but it was refused. In only nine years (1998), its value collapsed, and Kodak's proposal was fixed at 1 billion \$. Also this time Polaroid refused.

After that, inevitably, on October 13, 2001, Polaroid was declared in bankruptcy. From that date, it has been sold three-time and failed another one.

## 6.3 Konica Case

The third case is dedicated to Konica Co., which was the second Japanese manufacturer of film-related products, and the fourth worldwide leader, with a global market share that swung from 7% to 10% in the period 1990-2002. Up to the '80s, Konica's main business was the production and the sale of films, papers photography, and still cameras, but respect to the other films' manufacturers' leaders, from the '80s, it started, with success, to approach the professional business machine market. In its long corporate history, Konica faced many complex events. Among these, the most critical was the transition from analogic to digital imaging and the new competition settled by the emerging smartphone market. Like the other film manufacturers, Konica sharply suffered in its traditional photo-film-market, despite it was able to successfully develop the next generation of digital cameras and digital photo services, expanding its knowledge in the digital imaging domain. However, the margins in such a new competitive arena were not comparable with the photo-film one. Also for this reason, in 2003, when 34% of its margins still came from the film and cameras related products, Konica decided to merge with Minolta Corporation (one of the main Japanese manufacturer of cameras and business machines). Consequently, it started a new competence enhancing transition to become an undiscussed leader in the printing machine business and to explore new potential profitable domains. Therefore, on January 19, 2006, during the smartphone revolution's early stage, Konica Minolta, quitted its film-camera business, selling its photo imaging division to Sony and closing the production.

Today Konica Minolta's stream of revenues is generated for 55,5% from the office business division, 21,5 % from the professional print division, 8,6% from the healthcare business division, and 11% from the industrial business one. The case, described below, will refer specifically to the Konica's enhancing transition faced between 1998 to 2007 when the Japanese manufactures took its most critical but winning decisions. However, before passing to the core subject of the case, in the next section, a brief snapshot of the context and the history of Konica Corporation is provided.

### 6.3.1 Case contextualization – Competence Enhancing Transition

Konica Corporation was founded in 1873 in Kojimachi, Tokyo, under the name Konishiya, by Rokusaburo Sugiuro, who started to sell cameras and photographic materials imported from Europe and the United States. Three years later, the company moved to Nihonbashi and its name changed into Konishi Honten. In 1882, the company had already built three proprietary factories for manufacturing box cameras, matte paper, lithographic materials, and related equipment. In 1902, a subsidiary of Konishi Honten, called Rakuosha, opened a new factory in the current Shinjuku area to start the first

production of photographic paper in Japan, famously named Sakura. A year later, in 1903, Konishi Honten started to develop and commercialize the first Japanese box-shaped hand camera, called Cherry (Sakura in English). Some years later, Konishi developed the SinglePrano, the first Japanese camera mounting a reflex lens and it introduced three new camera models, well known by photographers for their high manufacturing quality: the Pearl, the Lily, and the Idea.

With the first world war, the import of compound-coated paper and paper base material was banned. This event urged Konishi Honten towards higher independence from the foreign supply. Therefore, jointly with Mitsubishi, Konishi was able to develop a new method to produce photographic paper, which quadrupled its previous production. In 1921 Konishi Honten was reorganized as a limited company, changing its name in Konishiroku. After the finish of the first world war, in 1925, the Japanese Navy's defence commissioned the production of lenses for the navy's gun (the Hexar F/4.5) that at that time were imported from Great Britain, with the logic to make Japan self-sufficient. Always in this year, Konishiroku introduced one of its most famous camera models: the Pearlette, which was the first Japanese camera with a still body.

1929 it is the date in which Konishiroku started the commercialization of its first branded films called always Sakura, in 1933 it became the first Japanese company to manufacture Xray films and in 1931 and 1935, it respectively introduced, its first movie projector and its first movie camera. During the second world war, the company became publicly owned (Konishiroku Honten Company) and it started the production of ultra-compact aerial cameras, optical instruments, and a camera for taking X-Ray pictures for the Japanese army. Despite the war, in 1940, 5 years after Kodak, with a huge intellectual effort, Konishi introduced its first natural color film, always sold under its brand Sakura, while, in 1941 the company was subjected to another change of name: it became Konishiroku Photo Industry Company.

Before the second world war, Konishiroku had developed a new 35mm camera called Rubikon, for the consumer market, which was never put into production. During the war, this product concept was converted in an X-ray camera but then, after the end of the war, Konishiroku decided to reconsider its commercialization but utilizing another name, because Rubikon belonged to the war vocabulary. Indeed, in 1947, the name was changed into Konica, which derived from the combination of two specific words: "Konishiroku" and "camera". At that time, Konishiroku was one of the five most important lens manufacturer and one of the major camera producers in its domestic market (almost 50% of the Japanese camera were produced only by Konishiroku).

The '50s were the years of the international expansion aimed at growing the sales of its products also far from its domestic and Asian domain, where Konishiroku held the leadership. In 1956 it founded a subsidiary, Koniphoto Corporation in Philadelphia, Pennsylvania. Six years later, Koniphoto was moved from Philadelphia to New York City, and in the same year, Konishiroku opened also the Konica European Center in Hamburg, Germany, to start the marketing of its products also in the old continent.

After that, the '60s were years of great product refinements and innovation. In 1963 Konishiroku created its first X-ray processor, in 1964 the first Sakura color negative films, and in 1965 it introduced the Konica Autoreflex, the first automatic-exposure camera model of the industry. Then, in the last years of the '60s, a defective production brought Konishiroku to experiment important financial losses and due to this event and to the inability of raising its market share, the entire top management, previously selected by the family Rokusaburo, was changed. The new management started an important phase of diversification, applying the Konishiroku core technologies and core competences in other domains, and making the company more market-oriented than before, collecting information to drive the product development process.

After the change of the top management, in 1971, Konishiroku introduced its first photostatic plain paper copier called U-bix 480. This market was highly profitable for the Japanese manufacturer, from which it obtained 23% of its total sales in 1978. Subsequently, in 1975 it introduced the C35 EF model, the first compact camera with an automatic flash integrated into its still body, and in 1978 it came out with the first camera (C35 AF) mounting an autofocus system.

Always in this period, Konishiroku experienced a strong international expansion setting a photographic paper plant in the Soviet Union, a new branch office in Great Britain, in Hamburg, Australia Canada, and a photo product marketing subsidiary called Konica Corporation in the US. In 1986 it completed the acquisition of Fotomat, a chain of photofinishing stores wide-spread in the US to increase its presence and market share on the American market.

Respect to the other major photo-film manufacturer, such as Kodak, Polaroid, and AGFA, Konica vigorously entered the business machine market, providing new copiers, laser scanners, fax, floppy disks, since the early stage of this industry. In 1984, the company decided to acquire the 30% of the Royal Business and agreed to sell its plan paper copiers under the name of the acquired company. One year later, it signed a partnership with Olivetti to spread and sell its copiers in the European market, and it opened a new plant in China. 1986 was a year of great ferment for the Japanese manufacturer. Konishiroku bought the entire Royal Business, changing its name in Konica Business Machines

U.S.A, Inc.; it forged an alliance with IBM to sell high-speed copiers under the Konica brand worldwide and it created a new Floppy Disk capable to store 10 megabytes of data.

Coming back to the photo film market, the '80s were the years of the minilab system. In 1984, Konishiroku, following Fujifilm, launched its first proprietary minilab machine called Nice Print System which was the first wash-less print-processing minilab. It had the advantage to reduce the space and the input requirements, and soon such a kind of solution was copied by all the other competitors.

Continuing with the narration, 1987 was the year in which Konishiroku unified its global corporate name into Konica Corporation. In Europe and the US, the company was already known under wording, but in Japan, it remained Konishiroku until that moment, and people only knew the Sakura or the U-Bix trademark. A great marketing campaign to raise new brand awareness in Japan led Konica to gain 20% of the market share in the domestic film market. In the same year, Konica announced its first still video system, which enabled the user to record a scene on a magnetic disc and to immediately see the recorded scene on a display. After that, the company introduced the Konica SR-V3200, which was the fastest color negative film on the market. 1987 was also the year of starting a business exploration in the medical field. In fact, in these years, Konica came out with a fast desktop system to analyse patients' blood, a faster X-ray system, and the Konica direct digitizer which was a device able to digitize radiographic images.

In 1989 Konica introduced the A4 model, the smallest and lightest fully automatic analogic compact camera and the SR-G, an innovative film that provided better quality and speed. One year later, the Japanese manufacturer followed Fujifilm in the production of disposable cameras and got the second market share, selling 7 million pieces.

The approach with medical devices and the business machine industry made Konica understand the imminent advent of digitalization in its main business. Digital imaging required a complete development of new skills and competences far from the analogic-chemical domain. Perceiving the key moment, during the late '80s and the '90s, Konica experienced a strong acceleration in the research regarding digital imaging (+32% in R&D expenditure from 1995 to 1999) and it transitioned to the new core technology quite naturally from the technical perspective thanks to the knowledge acquired in the computer electronics field and the medical industry. The results from this intense period of research started to emerge in 1995 when the Japanese manufacturer launched the Konica 7050 digital document system which was able to print 50 pages per minute when connected to a PC or a network.



Thanks to this product Konica became the market leader of high-speed digital copiers in the U.S. market. Afterwards, in 1997, Konica entered in the business of digital still cameras with its Q-M100 known for its high-quality pictures. Finally, in 1998, it introduced its first fully digital minilab QD-21 System, which replaced the analogic one and it did not require liquid chemicals.

Konica, as in general the other major film manufacturers, remained profitable during the '90s thanks to the big margins granted by the photo-film related products. But towards the end of the decennium, digital photography, and generally, digital imaging started to put pressure on the analogic camera, copiers, and the film business, eroding the traditional high margins of the industry. Konica started to perceive a decrease in the sales of film-related products earlier than Kodak & Fujifilm in the fiscal period 1998-1999 also due to its cost leadership strategy, which granted lower margins per sale. Consequently, Konica started a period of rationalization of its plants and operations, cutting 8% of its workforce in 1999 to maintain a relevant position in all of its relevant businesses. At that time, the photographic materials counted for 58% of the global sales of Konica. Digitalization represented a big threat to the future survival of the Japanese manufacturer. Despite Konica, as previously reported, was been able, from the technical point of view, to successfully transition to the consumer and professional digital photography segments, the deriving margins were alarming, and they undermined the future company's growth and survival. It was not a problem of quality. Konica's digital cameras were appreciated by professional photographers, but the Japanese manufacturer entered late in the market and faced strong competition. Despite its proprietary, built in-house, lens and integrated flash system, (that were very expensive parts if bought from suppliers), the CCD (the core component) was externally supplied. For this reason, the margins from digital cameras were never able to create a profitable business for Konica.

Consequently, in front of a business scenario in continuous change, with an extreme competition settled by companies coming from different industries, and with the advent of micro-cameras integrated on telephones (the first telephone with a camera: the Kyocera VP-210 was launched in 1999), Konica decided to not direct its investments in this overcrowded field, such as Kodak. But alternatively, it decided to face a competence enhancing transition pointing on the development of its professional business machines division and developing new businesses starting from its core competences.

The investigation of such a successful transition is the subject of the case presented in the next section. In particular, the case will consider the period of reference 1998-2007. In this time frame, Konica will decide, first to merge with Minolta Co, a Japanese manufacturer of cameras and business machines,

realizing the Konica Minolta Enterprise on August 5, 2003, secondly, the new organization, will sell its photo imaging division on March 2006, quitting the production of films and camera. These decisions will lead Konica Minolta to become a major global leader in the business machine technology domain and to enter new profitable businesses. An example, that also will be treated in the case, is represented by the TAC film, a key material for LCD polarizing plates, whose demand exploded in the first decade of the new millennium.

This broad contextualization has shown a quick snapshot of Konica and its business evolution, underling its centennial capability to successfully face the change in more than 145 years of activity. Today Konica Minolta is a global enterprise with a well-diversified business portfolio. However, between 2008 and 2013, Konica faced a difficult period mainly determined by the Lemman Brother scandal, the appreciation of the yen, and the Japanese recession. After a period of transformation and rationalization between 2013 and 2016, now Konica is facing its last year of Shinka Phase in which it is founding the bases for the next future breakthroughs in many different fields such as bio-healthcare, digital manufacturing, and proposing products such as the Workplace Hub (that is an edge IoT digital platform for small and medium-sized companies combined with AI technology), and monitoring solutions for gas and oil leaks. This period of relaunch has been sealed with the creation of a new slogan “*Giving Shape to Ideas*” and the new Vision: “*A global company that is vital to society*”

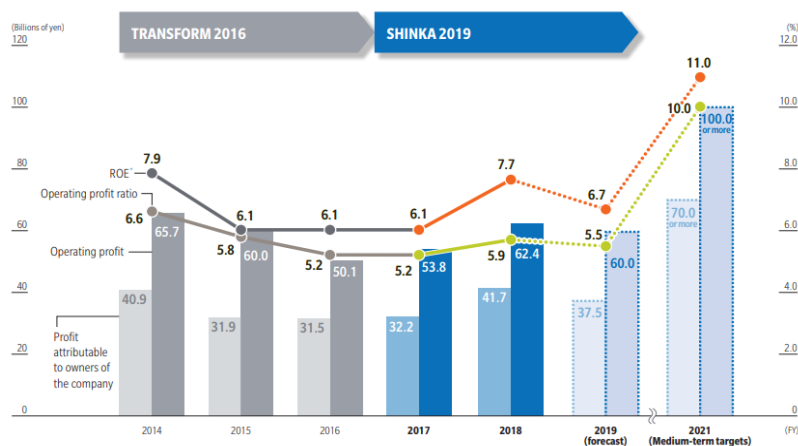


Figure 6.5: Profit and Operating Income in the Transformation and in the Shinka 2019 phases. Source: Konica Minolta annual report, 2018

In the light of this introduction, now it should be clear why Konica represents an interesting and unique opportunity to investigate the Chameleonic Renovator quadrant, previously displayed in the case selection matrix, paragraph 5.2, figure 5.1

### 6.3.2 Within Case Analysis

#### The competence enhancing transition

In the financial year 1998-1999, Konica Corporation started to experience the first significant signals of an imminent downturn in the photographic film business, knowing a worrying revenues' reduction of 17 billion yen in this segment. At that time, 56,5% of its overall sales were generated by the photographic material division, and films and cameras represented the major source of operating income. To complicate the scenario, the accentuation of the competition with the advent of the digital imaging technology and an increasing corporate interest-bearing debt put the Japanese manufacturer under a situation of strong pressure, challenging its profitability and future survival. Aware of the market's situation, Konica's Top Management responded promoting the V Plan 2000, to increase the profitability and the cash inflow of the Photographic Material segment, and to foster the transition towards digital imaging in its two major profitable segments: Business Machines and Photographic Material. But such intervention was not sufficient.

Doing a step back, in the late '80s and for the entire '90s, Konica successfully expanded its core competences into the digital imaging field, developing new notable digital products, such as the Konica 7050 digital document system which was able to print 50 pages per minute when connected to a PC, its first digital still camera Q-M100 known for its high-quality pictures, the fully digital minilab QD-21 System and its Konica Direct Imaging System able to digitalize X-Ray films. Starting from 1995, year by year, Konica experienced an increase in the demand for digital products and consequently, the weight of its analogic sales started to reduce.

Such a destroying competence transition was promoted and well supported by the management, thanks to a change of organizational identity that redefined Konica as an Information and Imaging solutions company and thanks to a new organizational slogan: "*Applying digital technologies for a better quality of life*".

However, despite digital imaging transition was correctly and successfully pursued, the main source of sustenance remained the traditional film business, which, as mentioned, was in a stagnant, declining phase. Digital photography-related sales continued to grow, but unfortunately, did not grant the same margins and returns of the analogic business. However, in this period, the business machine segment was experiencing an important growth mainly due to the revenues coming from the digital copiers market in which the Japanese manufacturer was the U.S. market leader. This trend was able to counterbalance the decline of the traditional film business, but Konica's high dependence from the

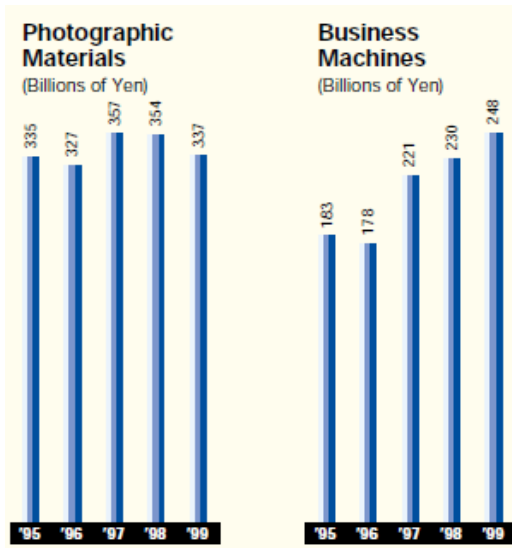


Figure 6.6: Photographic Material & Business Machine revenues, period 95'-99. Source: Konica Corporation annual report, 1999

film photography put more than one question mark on the future growth and profitability of the Japanese Manufacturer.

In March 2000, Konica's management decided to react with a new mid-term plan, called SAN 2003, with the aim to transition towards a new internal reorganization. Konica began to transfer huge resources to new high growth business fields, far from the consumer photographic domain, with the goal to enhance the organizational core capabilities. This was the starting point of a new Konica Corporations, determined to promote a relevant corporate transformation in the new digital era.

### Core Capabilities' & Organizational Culture's Repertoires

To successfully face this competence enhancing transformation, the company's core capabilities and the organizational beliefs played a crucial role. As mentioned in the introductory paragraphs, Konica Corporation had a long tradition of product innovation, and since the beginning, its technological orientation pushed the organization to expand its knowledge in numerous technical fields and to create a wide number of patents to protect its products in Japan, U.S. and Europe.

Konica Corporation was founded in 1873, in Kojimachi, Tokyo, under the name Konishiya, by Rokusaburo Sugiuro, and its original business was selling cameras and photographic materials imported from Europe and the United States. Soon after it started the production of the box camera, matte paper, lithographic material, and photographic paper, acquiring strong knowledge in manufacturing processes and basic chemical competences. With the development of the first black & white Sakura film, it expanded its capability in silver halide chemistry, precision coating, and advanced chemical control methods. In the years of the first and the second world war, Konishiroku explored other adjacent fields, such as the X-Ray technology and the Optical Technology that respectively gave to the Japanese manufacturer the possibility to develop X-Ray films, its first X-Ray system, and more advanced camera models such as the Pearlette or the SinglePrano.

After the global conflicts, with the launch of its first 35 mm camera called Konica, the Japanese manufacturer started a period of refinement of its core capabilities that culminated in the launch of faster, high-quality films, in black & white and colour models. Looking at the manufacturing camera

business, Konica was the first company to introduce the autofocus and the auto-flash system integrated into the camera body. These characteristics underline good knowledge also in basic electronics and sonar technology.

Until that moment, Konishiroku was mainly a technology-driven company, and one of the most rooted top management's beliefs was the supremacy of technology on market data, to deliver innovative products able to change the life of the society. Furthermore, the art of photography was central to the organizational culture of Konishiroku. In fact, in that period, the company promoted many initiatives to wide-spread and preserve the relevance of photography. For instance, it funded the Konishi School of Photography, today known as the Tokyo Polytechnic University and it created the Pearlette club for users who approached photography for the first time.

Continuing the narration with the evolution of the technical repertoire, until the '60s, Konica remained quite adherent to its industry of origin, deepening its knowledge mainly in the film and in the camera business. Then it started an important exploration of copying and printing technology in the '70s. In specific, in 1971, it created its first photostatic plain paper copier called U-Bix 480 and in 7 years, from this product, it was able to derive the 23% of its total sales. Considering the high profitability of the product, Konica decided to heavily invest in this field, exploring related technologies such as the printing laser technology and the inkjet technology which will become fundamental for its future. Crucial, will be also the partnership with IBM, with which it will develop the fastest copying machine of the market.

In such a period, with the change of the top management, Konica started to include market data in its product development. One of the new top management's beliefs became: customer satisfaction is the first top priority. However, the contribution of technology and science remained predominant.

In the meanwhile, in the 1986 its contact with Omron Tateisi Electronics Company and Citizen Watch Company brought the Japanese manufacturer to explore the field of storage systems, developing a super-high-density 5.25-inch floppy disc with the highest memory capacity of the market. Always in that year, following Fujifilm's strategy, it produced its first digital minilab, but with the extraordinary feature to mount a wash less technology. In the medical segment instead, it developed solutions to digitalize X-ray films and it deepened its knowledge in fast blood diagnosis.

Coming to the last year of the '80s and the '90s, starting from its previous knowledge in the medical segment, Konica experimented acceleration in digital imaging technology. It successfully developed new competences in graphic imaging, digital photography, digital copying, printing, and scanning.

In this final period, from 1980 to 1998, several new managerial beliefs permeated the activity of Konica. The first can be synthesized by the new corporate slogan: “*Touching your Heart*”. With these three simple words, Konica’s management wanted to underline the necessity of more customer-centric business, based on the development of new products able to improve the people life’s quality and the satisfaction of its customers, applying the most advanced technology. A second value that became fundamental for Konica’s was the environmental friendliness. In such a period, Konica introduced a strong environmental policy (1990) to reduce its impact on the planet, putting its effort into the creation of responsible products, as its digital minilab that did not require chemical liquids to print the photos. Another belief, well-cultivated by the management, was the need for international expansion in new emerging markets, such as Russia, Brazil, China, India. In its last 50 years of activity, Konica was able to derive more than 50% of its sales far from its traditional Asian market. Last but not least, the “razor blade” business model, based on consumables rather than the hardware, was another well diffused managerial belief that motivated the expansion of Konica in the copying and printing professional business.

### **Sensing the digital revolution and the new competitive domain**

As previously stated, in the ’90s, digital imaging started to revolutionize Konica’s business, impacting on the margins of its most profitable domain, and creating higher competitions in the new digital photography and the new digital business machines markets. Moreover, the appreciation of the Yen in the late ’90s and a weak demand in the Asian market turned to quickly deteriorate the financial position of the Japanese manufacturer. Konica was aware of the uncertainty coming from the new competitive domain and that its future growth and survival were at risk. As reported by the CEO and President Tomiji Uematsu, in the shareholders’ letter of 1999:

*“Amid these conditions, competition in the market for photographic and information imaging products and services intensified. The convergence of imaging and computer technologies, particularly in digital technologies continued to redefine the markets not only for copiers and other business products but also cameras and other consumer photographic products.”*<sup>16</sup>

Moreover, a few years later, the new President and Ceo Fumio Iwai, in the 2002 and 2003 shareholders’ letter, added: “*While the trend toward digital networking – and digital photography - is progressing even faster than expected, the business environment has become increasingly severe and*

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<sup>16</sup> Source: Tomiji Uematsu Ceo & President; Shareholders’ letter, 1999; p. 2

*companies lacking technological capabilities, cost competitiveness, and the ability to reform their management and business operations, have been forced from the market.”<sup>17</sup>*

Digitalization created a war of price among companies deriving from different business fields, both in the digital camera and in the business machine industry. International expansions and concentrations were two factors of future success necessary to create a sustainable business. The environment was in continuous change with increasing competition. It required always updated technologies and competences, new efficient and specialized distribution channels, and new business models. In front of this unstable and pressing scenario, Konica started to evaluate a deep company transformation based on its current core capabilities, focusing investments in the profitable, but fast-changing, business machine market and delivering R&D resources towards the exploration of new potential profitable domains, far from the declining photo film industry and the overcrowded digital camera business. As a matter of fact, a strong increase in the R&D expenditure was recorded starting from 1998 (+32%), towards these directions, but not anymore toward the analogic photography business, destined to be simply exploited as a cash cow until its end.

In support of what has been exposed, the President & Ceo, Fumio Iwai, respectively in the 2001 and 2002 shareholders' letter stated: *“We anticipate significant growth in the business machines segment, and for the Office Document Company in particular.”* However, *“In an age of swift and dramatic change, Konica remains constant in its willingness to push forward and explore the farthest reaches of technology.”<sup>18</sup>*

And: *“The key to Konica’s future is to dramatically transform the Company’s business structure. Meeting this challenge will require us all to work together with relentless determination.”<sup>19</sup>*

Finally: *“The revolution in imaging technologies [...], is likely to significantly alter all of Konica’s business fields. As these trends unfold, Konica’s vision is to be an “Imaging Solutions Company,” and the Company will focus on this field as a business domain where it will pursue growth by vigorously reforming its businesses in tandem with an emphasis on the digitization of input and output devices.”<sup>20</sup>*

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<sup>17</sup> Source: Fumio Iwai Ceo & President; Shareholders' letter, 2002; p. 4

<sup>18</sup> Source: Fumio Iwai Ceo & President; Shareholders' letter, 2001; p. 5

<sup>19</sup> Source: Fumio Iwai Ceo & President; Shareholders' letter, 2001; p. 2

<sup>20</sup> Source: Fumio Iwai Ceo & President; Shareholders' letter, 2003; p. 4

## Top Management Decisions

Given the difficult future perspective in 2000, Konica’s management, promoted a series of important decisions to start the transformation of the company. In specific, a new aggressive approach in reorganizing not profitable businesses and in investing in future promising domains was undertaken. All these decisions were conveyed into a three-year middle-term plan, called San 2003, focused on lay the foundation for future growth and based on three new managerial values:

*“We believe that SAN 2003—focusing on Speed, Alliance, and Network—is the key to realizing our 21st-century vision of being a company that provides creative imaging solutions to a networked society”<sup>21</sup>*

The core focus of the plan was to create a sustainable business portfolio, able to take advantage of the digitalization trend, reducing the dependence from film-related products. As reported by the Ceo Tomiji Uematsu, in 2000:

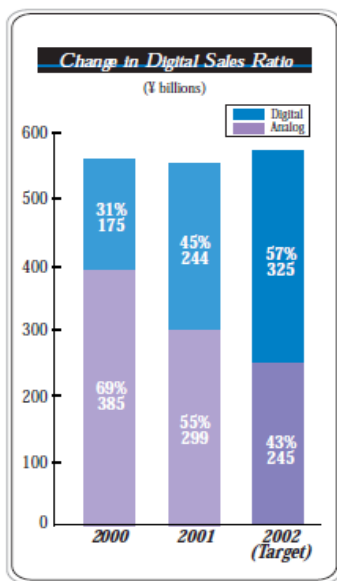


Figure 6.7: Digital VS Analog Sales KPI. Source: Konica annual report, 2001

*“The digitization of images and image processing technologies is the most influential trend in our operating environment, and implementing appropriate responses is the central theme of our business strategies. Digital products now account for approximately 30% of sales, and we want to raise this ratio to 70% by the end of our current management plan.”<sup>22</sup>*

This volition to take advantage of digital imaging started to be reflected in Konica’s sales results, after the introduction of the San plan 2003. In three years, the weight of digital sales on total sales passed from 31% of 2000 to 60% of 2002 (+3% respect the planned result). These first results derived from a change of direction of the businesses in which Konica decided to focus, breaking from its traditional film tradition. Top management strategy was to direct investments in the high-speed copiers market, a business in which Konica had around 10% of the global market share and that was quickly growing thanks to the digitalization trend. However, such a market space was in continuous evolution, due to the continuous introduction of new technologies. For this reason, top management prudently decided to direct resources also to explore completely new businesses based on inkjet printing products,

<sup>21</sup> Source: Tomiji Uematsu Ceo & President; Shareholders’ letter, 2000; p. 3

<sup>22</sup> Source: Tomiji Uematsu Ceo & President; Shareholders’ letter, 2000; p. 3



electronics materials, and optics technology products. Among these new categories of business, in the optic technology domain, one will become particularly important for Konica's future profitability: the TAC film, a key material for realizing the polarizing filters used in liquid crystal displays (LCDs). As stated by the Ceo Tomiji Uematsu:

*"Inkjet printing products, electronics materials, and optics technology products are three business fields in which we plan to invest aggressively and build new business pillars. At the same time, in our existing core businesses, we will promote the transition to products suitable for use in digitally networked environments. Specifically, we intend to raise profitability by increasing sales of consumable input and output materials for digital equipment. We will also utilize our superior photographic and chemical technologies to expand our shares of the markets for copier supplies, inkjet ink and paper, and aspherical plastic lenses."* <sup>23</sup> And also:

*"In line with SAN 2003 policies, we will continue our push into the digital arena and promote proposal-based marketing of products and services that create value for customers. We will also devote greater resources to emerging businesses, such as inkjet printers and triacetylene cellulose (TAC) film for polarizing plates used in LCDs, where our unique technologies position us well for expansion."* <sup>24</sup>

Konica's top management strategy was to exploit its core technologies to enhance its position in the business machine domain and to open new markets. However, they were aware that to realize such a transition, huge investments, and a new organizational structure (more ambidextrous and independent) were required. For such a reason, R&D expenditure started to increase and to be concentrated in these business areas. However, Konica recognized that this effort was not sufficient to be competitive in a market that probably would have been dominated by top-ranking companies. For this reason, leveraging on the Alliance's managerial principle enounced in the plan, in April 2000, Konica formed a joint venture with Minolta Corporation in the office document business, to develop the best-in-field copying and printing machines.

Minolta was a Japanese manufacturer, involved in the camera and the low and medium speed copiers industry, with similar profit respect to Konica. The alliance was undertaken to combine the high-speed copying technology of Konica with the colour image processing technology of Minolta. The joint

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<sup>23</sup> Source: Tomiji Uematsu, Ceo & President; Shareholders' letter, 2000; p. 4

<sup>24</sup> Source: Tomiji Uematsu, Ceo & President; Shareholders' letter, 2000; p. 6

venture had not only the scope to strengthen the technical knowledge of the companies but also to produce cost-efficiency.

Three years later, the partnership revealed to be fruitful for both the companies with the creation of successful innovative products and technologies, such as the polymerization toner. However, the competition in the printing and copying market was tough and it was difficult to realize further development and growth. Thanks to the trustfulness developed, the respective management decided to start a phase of integration and in August 2003, they gave to life to Konica Minolta Holding, an entirely new corporate group. Fumio Iwai commented on the decision in 2003 shareholders' letter in these terms:

*“The new integrated company is seeking to maximize corporate value by adopting portfolio-based strategic decision-making in the fields of image information, optics, and electronic materials (EM) technologies, photo imaging, cameras, medical and graphic imaging, and industrial instruments. We are also actively working to cultivate new business domains through the integration of our core technologies.”*<sup>25</sup>

The objectives of such integration were multiple. First, top management wanted to maximize the synergies among the two companies in the imaging information business, in optical technology, and digital camera manufacturing. The second goal was the maximization of the corporate value promoting an accurate portfolio management, with image and information business at the core of the portfolio (solutions in the networked office environment including MFP multi-function peripheries and LBPs), optics business as future exploration fields, and consumer photo imaging business covering the role of a cash cow. The third one was the creation of new value applying and combining companies' core competences in different fields.

In the meanwhile, the film, and the photo imaging business was in a severe phase of decline and it required a further and quick restructuring to turn into profitability. However, despite the attempts of restructuration, the consumer photo imaging it never became enough profitable and in March 2006, Konica top management decided to accept Sony's request for acquisition. The activities of this segment were discontinued in January 2007.

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<sup>25</sup> Source: Fumio Iwai Ceo & President; Shareholders' letter, 2003; p. 2

## **Technical Legitimacy.**

Konica's top management was aware that the decision to change the business direction of the company, had to be supported by a further expansion in its technical repertoire and managerial believes, in order to adapt to the quick change of context and become competitive in the new selected fields.

At the beginning of the transformation, Konica had an important competitive advantage in fast copying and printing's technology and in Aspherical Plastic Pick-Up Lenses. Such advantages were critical aspects that drove management consensus towards further investments in these areas. Consequently, since the promotion of the San Plan 2003, Konica started to increase its R&D expenditure in the professional business machine and in the optical technology domain to raise its knowledge and core competences over a next level. Anyway, as previously stated, Konica's effort was not enough to create continuous growth. For such a reason, in the attempt to raise the innovativeness and the competitiveness of its products in its most promising and profitable business: the high-speed copiers, it forged the joint venture with Minolta. The reasons for the alliance in the office document printers were purely technical and economical. The two companies had complementary core competences in the same business domain. They created an alliance where both the companies could work together, share their knowledge, and expand their core competences to create innovation.

In specific, as it was mentioned above, in this business Konica core competence resided in the high-speed digital technology of its copiers and also in the knowledge of materials and chemical liquids. Minolta on the other side was specialized in color image processing technology and slow-medium speed printer machines for personal use. Such perfect complementarity in terms of technical knowledge turned to be successful. Both companies were able to improve and develop new successful products. Moreover, the alliance gave the light to a new completely technology in the printing domain: the polymerization toner, which will become the top consumable among the products offered by the future Konica Minolta holding. Such a product delivered higher picture quality and it was less expensive than traditional toners.

What has been presented is confirmed by the Ceo Fumio Iwai, in the shareholder letters of 2003, once the two companies decided to merge: *“In the image information business, the largest business for both Konica and Minolta, Konica has great strength in the development and marketing of high-speed multifunctional peripherals (MFPs), while Minolta has strong developing and marketing ability in medium- to low-speed MFPs and particularly color MFPs and laser printers (LBPs), where it maintains a large share of the market. As an integrated force, the new company will possess an*

*extremely formidable technical and marketing advantage over many of its rivals. In addition, the Company is deriving tremendous synergy by utilizing the advantage of the polymerization toner, another core business. The combined strengths will result in further dramatic improvements in competitiveness, while at the same time greatly increase the impact the Company has on the marketplace and increase sales.”*<sup>26</sup>

Once the merging was completed, the scope of the collaboration between the two companies overcame the boundaries of the information and imaging business, and embraced also the camera, the functional materials, and the optical ones:

*“The new integrated company is seeking to maximize corporate value by adopting portfolio-based strategies in the fields of business technologies, optics, photo imaging, medical and graphic imaging, and sensing. We are also actively working to cultivate new business domains through the integration of our core technologies.”*<sup>27</sup>

Since the beginning of this transformation path, Konica’s top management started a process of fusion and combination of its strong core competencies, such as in silver-halide and electronic photography technologies, with the intent to open new business domains and ensure future growth. Particularly promising was the optical technology field where Konica’s plastic lens technology, combined with Minolta’s glass mould technology granted solid bases to develop future potential breakthroughs.

On this topic, Fumio Iwai affirmed: *“By improving our technologies in optics, precision engineering, materials, and coating—which Konica has cultivated over 130 years and Minolta has accumulated over 75 years—we will work diligently to provide our customers with unique products and services”*<sup>28</sup>

And: *“As the trend toward digital networking gains greater speed, we are seeing tremendous growth in sales volumes of digital products using optical components. Thus, this business is growing in importance. Konica Minolta possesses unique optical technologies such as flat plastic lens technology, where the Company holds the top market share in this business field, and advanced glass mold lens technology”*<sup>29</sup>

This process of combination and improvement of the core technologies was fostered by the centralization of the R&D department to promote better cross-contamination between different

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<sup>26</sup> Fumio Iwai, CEO & President; Shareholders’ letter, 2003; p. 6

<sup>27</sup> Fumio Iwai CEO & President; annual report, 2003; p. 2

<sup>28</sup> Fumio Iwai CEO & President; Shareholders’ letter, 2003; p. 3

<sup>29</sup> Fumio Iwai CEO & President; Shareholders’ letter, 2003; p. 8

business fields and between the R&D of the two previous companies. This period coincides with an important moment of reflection for the company, based on regrouping all its patents and understanding what kind of new applications to give them, to support the realization of new products and services.

In this period of reflection, the most important outcome was Konica's (and then Konica Minolta's) investment in the TAC film market for LCD screens. Such a product opened the doors to a completely new business with great market potential. Once again, the basis for such exploration was technical. Konica, leveraged on its great tradition of film manufacturing, chemical knowledge, optics, precision engineering and coating to deliver such a complex and revolutionary product.

On this topic, Takashi Matsumaru; chief of Optics and EM technologies company stated in 2002: *“These investments will be for the construction of new (TAC film) plants, as we increase and strengthen our production capabilities as well as develop new production technologies and expand our market share. [...] In the future, we will look to integrate our film creation technologies, which are core technologies in the color film business, with our material and coating technologies. [...] In addition, we will improve [...] services as a TAC film vendor.”*<sup>30</sup>

The TAC film is a product made of a triacetyl cellulose, a natural material, and its function is to cover and protect the LCD polarizing plates, adjusting the direction of light. This product was not completely new, in fact, it was part of the colour film production department. Previously, it was applied in liquid crystal display for calculators, but its demand was very low, and its sales were abandoned. With the transformation plan of Konica and the centralization of the R&D initiatives, such a product, and its relative patents were revalued. Starting from the past knowledge, Konica R&D promoted further research to improve the characteristics of this product and to meet the quality, reliability, and resolution requirements for computers, televisions, and mobile phones' LCDs.

On the other side, top management's trustfulness in the business brought to direct huge investments towards the realization of a new dedicated plant on Kobe side, in April 2000, and a further one at a distance of two years, always in the Kobe area, given the increasing demand for TAC films.

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<sup>30</sup> Source: Takashi Matsumaru; chief of Optics and EM technologies; annual report 2002; p. 8

Composition of Liquid Crystal Panel

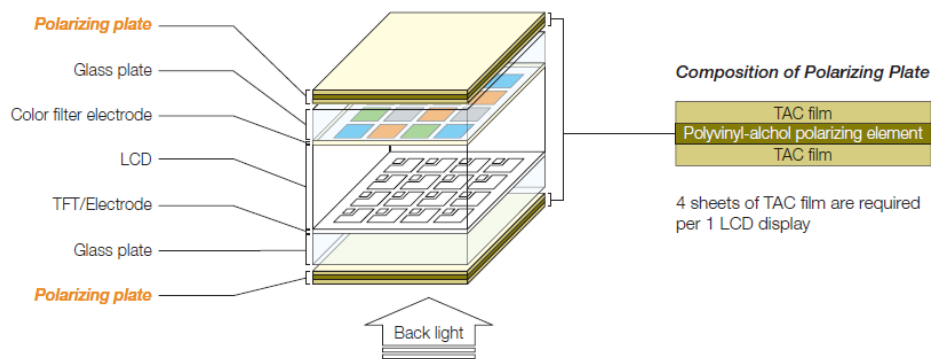


Figure 6.8: Description of the composition of a liquid crystal panel. Source: Konica Minolta annual report 2003

With time, Tac films proved to be a great investment for Konica Minolta. From such a product, the company will generate an important stream of revenues over many years. Moreover, the further technical improvements pushed in the copying and printing business will reveal to be crucial to develop the hoped independence from the film and the camera business.

The net change of direction pursued by the top management can be further demonstrated looking at the numbers of the R&D resources directed towards the business machine and optical technology domains: (together) almost 80% of the total R&D expenditure in the period 2005.

### Organizational Design.

In the period of reference 1999-2007, Konica's transition from the film industry to new sustainable businesses, driven by digital imaging technology, was supported by an equal transformation from the organizational design point of view. In 1999 Konica was divided into two business segments: Photographic Material and Business machines, which included many different products and services. The structure was not well defined, and the new business initiatives were suffocated by the need for exploitation of the traditional fields. R&D initiatives were quite decentralized according to the type of product and technology.

Starting from the 99's, Konica decided to shift towards a more ambidextrous configuration. Organizational transformation can be summarized in three different stages:

The first phase refers to the end of the '90s and the beginning of the new millennium. This is the period in which Konica started to restructure the consumer photo imaging division in Japan and the US. The scope of this reorganization was to raise the profitability of the segment. To do that, In Japan, Konica integrated most of the photofinishing operations into a newly established subsidiary called Konica

Color Imaging Corporation. The decision went in the direction to cut costs, meet the growing demand for digital processing services, and prepare for the future launch of new digital products. Moreover, Konica created Konica Marketing Corporation and Konica Color Photo Equipment Co. to increase the standards of the maintenance service and customer satisfaction. In the meanwhile, in the United States, Konica Photo Service U.S.A., Inc., was renamed into Konica U.S.A., and a new subsidiary, called Konica Photo Imaging, Inc was established to increase the sales and the revenues coming from the digital imaging and the minilab market.

The second stage of structural transformation resulted to be the most significant. Konica in the period 2000-2003 worked to put in place a new structure by spinning off all of its businesses into six independent companies (consumer imaging; medical & graphic; office document; optics and EM technologies; Technology center; Konica shared service) and creating a new Holding in April 2003. The scope of such reorganization was to enhance flexible decision-making processes and cultivate each business with higher independence and transparency.

As the Ceo Fumio Iwai affirmed in the shareholder’s letter of 2002: *“The operating companies will become independent corporations possessing clearly delineated responsibilities and authority and will be better able to execute operations more quickly through the optimal management of each business. Concurrently, Konica will unify the individual business companies under the holding company and will carry out strategic decision-making initiatives based on its business portfolio.”*<sup>31</sup>

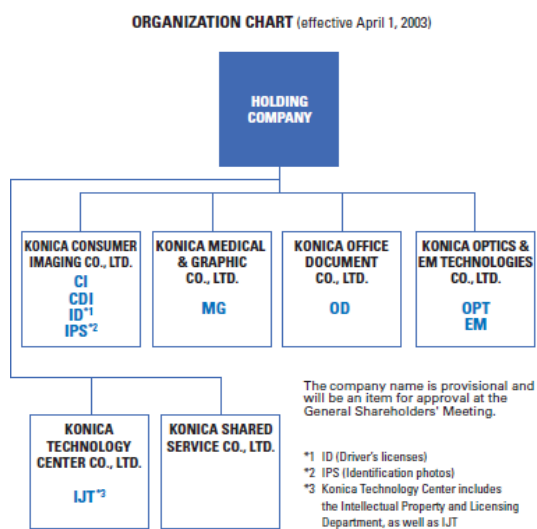


Figure 6.9: Konica new organization design - Ambidexterity setting. Source: Konica Annual report, 2002.

As stated by the president Fumio Iwai, the holding had the scope to allocate resources in each business and coordinate each company, maintaining a good equilibrium among cash cow, growing, and future businesses, in order to maximize the corporate value but also to protect the future survival of Konica. The holding was also responsible for all the HR activities related to the main directors of each spinning out companies. Such a reorganization required the implementation of a new accounting system, that forced every single company to provide a consolidated

<sup>31</sup> Fumio Iwai Ceo & President; Shareholders’ letter, 2002; p. 5

account. Moreover, managers' salary was linked to quantitative targets for both exploitation and exploration's activities.

Finally, the third stage was characterized by the merger between Konica and Minolta, which happened in August 2003. Probably, the reorganization pursued in the second stage was only an anticipatory signal of an imminent integration, because, in parallel, also Minolta had pursued a reformation of its organizational structure. However, the main goals of this phase were the rationalization of the cost to revamp the business structure of the new group and the promotion of synergies among the two companies. The reduction of the procurement cost through an improved purchasing power, the increased efficiency of the marketing departments, and the rationalization of the human resources (reduction of 4,000 employees in the group) were consequences of the integration that brought the new entity to save 50 billion yen in 2 years.

The new organization roughly reflected the organizational structure that Konica put in place during the second stage. A new Holding, called Konica Minolta Inc. led six independent businesses: Konica Minolta Business Technologies focused on the MFPs and LBP's market; Konica Minolta Opto, Inc. centred in optical pickup lenses, micro-cameras, and TAC films; Konica Minolta Camera Inc whose business was mainly related to digital cameras; Konica Photo Imaging Inc. focused on the traditional film business; Konica Minolta Medical and Graphic, Inc.; and Konica Minolta Sensing, Inc., which was based on color, light, and shape measurement solutions. After one year, Konica Minolta Camera Inc. and Konica Minolta Photo Imaging were integrated into a new single company, called Konica Photo Imaging Inc, which were sold to Sony in 2006. Finally, two new supporting functions, common to all the six (then five) companies, were created. In the specific, Konica Minolta Technology Center, Inc. was responsible for the progress and the promotion of both leading-edge and basic technologies in all Konica's domains, as well as for the incubations of new business initiatives. Under this function, all the medium and long-term R&D projects were grouped in an attempt to create innovative synergies. While the activity of Konica Minolta Business Expert, Inc was devoted to the processing of information and all the human resources' services.

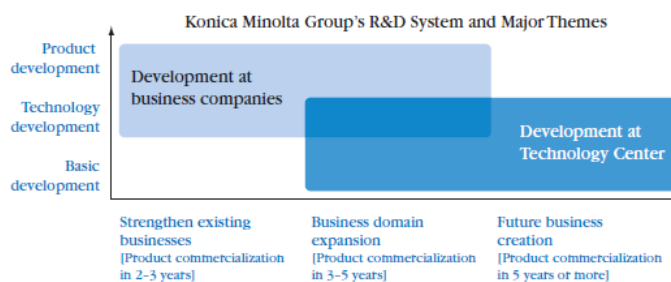


Figure 6.10: Konica Minolta new R&D Strategy. Source: Konica Minolta Annual report, 2007.



## **Social Legitimacy**

The technical and organizational perspectives are only two points of view that explain the successful transformation undertaken by Konica. In parallel, with the consolidation and the expansion of the core competences' repertoires, also many managerial beliefs were subjected to a process of reevaluation, and flexible development.

As we discussed, the strategy of the top management was clear. The business pillar of Konica's survival was identified in the professional copying and printing machines market, while the future business in the optical technology space.

In 1999, the copying and printing market was already a profitable business segment for Konica, but it was not the most profitable one, and the one with the highest operating income, which was the photographic material segment. However, the decision to concentrate the efforts on the development of this secondary business to counterpoise the expected decline in the film business, it was largely accepted by the top management and middle management, since the beginning. One of the reasons was the preservation of a business model based on consumables, such as toners and photographic papers, in line with the traditional photo film business. Besides, other values completely in line with Konica managerial tradition were the preservation of high-quality image definition (turned into high-quality printing definition), the international expansion towards new emerging countries such as India, and the will to develop more environmentally friendly products such as the polymerization toners.

However, in such a critical period of transformation, Konica's top management was also able to flexibly develop a new series of managerial beliefs that fitted with the new, changing market scenario and with the evolution of the professional machines business. Indeed, with San Plan 2003, they fostered three specific new values: Speed, Alliance, and Network. The speed value was pursued to push the company to be more consumer responsive, to increase flexible decision making, and to accelerate the product development process. Alliance was considered a milestone to expand the company's technical knowledge and the innovativeness of its products, rationalizing costs. And finally, Network was related to the idea that society would have been connected with the internet, and for this reason, Konica solutions had to grant open architecture and adaptation towards several input/output formats.

This flexibility in managerial beliefs can be also observed in all the new and old business tackled in which top management tried to pursue different strategies, based on different business models.

*“The first stage for both of these businesses will be to build a structure that responds to our customers’ demands, by integrating the sales networks and completing product lines, providing everything from cameras to color film to photographic paper. In parallel with this, we will also put efforts into offering products and services in the form of a single system, from input to output, and, taking ubiquitous imaging as our watchwords, build new products and **business models** capable of responding to the diverse demands of our customers.”*<sup>32</sup>

The alliance value brought to the promotion of the joint venture with Minolta and then to the consequent merger. Both the companies were Japanese, had similar profit, similar business domains, and the same problem of growth. All these ingredients facilitated integration. Moreover, the merger was on par and both the name of the companies were maintained in the new Konica Minolta Holding Group.

A critical event such as a merger between two historical companies, with important historical heritage, could have generated a cultural clash or a moment of shock. Nevertheless, the new management was careful to manage this delicate moment. It came out with a new vision and a new corporate philosophy based on: “the creation of value”, with the intent to foster the growth of the professional copying and printing market and to encourage the exploration towards new business initiatives, in full respect of the two companies’ traditions. As reported in the 2003 shareholder’s letter:

*“We cite the building of new value as the philosophy behind our integration. Our management vision is to be a revolutionary corporation in the imaging field, capable of stirring great emotion, and a global corporation that leads the way in the marketplace through advanced technology and a high degree of reliability. Our business domain is the imaging input/output field. We will make substantial improvements to the competitiveness of the largest business in that field [...]. At the same time, we will further solidify the position of our optical business by combining the optical technologies that are major strengths of the new company.”*<sup>33</sup>

The statement of the new vision and the new corporate philosophy was clearly connected to the past of the two companies. It put at the center the imaging input/output field, the companies’ technical DNA, and the quality of their products. Moreover, in line with the past of Konica, the TMT of the new organization remarked the concept of the creation of fresh innovative products able to “*stirring great emotion*”, in harmony with the previous Konica’s corporate slogan “*Touching your Heart*”.

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<sup>32</sup> Fumio Iwai CEO & President; Shareholders’ letter, 2003; p. 9

<sup>33</sup> Fumio Iwai CEO & President; interview with the management, 2003; p. 7

Another new fundamental value promoted during the transformation period was the transition from B2C to B2B to support the definitive shift towards the professional copying and printing business machines domain:

*“If we are to truly secure long-term sustainable growth through a greater acceptance of the Konica Minolta brand, I believe we must first abandon preconceived ideas about the brand concept. Prior to management integration, the former Konica was closely associated with film and cameras while the Minolta brand was widely known for cameras. Put another way, both brands penetrated the BtoC market. Our future, however, lies in the Business Technologies and Optics businesses and accordingly we must make the fundamental shift toward a BtoB business model. In recognizing this necessity, it is imperative that we develop the optimal brand strategy.”*<sup>34</sup>

Like the copying and printing machine business, in the new promising market of the TAC film for LCD screens, social legitimacy was at the very beginning triggered by the traditional cultural heritage of Konica's in the photo film business and then consolidated by the development of new managerial values. As explained, the decision to invest in new fields and the centralization of the R&D departments, made Konica revalue the business of the TAC film in which the company invested in the early '80s but with no success. In a moment of transformation, like the one under investigation, the choice of the management to focus on a product, directly connected to the history of Konica, to foster a new future, got immediate acceptance. The revaluation of old patents and traditional core competences furtherly encouraged the investments and pushed Konica to develop new capabilities and managerial belief to sustain the initiative.

TAC Films were in line with the film manufacturing heritage. However, they were not consumables and top management adopted a completely new business model. Also, such a product, being a fundamental component for LCD screens, was supplied to LCD screen manufacturers and not to the final consumer, in line with the top management strategy to transition from B2C to B2B market. This brought to the creation of new ad hoc sales channels.

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<sup>34</sup> Fumio Iwai Ceo & President; interview with the management, 2004; p. 8

## **Organizational Identity realignment and Middle Management's role.**

In this period of transformation, the organizational identity of Konica Minolta was subjected to a relevant process of re-alignment.

Previously, Konica in the 90's promoted a critical change of identity, during the early years of digital imaging, becoming an "Information & Imaging Solution Company". The scope of this transition was to embrace not only film photography, but also other fields related to imaging such as digital photography, the high-speed digital copier market, medical diagnostic devices, and optical technologies. However, the company was mainly oriented towards the B2C market and in line with its corporate slogan vision, expressed by the slogan "*Touching Your Heart*", Konica main goal was to: "*Improve the quality of life for people around the world by drawing on the world's most advanced technologies to supply new kinds of imaging and information services.*"<sup>35</sup>

Starting from this assumption, during the enhancing transition narrated in the case, Konica shifted from being an "Information & Imaging Solution" company, to become first the "Imaging Solution Company", and then the "Essential of Imaging Solution Company" after the integration process. Konica Minolta, with this shift, intended to reaffirm its expansion in new growing fields of input/output digital imaging and its willingness to create a new core business far from the traditional film and analogic camera industry. As the Ceo Fumio Iwai underlined in Konica Minolta Vision and Strategy document, published after the merger of the two companies, the term "Essential" has a double meaning. The first represents the intent to become an essential company for its stakeholders. This meaning well-characterize the shift from B2C to B2B wanted by Konica Minolta. The second meaning reflects the willingness of the top management to focus only on profitable and future profitable business related to imaging, restructuring, or dismissing the not lucrative areas.

Moreover the change of the management philosophy represented by the slogan "*the creation of new value*", together with the new corporate message "*the essential of imaging*", perfectly fitted with the new Konica Minolta vision's statement: "*Become an innovative corporation that continues to create inspiring products and services in the field of imaging and a global corporation that leads the market by advanced technology and reliability.*" Once again, in such a statement it is possible to notice, how the new values were incorporated with the past, for example, underling the technological DNA of the company, the principle of reliability, or the creation of inspiring products or service that refers to the "*Touching Your Heart*" principle.

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<sup>35</sup> Source: Annual report, 1999; p. 9

To successfully support this transition and a new identity realignment, top management paid great attention to implement a suitable organizational culture towards change. Since the promotion of the San Plan, the engagement of the middle and lower management was taken seriously into consideration to gain support towards the transition and to make resound the urgency of change in a period in which Konica's survival was threatened. What has been said is supported by the shareholder's letter of 2001 and of 2002:

*“Meeting this challenge will require us all to work together with relentless determination. The report you are now reading is intended to clarify Konica's business position to [...] everyone involved in Konica's management and business operations”*<sup>36</sup>

*“As I stated previously, until the Konica corporate culture fully develops, the best course of action is for the holding company to maintain constant authority over the new business companies. [...] I would like to show all employees Konica's current situation and future prospects and call on all employees to think deeply about Konica today, and Konica tomorrow.”*<sup>37</sup>

Despite in the years of the merger between Konica and Minolta a direct engagement of the middle management in the process of identity realignment is not officially documented, middle and lower management were always considered critical stakeholders to realize a successful transition by the top managements of both the companies. Employees, at different managerial levels, were exhorted to discuss the future of Konica and to help the company to come out with the definition of common suitable goals. This is well documented in the shareholder's letter of 2004, in which the Ceo Fumio Iwai stated:

*“I believe the key to realizing additional integration benefits is to create a new corporate culture. We conducted a survey among employees in major Group companies. Overall, we found a positive attitude toward management integration exists, however, we remain convinced that further efforts are necessary to generate additional integration benefits. I feel we must break the shackles of the past and introduce new schemes related to human resource management that allow employees to attain their maximum potential. [...] In this context, employees are encouraged to engage in free and vigorous debate in an effort to achieve our common goal. This is the corporate climate we are working to establish.”*<sup>38</sup>

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<sup>36</sup> Fumio Iwai CEO & President; Shareholders' letter, 2001; p. 2

<sup>37</sup> Fumio Iwai Ceo & President; Shareholders' letter, 2002; p. 7

<sup>38</sup> Fumio Iwai Ceo & President; interview with the management, 2004; p. 8

## **A perfect combination of Social and Technical Legitimacy**

Instead of insisting in the photo film industry and trying to become a leader in the consumer digital camera business and in the new camera module for mobile phones, Konica top management decided to not strongly compete in these markets but to start a period of radical strategic transformation, based on the revaluation of the organizational core competences. Such a strategic decision brought the Japanese manufacturer to shift the entire business towards the professional printing and copying machine market (equipment and service business), and to heavily invest in new business domains such as the TAC film market, with the aim to enhance Konica's existing core capabilities.

The revaluation and the enhancement of the company's core competences in fields distant from the traditional one was the glue to establish a technical legitimacy towards the new direction undertaken. However, in parallel, this process of transformation was supported by the establishment of a social legitimacy among different managerial levels, triggered by the reconsideration of traditional corporate beliefs and by the utilization of previous patents that strengthened the continuity with the past.

Despite this link with the past, core competences and corporate beliefs were not rigidly applied, but top management activated both the registers flexibly, allowing further expansion of the technical and cultural repertoires to consistently support the requirements of the new business domains tackled. For instance, from the technical perspective, Konica developed the printing polymerization technology, and from the organizational culture perspective, it promoted the shift from B2C to B2B markets.

A perfect symbiosis of social and technical legitimacy, culminated in the Konica Minolta's identity realignment, brought the Japanese manufacturer to go through the change successfully, becoming independent from its previous main business in few years, and continuing to grow. As a peak of this process, in August 2006, after a long path of transformation, Konica Minolta sold the Photo Imaging division to Sony and started to completely base its sustenance on its new business portfolio.

## **A successful transition**

The outcomes deriving from this process of transformation were successful. Considering the operating profit generated by each segment in 2005, in the chart (6.11), it is possible to understand how the change of direction was clear and well supported. 58% of the operating income was generated by the new core business of copying and printing peripheries and a 17-18% from the optical technology segments, in which we find the sales of the TAC films. Together they accounted for 75% of the overall

operating income of the company. An opposite trend is identified for the Photo Imaging division, which reported important losses.

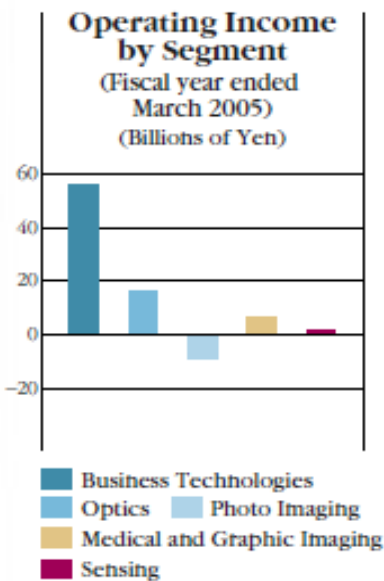


Figure 6.11: Business Portfolio: Revenues by segment, year 2005. Source: Annual Report 2005

The results in the Business technology segment were supported by constant growth in the sales of Konica Minolta's new generation of MFP (Multifunctional peripheries) and LBP (Laser Beam Printers). Moreover, an open architecture system and the proprietary polymerized toner technology, protected by 700 patents, usable for both black & white or colour configurations, and applicable for high, medium and slow speed machines, gave to the new entity a superior competitive advantage in the copying and printing machine market. The synergy with Minolta worked well. Under the new brand Bizhub, Konica Minolta got 15% of the market share in Europe, 19% in the U.S, and around 12% worldwide.

In the optical technology segment, the main driver of growth and sales was the TAC film for liquid crystal display. The increasing demand deriving from the LCD market towards larger and higher definition displays for television supported the expansion of this business, which became fundamental for the profitability of the company. Since the first investments in a dedicated plant in 2000, the sales grew from 0 yen in 1999 to around 30 billion yen in 2005 and around 55 billion yen in 2007. The Global market share for such a product in 2007 was around 20-25%.

2007 was the year that consecrated the success of the transition. In this year Konica Minolta experienced its highest historical result in terms of total revenues and operating income (the line in green in the picture 6.12). Looking at the chart 6.12, it is possible to notice that since its establishment, Konica

Minolta experienced its highest historical result in terms of total revenues and operating income (the line in green in the picture 6.12). Looking at the chart 6.12, it is possible to notice that since its establishment, Konica

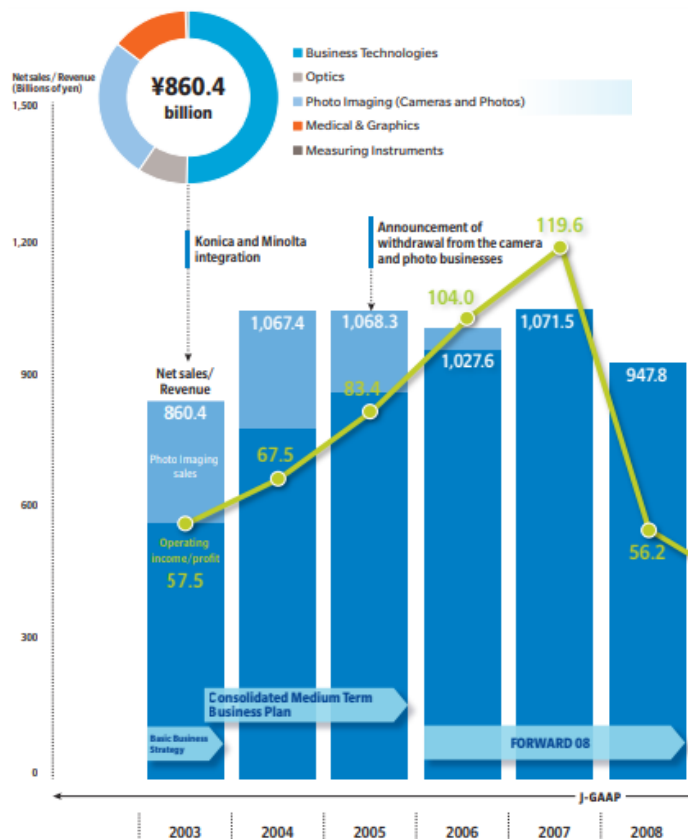


Figure 6.12: Net Sales/ Revenues/ Operating Income period 2003-2008. Source: Konica Minolta annual report, 2018.

Minolta was able to dramatically increase its operating income until the fiscal year 2006-2007, also thanks to a gradual maximization of the synergies between the two previous companies. Moreover, it is important to underline, how the yearly reduction in photo imaging sales (until the decision to sell off the Photo Imaging division in August 2006), was counterbalanced by an important growth in the new business areas undertaken with the strategic competence enhancing transition undertaken. In particular, the chart 6.13, in which the 2007 sales' composition by segment is displayed, gives even more prominence to the business portfolio change promoted, which has become independent from the photo film business, but equally profitable.

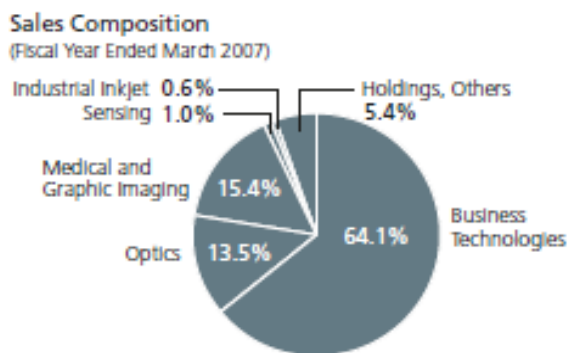


Figure 6.13: Sales composition by segments 2007. Source: Konica Minolta annual report, 2018

Despite these important growing results and the final independence from the film and camera business that for decades had driven the business activity of Konica and Minolta, the new management, in the fiscal year 2006, decided to promote a further plan of growth and expansion called Forward 2008 that unluckily was arrested by the Lehman Brother's crisis in September 2008: a new era of restructuration and reforms was opening for Konica Minolta, once again.



## 6.4 Kodak Case

This fourth and last case is dedicated to Kodak, the founder, and the undiscussed company leader of the photo-film industry during the entire 20<sup>th</sup> century. Thanks to the entrepreneurial spirits and the ingenuity of its founder, George Eastman, who invented the first roller film in 1888, making photography accessible to everyone, this iconic American company became one of the most profitable business initiatives ever known in the U.S. enterprises' history. Its well-known "*Razor Blade*" business model and its famous slogan "*You press the bottom, and We do the rest*", brought Kodak to build a highly profitable business (more than 60% of margin on each film roll sold) and to get 90% of the global market share in 1976. After that moment, the film market was animated by a tough price competition settled by Fujifilm in Japan and worldwide, AGFA in Europe, Konica in Asia and the US, and by other minor private labels spread around the world. Consequently, Kodak's market share shrank to 60% in 1990, and 38% in 2000, undergoing Fujifilm's overtaking a year later. At that time, the film business accounted for 72% of Kodak's total sales and 66% of its operating income. Unlucky, from 2001 the film market started first to slowly decrease, and then suddenly declined at a pace of 20-30% of sales each year. In the meanwhile, the disruptive wave of digital imaging began to strongly manifest, putting more than a question mark on Kodak's survival.

Despite Kodak invented the first known model of digital camera in 1975 and invested huge capitals to develop the technical know-how in digital photography, its static organizational culture, the poor flexibility of its managerial beliefs, and the middle management's ostracism to change made difficult to realize the transition towards this disruptive innovation. Consequently, the digital camera's launch was delayed, and Fujifilm took the leadership of this new competitive domain. However, even if struggling, contrary to popular beliefs, launching a low-end digital camera called EasyShare, then Kodak was able to take the leadership of the U.S. market catching 21,5 % of the market share in 2005 and becoming one of the leaders of the industry. Unfortunately, according to the Harvard Business Review, Kodak was losing 60\$ on each camera sold. This problem was confirmed in 2006 by the new CEO Antonio Pèrez, called to turn Kodak into a high-tech company, who affirmed that digital camera was a "*crappy business*", due to the low margins and the wide and tough competition. Moreover, the booming of the smartphone industry in 2007 downsized even more Kodak's effort in this field, which gradually vanished.

In such a scenario, top management identified in business exploration and diversification the only strategic solutions to guarantee a future to the company. The wide and strong technical register

developed by the American company during more than a century of activity could be applied in many different fields, opening new profitable directions for the company. However, respect its main Japanese rivals, Kodak's top management opted for a less wide and deeper transformation. Kodak started to explore all the photographic input-output related business, investing in copying and printing technologies, scanners, digital minilab, kiosks, editing software, and web site to share, store and print pictures. In deciding to insist on the consumer photographic field even if targeting different sections of the value chain, Kodak's top management took the mortal decision to sell its most profitable segment, the medical division, that in perspective would have been the most promising industry.

Despite the many mistakes of evaluation and comprehension of the digital imaging business domain, Kodak correctly understood that competition was shifting towards the online sharing and storage digital pictures' business. So, in 2001, it bought Ofoto, a picture sharing platform, where users could upload their photos and send them to friends. Kodak had the big chance to turn Ofoto in the current Instagram, but its lack of digital marketing and social media management competences, a lack of perception of the customers' needs evolution in the new competitive domain, the static managerial believes of the company and the middle management's ostracism towards digital businesses brought to the failure of this promising initiative. Top management transformed Ofoto in Kodak Gallery, a platform with the scope to stimulate users to print the pictures they uploaded, rather than fostering the sharing of photos leveraging on a data sale or an advertising business model. Kodak's management completely failed to apply the principles and the business model of the modern social networks, during the same period in which Facebook was becoming an affirmed company. For the irony of fate, in 2012, Kodak Gallery was sold to Shutterfly for less than 25 million \$ dollar, the same month in which Facebook acquired Instagram for 1 billion \$. Kodak missed its last opportunity to change and survive. The same year, Kodak had to file for bankruptcy.

After this dramatic event, always under the guidance of the previous CEO Antonio Pèrez, Kodak experienced a further critical phase of restructuring, cutting cost, selling its famous patents and some business areas to repay the huge, cumulated debts. Today Kodak is a downsized company, totally new, but with a strong brand, prevalently reorganized around the printing machine business and the inkjet technological systems from which in 2019 generated the 77% of its total revenues. Brand, films and imaging accounted for the 16,8%, with sales mainly driven by licenses and what Atkins, the current marketing manager of Kodak have named "*analog renaissance*": a return to something tangible and to the slow culture of film, in an age where social media impose a frenetic pace. Surprisingly are the new generations the main promoters of this revival. The remaining sales have to be attributed to 3D printer's technology, Kodak software and the George Eastman park.

The investigation presented below, will analyse the failure of the competence enhancing transition undertaken by Kodak, in the period 1998-2012, specifically, diving into the wrong management of Ofoto, with the scope to highlight some of the main criticalities faced during this transformation process. But before that, a more detailed contextualization of Kodak corporation's history here is presented.

#### **6.4.1 Case contextualization – Competence Enhancing Transition**

The story of Kodak started at the end of the 19<sup>th</sup> century when George Eastman, a young photography enthusiast, planned his holidays and decided to buy all the bulky and expensive photographic equipment to take memories of his experiences. During this trip, he conceived that actual photography was very labour-intensive and the equipment was difficult to use and transport. Come back from the trip, he started intense research in the photographic field to make the act of taking pictures more accessible to everyone. Early, George Eastman started his first experimentations, and in 1880 he came out with its first creation: dry plates to substitute traditional wet plates for photography development. This was the first important milestone towards the creation of one of the most successful companies in American history. The small business initiative started on the third floor of a building in Rochester, New York, selling this product to professional photographers.

However, the declared goal of George Eastman was *“To make a camera as convenient as a pencil”*, for this reason, he continued his research and experimentations until he came up with a new system to create pictures: *“A thin film of gelatine spread over paper”*<sup>39</sup>. This concept was used by George Eastman to create a roll that contained many sequential exposures that replaced the traditional dry plate technology. From this invention, Kodak started to build its empire.

Immediately, in 1888, Kodak's founder launched on the market the first Kodak's camera, preloaded with a one hundred exposure roll, that for the time was quite expensive: 25\$ (a normal salary was 1.50\$ per day). The camera was small, easy to handle but it required to be returned to Kodak to process the films and replace the roll. Eight years later, George made a new simple version that cost only 5\$, but finally, in 1900 launched Kodak Brownie camera's line, which was sold for just 1\$. The mission was accomplished, photography was accessible for everyone.

Quickly, Kodak's experienced a wide product's acceptance and in 1903 it went public, reporting a net profit of 2,9 million \$. 30 years later, net profit reached 15.9 million \$, as a sign of the great expansion

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<sup>39</sup> Source: Profile of Kodak: From Film to Digital Photography; Michigan Ross School of Business; 2010.

and success the company was having. The strategy at that time was to try to own the entire value chain, and Kodak put all his effort to be self-sufficient and to internally produce its own photographic paper, gelatine, chemicals solutions to avoid problems of short supply. Moreover, by 1950, Kodak knew a further expansion in many lines of business related to film: photographic paper, and chemicals for military, medical devices, industrial applications, fibers, optical goods, vacuum film distillation technology, micro-film equipment, and others.....

The founder was engaged in all the single aspects of the company and it was known for his perfectionism. He chose the iconic yellow and the name Kodak with the intent to build a brand name easy to pronounce, easy to remember, impactful, and distinctive. Kodak became so influential during George Eastman's management, that in the American culture, the “Kodak Moment” became a famous way to identify a specific event that will be handed down to posterity.

In the meanwhile, product innovation continued. In 1935 Kodak commercialized its first color film called Kodachrome, which had a very faithful color reproduction but needed a complex chemical treatment after exposure. Initially, it was applied only for the professional color movie industry. Then in 1965, Kodachrome technology improved, and it was adopted for still cameras and for home video recording, in particular for a new famous product called super 8. Other projects in which Kodak R&D was involved in the '50s regarded films for aerial defence, films for detecting atomic radiation, films for recording, X-Ray systems, new synthetic chemicals to develop photos, and research in the television field. By 1955, Kodak counted more than 1800 scientific publications in these fields, as a proof of its technical orientation.

In 1969, the research in digital imaging brought Kodak to develop the first charge-coupled device (CCD), which became the core component for digital sensors in modern digital cameras. Six years later, Kodak's engineer Steve Sasson, exploiting the CCD technology and Kodak's know-how in optics, electronics, and mechanics, built the first digital camera of the history, with a resolution of 0.01 megapixel. The early investments in digital imaging made Kodak a leader in the field. Soon the company developed the first-megapixel sensor available for sale, but in the '80s the market was not mature yet, and film and electronic companies didn't know how to exploit it. At that time, the market size for this component was only 27,5 million \$, and consequently, Kodak reduced its effort in the business. Nobody knew what would have been the future for this technology, but companies understood that a new management system for picture and photography, in general, was rising, from cameras to scanners, from storage devices to printers, from editing software to easy photo sharing.

Between the '70s and the '80s, Kodak experienced incredible growth, but it remained tightly focused on its traditional business and core competences. Digital imaging was largely put aside. However, from 1983, Kodak understood the importance to find new businesses to grow and to deepen its knowledge in digital imaging, starting from its existing core competences. So, it began an important phase of acquisitions buying IBM's copier services business division, Clinical Diagnostic, a company involved in the medical sector, Mass Memory, a new enterprise selling floppy disk, Sterling Drug, a pharmaceutical company that fitted with Kodak's chemical competencies, and other biomedical and research initiatives. Consequently, in 1988, Kodak's five key business segments became the photographic and consumer products, imaging technology for information management, industrial materials, healthcare, and life science technologies. But still, more than 85% of its revenues derived from the film business, and the mastery of digital imaging related businesses was far. Moreover, in parallel, the price war competition of Fujifilm and new private labels started to relevantly erode Kodak's sales and market share, alarming Kodak's top management for the company's future survival.

In response to this uncertain scenario in which digital imaging was emerging more and more preponderantly, the new CEO Kay Whitmore, promoted strong investments in the consumer digital photography business, launching new digital products. In fact, in 1990 Kodak released a set of software to edit the colour of picture for the publishing and the printing commercial industry and in 1991, it launched in collaboration with Nikon, the first digital camera exploiting Kodak's sensor for 13.000\$. In 1992 instead, it was the moment of the Photo CD system: a compact disk able to store 100 digital pictures, in which the negatives of normal photos taken with regular film cameras were scanned. The quality was very high, around 18 megapixels because of exploiting the film technology. The processing fee to storage the photo was 20\$ but the main expense for the customer was the CD player (500\$) to visualize the pictures stored in the CD. The product revealed to be a failure. Despite the big technical innovation pursued by the company, all these initiatives were not favourably accepted by the market, mainly for Kodak's incapacity to think digitally, and for the will to reconduct everything to its razor blade business model.

In '90s Kodak's business showed the first signs of a worrying sales' shrinking. The competition of Fujifilm became tougher and people in the U.S. were taking fewer photos than before. Kodak started a process of restructuring, cutting costs, and reducing investments in digital imaging. The Top Management's big bet: The Photo CD system, to relaunch films and guarantee the usual high margins also in the new digital field, as previously stated, failed. Whitmore was failed, and George Fisher, the CEO who turned Motorola into a successful high tech-company, was called to replace his role

(1993). His mission was to rationalize the high R&D costs of Kodak (that were double the average R&D expenses in the US industry) and to realize Kodak's digital transformation.

Since the beginning, Fisher forged many alliances with high tech companies such as IBM, HP, Sprint, and Microsoft to develop the next breakthroughs in the digital imaging domain. But once again, according to Fisher view, digital technologies were a means to improve conventional films, and not to replace them. For this reason, he promoted the realization of a new films' plant in China and the creation of the Advanced Photo System (APS) in collaboration with Fujifilm, Nikon, Canon, and Minolta to revitalize the film business (1996). APS was a perfect mixture of analogic and digital imaging technologies. This system allowed to select a wider or narrower angle directly on the camera. Moreover, each roll recorded data about lighting conditions thanks to a magnetic coating, in order to help processors to improve pictures' quality. However, APS cameras did not give the expected financial results and quickly, in 2002 their related sales dropped. In parallel, digital cameras were knowing an incredible expansion in the consumer market, thanks to a fast price reduction and the spreading of Microsoft 95.

Making a little step back, in 1995, 40% of sales and 75% of net profit still derived from the U.S. film segment, and at that period, Kodak did not expect the quick booming of digital cameras and digital photography. Then, when the digital business scenario became clearer, Kodak decided, once again, to heavily invest in that market but with great delay respect to the competitors. However, even if struggling, launching Kodak Easy Share camera, a digital camera thought for the low-end market, it reached 25% of the U.S. market, but no proportional profit was generated from this initiative. Kodak was losing 60\$ for each camera. Soon it started to downsize the production and outsource a great part of the components. In such a period, its famous CCD's technical features were overcome, and Kodak abandoned the production of this critical part, which was the most expensive digital camera's component.

Soon, the American company understood the unprofitability of the digital camera business, but simultaneously, it started to install 10'000 Image Magic Print Station, following the digital mini lab trend launched by Fujifilm, which gave some economic relief to Kodak. The new settled goal, according to Willy Shish, vice president of the company, was to create an entirely new network related to images: *"The Kodak picture network will give consumers a new way to access, share and store their picture, one that is faster, more efficient and permits sharing over distance more easily than the existing method of selecting extra pictures from a double set of prints and mailing them"*<sup>40</sup>

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<sup>40</sup> Source: Interview with the vice president; Profile of Kodak: from Film to Digital Photography; 2010; p. 5

But again, at that time, there was the conviction that film photography would have remained the main source to take pictures because cheaper, and because it provided the highest definition. Unfortunately, the prediction revealed to be once again absolutely wrong.

Despite Kodak's ability to introduce pioneering products in the digital imaging field, Kodak struggled to understand that unlike films, digital devices became quickly obsolescent and these products were subjected to fast commoditization. The traditional 60% of margin was no more possible and for this reason, the only solution to guarantee a solid future was starting a consistent process of explorations in new digital imaging segments, to identify new promising uncontested market spaces. This was the wishes of Fisher and his successors Daniel Carp and Antonio Pèrez, who inherited a not bright situation. However, the business portfolio change was never accomplished in a consistent and visionary way, and the company struggled until its bankruptcy in 2012.

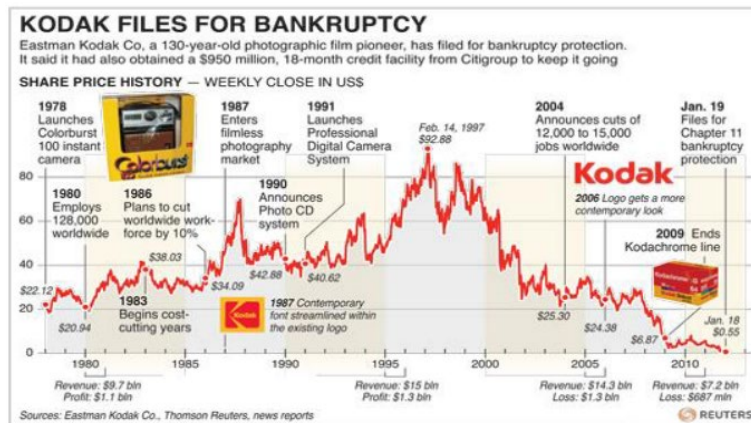


Figure 6.14: Kodak's Stock Value trend, period 1975-2012. Source: *Missed Moments: Kodak's Failure to define the consumer market for digital photography*

The within-case analysis will consider the attempted shift of Kodak towards post-shooting or output digital services, and it will enlighten the criticalities that occurred during its competence enhancing transition, taking as a main source of investigation the wrong management of Ofoto, a platform to share pictures with family members and friends, similar to the modern Instagram. In doing that, the intent is to enlighten the “hasty dreamer” box presented in the cases selection’s matrix paragraph (5.2).

## 6.4.2 Within Case analysis - The competence enhancing Transition

The investigation's period of this case study is 1998-2012. A period of critical change for Kodak, characterized, as previously introduced, by a fast-shrinking of the film business due to the diffusion of digital cameras and then, by the booming of the smartphone market, which revolutionized the way to take, manage, store, and share pictures, thanks to a small camera module integrated on the back of the telephone.

In this scenario, Kodak's struggled to transition towards digital photography and alternative digital businesses. In 1999-2000, the 72% of its revenues and the 66% of its operating income still depended on its traditional film segment and, unfortunately, the fast declining of films sales, at a pace of 20%-30% of revenues, let more than a doubt for the Kodak's future survival.

Given the not bright picture, top management decided to promote a change of direction and to start a period of organizational restructuring and exploration, re-valuating in-house core competences, and investing in new initiatives, with the intent to embrace new digital imaging businesses and transforming Kodak in a tech "*Infomaging*" company.

As it will be presented in the case, Kodak thanks to its strong technical orientation and a new set of acquisitions will be able to enter new markets promoting innovative solutions. Unfortunately, its lack of managerial and technical skills in the new digital context, a conservative organizational culture, the defence of its traditional business model based on consumable, a short term perspective and the middle management's resistance to change will bring the American company towards a widespread failure in all the newly explored areas, comprising its expansion in digital imaging output services. Among them, the online sharing platform, Ofoto, is a clear example of the difficulties that Kodak experienced to make the change of direction happen.

### **Core Capabilities' & Organizational Culture's Repertoires**

To better comprehend the difficulties experienced by Kodak in fostering the change of its traditional business portfolio and corporate identity, it is fundamental to understand and recall its core technical competences and cultural heritage developed and consolidated over more than 120 years of tradition. Originally, in 1880, George Eastman, started his entrepreneurial activity, ideating and patenting the first dry plate for photography and the machine to manufacture it, with the intent to substitute the standard wet-plate technology. To create this product, the founder had to develop deep knowledge in chemicals solutions, control quality processes, and mechanical principles, and thanks to it, he decided



to fund the Eastman Kodak Company, in Rochester. A few years later, following its philosophy of “making photography *“as convenient as a pencil”*, the founder developed the first film roll, and in 1888 launched the first snapshot camera, known under the name of Kodak. This invention required Kodak to deepen its knowledge in silver halide chemistry for black and white films, and its skills in the manufacturing processes for still cameras’ production.

In this stage, another important early company capability, directly transmitted by its founder, was the attention put in the good management of marketing campaigns with the famous slogan: “*You press the button, we do the rest*” and the relationships developed with American large retailers to sell its film rolls, cameras, and photographic papers.

To foster the success of Kodak’s business, George Eastman identified four managerial principles which characterized the development of the company and the future generations of managers: A) the propelling of mass production to achieve economies of scale, B) fostering international expansion to enlarge the customer base, C) spending in advertising to promote products and the brand, D) using a customer-centric approach to make photography easy and accessible. An additional belief was the absolute trustfulness in scientific research as a mean to achieve continuous growth. Even if marketing activities were very important for Kodak, basically, since the beginning it was a technology-driven company. Moreover, great attention was given by George Eastman to the welfare of his employees, treating them always with fairness, self-respect, and creating in Rochester all the services that a worker and his family could ask. However this good treatment was not reflected in the level of engagement of the low and the middle management in taking the decisions for the future of the company, but all, it was under the control of the founder and few executives at the top of the pyramid.

The razor blade business model emerged soon, in 1963, especially with the introduction of Kodachrome, the first color film of the industry. This innovation required further expansion of Kodak’s technical repertoire in precision coating and in the photofinishing process that became the industry’s standard.

With the time, Kodak’s belief that money could come only from consumables gradually strengthened and consolidated, pushing the company to not focus on cameras and its related equipment anymore. In light of this, a Kodak top executive affirmed: “*No matter what they said, they were a film company. Equipment was ok as long as it drove consumables. If a camera helped to sell more film, Kodak would sell it, but there was little concern about what kind of cameras consumers wanted [...]*”<sup>41</sup>

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<sup>41</sup> Source: Kodak (A); Harvard Business Review; Gavetti et al. 2004; p. 2

A later but relevant cultural aspect was the adoption of the MIT' Sloan School of Business to train and complete the education of all Kodak's senior executives. Such homogeneity of instruction brought, according to many scholars, many CEOs and top managers to have the same conservative approach towards innovation, preferring the status quo to the experimentation of new ideas.

Continuing with the expansion of the technical repertoire, Kodak film's business in the '60s was growing quickly, especially thanks to some related explorations in the medical imaging, movie, and graphical art fields. Precisely in this period, Kodak acquired knowledge and competences to develop X-Ray films, its X-Ray proprietary diagnostic system, and motion films. In 1977, instead, it decided to enter in the instant photography market, dominated by Polaroid, selling 16.5 million of instant cameras between 1977 and 1985. However, the company was obliged to exit the market, due to Polaroid's patent infringement trial. In parallel, in 1971, Kodak researchers developed the first CCD sensor of the history for capturing pictures digitally, expanding its technical repertoire in electronics, semiconductors and digital imaging. Four years later, the engineer Steve Sasson, building on this technology, created the first digital camera, exploiting specifically the electronics, optical and mechanical competences of the company, launching Kodak as a forerunner in digital imaging.

In any case, the reaction of Kodak's top management to Sasson's prototype of the digital camera was negative and the following statement passed to the history: *"It was filmless photography, so management's reaction was, 'that's cute — but don't tell anyone about it.'"*<sup>42</sup> From this famous sentence, it is clear, the managerial legacy to the razor blade business model and the fear for the potential decline of the film market. This fear was confirmed by a top executive, remembering the announcement of the Sony Mavica, a filmless digital camera: *"It sent fear through the company- the reaction was- Oh, my goodness, photography is dead"*<sup>43</sup>

For a long time, the undisputed domain of the industry (around 90%-85% of market share in 1976) brought to the development of a radical *"managerial arrogance"*, which obfuscated the decisions taken in the next years in response to the film decline. As a matter of fact, a former Kodak executive stated: *"We were the imaging company of the world. We literally had no competition for so long, management had not become accustomed to it. Historically, if there was a competitor, Kodak would blow them away."*<sup>44</sup>

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<sup>42</sup> Interview to Steve Sasson, Source: New York Times May 2, 2008.

<sup>43</sup> Source: Kodak (A); Harvard Business Review; Gavetti et al. 2004; p. 3

<sup>44</sup> Source: Kodak (A); Harvard Business Review; Gavetti et al. 2004; p.3

Anyway, given the advancements of new competitors and the difficulties to maintain a specific growth rate, Kodak, in the period 1983-1993, started a process of acquisitions and exploration in diverse fields. In this time-lapse, it acquired competences in the copying and printing technologies, in clinical blood diagnostic devices, data storage systems, and pharmaceutical drugs, given the affinity with chemical competences. In fact, the Research Lab director Jack Thomas affirmed, that among the 80'000-chemical solution present in the company, 5 could be the best in class in the pharma industry.

Furthermore, in 1983, under CEO Chandler, Kodak's restarted its exploration in the digital imaging field, and consequently, Kodak deepened its knowledge in semiconductors, optics and computer technologies opening a new research centre in Japan. This decision pushed Kodak to develop its first video system (8mm Kodavision) and expand its knowledge in digital image compression and in film and digital recording technologies.

However, according to John Larish, an ex-Kodak executive: *"Kodak had been actively pursuing research almost from the time that the first digital imagers were developed in Bell Laboratories. But when you looked carefully at the programs that Kodak spoke about, you discover that only one or two people were involved in specific projects, looking at sensors and other elements, but there was no cohesive effort to take advantage of the developing field of electronic photography."*<sup>45</sup>

Moreover, managers did not seem supporting the change and considered replacing Kodak's traditional business difficult. Leo J. Thomas, director of Kodak research lab and vice president, affirmed: *"We're moving into an information-based company [but] it's very hard to find anything [with profit margins] like color photography that is legal"*.<sup>46</sup>

However, in 1986, Kodak realized four centres of excellence to take advantage of digital imaging and expand its technical repertoire, focused on: image acquisition, storage system, software, and printing. Consequently, this strategic decision generated the development and the launch on the market of the first CCD with 1.4 million pixels of resolution, and of 50 new digital products among which printers and copying systems, scanners, projectors, and new imaging-software. The declared goal of the CEO was to transform Kodak in "the world's best in chemical and electronic imaging".

Unfortunately, in that period, the preponderance of the razor blade business model, made Kodak point on the wrong digital projects, such as the Photo CD system (1991), with the intent to revitalize the film business. In fact, for this product, the photos were normally shot with a still camera and a film

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<sup>45</sup> Source: Larish, John. *Out of Focus: The story of how Kodak lost its direction*; p. 51

<sup>46</sup> Source: interview with Kodak vice president; Kodak (A); Harvard Business Review; Gavetti et al. 2004; p. 5

roll. Then the pictures were translated into data, stored in a CD-ROM, and displayed on a screen thanks to Kodak's CD player. In Top Management's view, digital photography had to improve and not replace film technology. But this revealed to be the wrong decision because digital cameras offered more flexibility and because the marketing department targeted the wrong market. In fact, following its cultural heritage, Kodak focused on the consumer segment, while the Photo CD system, was mainly suitable for professionals and B2B business.

However, after the Photo CD failure, John Fisher, the man who turned Motorola in a modern high-tech company, was called to become the new CEO, with the goal to definitely change the company's direction towards digital imaging. The problem, according to Fisher, was a lack of focus and the presence of many uncoordinated R&D activities, in fact, Kodak was pursuing 23 digital scanner projects at the same time. So he separated digital imaging activities from the silver halide photography division, and he created the digital and applied imaging division which leveraged on Kodak's core competences in imaging technology and color science.

Kodak's digital imaging patent's portfolio had great potential. Since his establishment, Fisher showed the willingness to participate in all the "*five links of the imaging chain: image capture, processing, storage, output, and delivery of images*",<sup>47</sup> a strategy that will be denied by Fisher, a few years later. Leveraging on existing capabilities, the CEO tried to give light to all Kodak's buried projects, pushing the introduction of digital print stations, new models of hybrid and digital cameras but without proprietary CCD & CMOS technology (such as the Advantix Preview that was a film camera which allowed to see the picture shoot the and DC40 in 1998, at the 1000\$, that was the first Kodak full digital camera), and thermal printers and paper. Until that moment, so many projects remained unrealized because Kodak's organizational philosophy was to launch on the market only potential breakthrough able to make Kodak's undisputed leader in the new segment. Commercialize the improved version of an existing product was not enough for the management.

But the new vision of Fisher was not properly supported by the entire organization. His initiatives were shared on the top of the organization but clashed against the strong manufacturing culture of the middle management deeply based on the film business and its razor-blade business model. The researcher Gavetti, commenting on Kodak's culture of the period 1993-2003, affirmed: "*The razor-blade culture was so ingrained that even disposable cameras had been considered almost sacrilegious.*"<sup>48</sup>

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<sup>47</sup> Source: Kodak (A); Harvard Business Review; Gavetti et al. 2004; p. 8

<sup>48</sup> Source: Interview with the CEO, Kodak (A); Harvard Business Review; Gavetti et al. 2004; p. 9

In addition, the vice president, John White commented Kodak's closed mentality in these terms: *"As in many large old successful companies, people running it never created a business. They presided over the franchise...That's not a good place to train people to be tough"* <sup>49</sup>

Kodak's organizational culture preferred harmony and keeping the status quo rather than be engaged in frontal discussion among members or in a new business project. When a manager tried to promote innovation, people did not directly express their real thinking, opposing the initiative. But as a result, explorations normally failed or stalled. Fisher, given his previous experience in Motorola, understood the problem and tried to promote more open discussions, but employees highly considered hierarchy and authority. The organization was even compared, by the BusinessWeek magazine 1/30/1995 edition, to a government agency because highly hierarchical, bureaucratic, and arrogant. A place where employees had not to take decisions but follow the rules present in the company's guidebook.

### **Sensing the digital and the smartphone revolution. A new competitive domain**

Despite Fisher's willingness to quickly turn Kodak's business portfolio towards digital business, most of the explorations pursued, under his mandate, between the 1993 and 1998 revealed to be unprofitable. In 1997, 60% of the losses were ascribable to the development and the production of digital cameras, scanners, thermal printers, Photo-CD and related equipment. Fisher tried to transform Kodak into Motorola, pushing the monthly launch of newly updated products on the market, but the digital imaging domain was different, characterized by a tougher competition, that made difficult realizing solid margins and frequent revenues. The digital landscape was overcrowded not only by traditional film manufacturers but also by new entrants coming from the computer-electronics (ex. HP, Casio) and the camera manufacturing (Olympus, Nikon) industry, which created a strong price's war. The digital camera soon became a simple commodity, and therefore, it became clear that films' revenues could not be replaced by this business. For this reason, Fisher announced a change in the strategic guidelines in the period 1997-1998:

*"[O]ur intention is to use whatever technology is available to us to truly help people do more with their pictures. Electronic imaging will not cannibalize film. One of the mistakes we at Kodak have made is that we've tried to do it all. We do not have to pursue all aspects of the digital opportunity and we see our opportunity in the output and service side."* <sup>50</sup>

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<sup>49</sup> Source: Interview with Frank Zaffino. Disruptive technology: How Kodak missed the digital photography revolution; Henry C. Lucas Jr. et al. 2009; p. 54

<sup>50</sup> Source: Interview with the CEO, Kodak (A); Harvard Business Review; Gavetti et al. 2004; p. 9

So, in response to the film's slow decline, Kodak decided to pursue the introduction of 13'000 digital kiosks, following Fujifilm's minilab strategy, with the intent to generate further revenues and to keep alive the razor blade business model.

However, the trends and the competition's rules in the digital domain were radically changing the role, the type and the nature of photography. In 1998 it was assessed that one-twentieth of the overall yearly picture (about 112 billion photos) were taken digitally, four years later, in 2002, this ratio became one-fifth. Fortunately, Kodak, launching on the market a new camera, called EasyShare, which targeted the low-end digital camera's segment, was able to become the top seller in the U.S. in the 2003 and one of the main leaders in Europe, and China. But as anticipated, the business was not profitable, and Kodak was losing 60\$ per camera sold.

In parallel, a new type of photographic device was raising. Phones' manufacturers started to insert a digital camera module within the telephone's architecture changing people's behaviours. In 2003, for the first time, phone's camera overcame the traditional one (25 million units against 20 million), in 2004 it completely outperformed the market of photo-cameras with the sales of 257 million units, and in 2007, the number of installed camera modules reached 1 billion. The affirmation of the digital camera module was sealed by the introduction of the iPhone (January 2007), whose user-friendliness, quality, and pocket-ability, completely revolutionized the way in which people took digital pictures, putting higher pressure on Kodak's business. Moreover, the diffusion of the internet and the rising of social networks made Kodak and the world understand the easiness and the immediacy of sharing pictures in the new digital environment.

However, a lack of vision on the long-term future permeated Kodak's management. As a matter of fact, the successor of Fisher, Dan Carp, despite a further 5% decline in the film's sales in 2003 (still the major source of revenues of the company), a flat net income, the critical statistics of digital pictures against films, and the growing of the camera modules for telephone, in 2005, during a national meeting, affirmed that telephones did not represent a threat for Kodak, due the low quality of the pictures they could grant. But two years later, iPhone boasted a camera of 8 megapixels in its architecture, and in retrospect, the story tells us a different truth today.

On the other side, he correctly predicted "*a fairly long downturn*" for the film business due to the diffusion of digital cameras and he decided to marry the Fisher's final managerial guidelines and vision about Kodak's future business portfolio, targeting only a few specific digital businesses and continuing the film's sales: "*We see a networked world in making, taking and processing pictures. We will stick*

*ourselves in the middle of that world with services that people are willing to pay for, like creating photo albums online, or simply sending photos from A to point B. Or they'll use one of our 13'000 kiosks... We will always sell film, paper and chemicals,... we will let people take pictures and scan them in digital form, and we will make money on the different media (CDs or the Internet, for example) or material for output,--inkjet paper, thermal paper, thermal paper, and the traditional silver halide paper.”*<sup>51</sup>

Unfortunately, the film business, starting from 2003, knew a rapid sales shrinking which culminated in the film plants' closure in 2009. The late entrance in the digital printing domain thanks to a partnership with Lexmark, was not enough profitable to sustain the revenues' decline in the traditional business. The same reasoning is valid for the storage system business, that after the Photo-CD failure was not relevant in Kodak's strategy anymore. Only the digital minilab market domain was producing a frequent and solid stream of revenues due to the sales of consumables, but Kodak, in this segment was not the market leader and did not produce the same Fujifilm's margins. Furthermore, with the launch of Facebook in 2004, pictures printing behaviours of the people was completely changing, starting to prefer photo digital sharing through mails, digital platforms, and the first social media, causing a decline in the utilization of the digital kiosks.

In this new competitive digital scenario, under the new CEO Dan Carp, Kodak correctly predicted, in perfect timing, the customers' necessity to store, edit and share their digital pictures and consequently Kodak decided to invest in photo-editing software technology, in online storage services and digital pictures sharing platform.

For this reason, in 2001 Kodak acquired Ofoto, an online platform, founded in 1999, at Berkeley, California, which enabled users to store pictures and share them with relatives, family members and friends. In 2000, the market of digital services for pictures was completely overcrowded and counted more than one hundred competitors. However, at the end of 2002, only three providers survived: Shutterfly, Fuji, and Ofoto, then renamed into Kodak (EasyShare) Gallery in 2005.

Despite many past mistakes, this time Kodak entered in this new promising important market space, in the right moment, and potentially was in the best conditions to develop the next one-billion-dollar breakthrough, in the social media and sharing pictures field, three years before Facebook and eleven years before Instagram. The destiny of the company was in the top management hands.

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<sup>51</sup> Source: Interview with the CEO, Kodak (A); Harvard Business Review; Gavetti et al. 2004; p. 9

But this new type of business required new competences and managerial values respect to Kodak's traditional segments and manufacturing mentality. The rules of the game were completely different, as long as Kodak was transitioning from film to digital, from products to services.

### **TMT decisions**

In light of this quick changing scenario, as reported by Joh Larish, ex-Kodak executive, in its book *Out of Focus: The story of how Kodak lost its direction* (p.37), "*There was a sense that there was a finite life for film and the idea was to be able to maximize the role*". Moreover, a feeling of threat regarding Kodak's future survival permeated the whole organization, in particular the top management. Kodak needed to take more drastic decisions.

In response, in the last years of his term, Fisher dictated new and more radical lines based on two concepts: "network" and "horizontal company".

With the first principle, Fisher intended to drive the company towards digital solutions that could be connected through the internet and that could give to customers full freedom to print, share, and store pictures when and where they want. The direct consequence of this idea was the installation of digital kiosks around the U.S. The horizontal principle instead, regarded the focus on core activities, outsourcing what was not part of Kodak's core capabilities. This concept is explained by Fisher in these terms: "*Traditionally, our business is chemically based, and we do everything. In the digital world, it is much more important to pick out horizontal layers where you have distinctive capabilities.*"

<sup>52</sup> The direct consequence of this second concept was the outsourcing of the entire EasyShare digital camera, and other digital products.

Dan Carp, in 2000 succeeded to Fisher, and he decided to carry on the same managerial principles of the predecessor. After a period of mismanaged investments in digital cameras focused on improving the resolution of the picture, Kodak's succeeded in commercializing its first low-end digital camera (EasyShare), becoming the U.S. market leader. In 2003 its sales started to explode, but the manufacturing costs exceeded the price, and the digital camera was a business with poor money attached. In response, Carp put in practice the following decisions: launch premium film based products using a more targeted marketing strategy, expand Kodak's digital mini-labs portfolio, increase the presence in new emerging markets (China and India) and most importantly, invest in new business and solutions that can improve digital picture customer experiences. In particular, the

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<sup>52</sup> Source: Interview with the CEO, Kodak (A); Harvard Business Review; Gavetti et al. 2004; p. 9



strategic plan was to use the film business as a cash cow and then, starting from Kodak's core competences, to direct the revenues to open new businesses such as the one treated in this case study: Ofoto.

Determined to make a change, Dan Carp affirmed: "*I wouldn't leave if we had not laid the foundation for the transition.*"<sup>53</sup> however, the fast decline of the film business and the low profitability coming from the digital initiatives brought the top management to replace him, with Antonio Pérez, ex-HP vice president, that became the new Kodak CEO & Chairman respectively in 2003 and 2005.

Antonio Pérez was the second CEO after Fisher that came from outside. He was chosen with the intent to realize the definitive transformation of Kodak into a modern "*Infomaging*" company, encouraging a definitive transition towards digital imaging services. 2005 was an important year because, for the first time, digital photography's income overcame the film business segment and Kodak reached the 24,9% of market share in digital camera sold in the U.S. However, the consumer digital market did not reveal to be enough profitable. The originating operating income was not comparable with the traditional film's margins and soon, between the 2003 and 2008, the income coming from this business segment shrank of the 23% (3,98\$ in 2003 to 3,09\$ billion in 2008), due to the negative effect of the smartphone industry.

Given the rise of this new disruptive competitor, and the irreversible decline of the film the organization was subjected to a big restructuration. At that time, Kodak was divided into three division: The Consumer Digital Imaging, the Healthcare Imaging, and the Film and Photofinishing System.

Due to the bad financial situation, the new CEO decided to sacrifice the centenary Healthcare Imaging business for 2.35 billion \$, because the least promising in his opinion. The choice was arguable because the Healthcare was Kodak's most profitable division in terms of operating income generated (see Table 6.1), and in the meanwhile, US population was aging, baby boomers were retiring, and such a business would have represented a concrete future opportunity. Moreover, Kodak had one of the most innovative computed radiography and long-length imaging system in the industry. Nevertheless, Pérez decided to persist on the consumer digital imaging business, and on the output business related to digital imaging, re-directing the last resources on KodakGallery (Ofoto), editing software technologies, low-cost ink for printers, and new industrial printing solutions, with the intent to diversify the portfolio in the business area of belonging, exploiting Kodak's traditional core

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<sup>53</sup> Source: Interview with the Ceo, Out of Focus: The story of how Kodak lost its direction; p. 95

competences. However, assessing the situation, one famous analyst commented: “*Now Kodak had a two-legged stool*”.<sup>54</sup>

Table 6.1: Kodak's sales by segment, period 2004-2007. Source: *Why Kodak Died and Fujifilm Thrived: A Tale of Two Film Companies*, Oliver Kmia, 2018; *Petapixel*

In millions of USD	2004	2005	2006	2007
<b>Consumer Digital Imaging Sales</b>	2,366	3,215	2,920	4,631
<b>Consumer Digital Imaging Operating Income</b>	-189	-131	1	-92
<b>Healthcare Imaging Sales</b>	2,686	2,655	2,497	Division Sold
<b>Healthcare Imaging Operating income</b>	484	370	278	

### Ofoto's managerial decisions

Both the CEOs, Carp and Pérez, during their term, decided to continue to bet on the Consumer Digital Imaging to shift Kodak's film-based business portfolio towards new digital areas, in particular, towards digital services, but remaining strictly connected to the traditional domain of the company. The two CEOs did not go for a deep diversification in business very far from the ones of reference. Unfortunately, the Consumer Digital Imaging domain was in a phase of uncertainty, and rapid, deep, unpredictable change. People passed from printing pictures, to post them on social media and applications, making digital kiosks quickly obsolete.

As already mentioned, Kodak forecasted in advance the possible change of customer behaviours. Consequently, before the problem occurred, Kodak redirected all the investments towards Ofoto (2001). Ofoto was an online photography service, that allowed users to upload JPEG pictures, store and share them with anyone, for free. Only one year later the acquisition, these online services started to explode, accounting more the 10% of the worldwide stored digital pictures, and underlining a big potential business opportunity for the future. However the competition was tough, but at the end of 2002, only five major service providers emerged, whose business proposal is summarized in table 6.1. Due to the competition and the type of business, these online platforms soon eliminated the service's fees, but nevertheless, analyst forecasted the business to become profitable in few years, due to the lack of retailers' margin.

<sup>54</sup> Source: Interview with an analyst, *Out of Focus: The story of how Kodak lost its direction*; p. 101

In 2005, the name of the platform was changed into Kodak EasyShare Gallery, in order to create a stronger connection with the famous Kodak EasyShare camera, whose best feature was the easiness through which the user could upload on the PC his pictures (Business Wire, 2005). Kodak spent the first seven years to improve the websites and its services, considering technological advancements and industry competition as benchmarks, and keeping the entire platform for free, with extra paid services, such as photo enlargements, photo cards, DVD slideshows, albums, frames, and other photo-related merchandise (see Table 6.2). In 2006, it was elected one of the 100 best products of the year, but the business plan was very far from the number of revenues that Top Management had in mind.

Table 6.2: Online Photography's digital services' business proposition's description. Comparison of Photo-Sharing web sites. Source: Alrashed, A. N. (2015). *Journal of Business Cases and Applications*.

	Kodak Gallery Kodakgallery.com	Shutterfly Shutterfly.com	Snapfish Snapfish.com	Flickr Flickr.com	Photobucket Photobucket.com
<b>Optimal Subscription account</b>	Gallery Premier \$25/year or \$2.50/month  Gallery premier with print Super Saver, \$50/year	No	Video service is subscription, \$25/year, or \$3/month	Pro \$25/year	Pro \$25/year or \$3/month
<b>Requirement to keep account</b>	1 purchase per year for free account	No	1 purchase per year for free account	No	No
<b>Storage</b>	Unlimited	Unlimited	Unlimited	100MB/month free, unlimited with subscription	1GB free 5GB with subscription
<b>Privacy/ Sign in</b>	Optional	No	Required	Optimal	Optimal
<b>Mobile/email upload</b>	Yes/Yes	No/No	Yes/Yes	Yes/Yes	Yes/Yes
<b>Projects (books)</b>	Yes	Yes	Yes	Yes	Yes
<b>High-resolution download</b>	Only with subscriptions	No	25 cents for one, 5 cents for each additional	Yes	Yes
<b>Cost per Print</b>	15 cents	19 cents	12 cents	15 cents	15 cents

In fact, in 2008, under the CEO Pérez, the TMT asked to turn's KodakGalley profitability, given the difficult financial position that Kodak was experiencing. A new manager, Victor Cho, coming from Microsoft and Intuit's experiences, was hired to create a new strategy for Kodak's direct to consumer businesses. Cho had to deal with the business model transformation of the most promising Kodak's initiative, which, however, in that years was experiencing the lowest ROI among Kodak's initiatives. The main problem to face was the huge maintenance costs to keep 60 million users and 5 billion pictures on the web sites, which largely overcame the revenues generated by the printings, the merchandise, the services and products ordered from the platform. Soon Victor's Cho goal became finding a solution to foster customer purchasing behaviour.

To quickly achieve higher revenues generation, the final choice of the manager, influenced by Kodak's management, was to transform the freemium business model into a subscription one. From March 23<sup>rd</sup>, 2009, customers were obliged to make a purchase of 4,99\$ to store up to 2GB of pictures, and a purchase of 19.99\$ for more than 2 GB. In case of missed payment within 60 days, Kodak reserved the right to eliminate all the pictures. Counting 60 million users, if each would have paid 4,99 \$ each year, the potential revenues would have been around 300 million dollars.

The idea was obliging people to print their digital pictures, but the customers' response was extremely negative. Users began to empty the platform and to use other solutions to store, share and edit their pictures. Quickly the active members of the community started to decline.

### **Lack of Technical Legitimacy**

From Fisher onwards, Kodak abandoned the idea of vertical integration and full control over the entire stages of the digital imaging supply chain. Kodak heavily started to rely on outsourcing, reducing the importance of the R&D and pointing on strengthening the brand and its marketing skills. In the period of reference 1998-2012, during the exploration of the Kodak EasyShare Gallery Business, Kodak became more market-oriented than technology-based.

Anyway, Kodak's core capabilities in films and photo-printing were far superior respect to digital imaging services' competences and Kodak's management had to deal with a huge amount of film based technological assets, that were becoming quickly obsolete. Consequently, in all the attempts of digital business's exploration, there was always the try to make the film business participate. Core competencies became core rigidities.

Considering, the acquisition of Ofoto and the consequent exploration in the photo-service and sharing business, Kodak compatible competences were few, despite the synergic opportunity. The company had good knowledge in digital images and in sharing pictures through networks systems thanks to its digital Kiosks, and its digital cameras, but did not have managers and people enough skilled to manage a digital service such as Ofoto. In fact, the acquisition strategy and the following hiring's policy of new managers and employees coming from the digital world were an attempt to acquire the right managerial competences and fill that gap. However, Ofoto required to manage 60 million users and 5 billion pictures, and few members in the top and middle management knew Cloud Computing, Social Network Management and Digital Marketing.

When Pérez, asked to change Kodak Gallery's business model, in order to increase the profitability, Victor Cho assessed many different solutions: charging customers to store photos; selling promotional packages with annual memberships; adding additional or almost mandatory services; creation of a strategic alliance with a company working with cloud storage technology; introducing an ad-based business model; opening the website only to Kodak camera's customers. In retrospect, considering the story of Instagram and other social networks, the right choice was turning the freemium business model into an advertising-based business model also because the main users liked sharing pictures with friends on Kodak Gallery, commenting and spending time on the platform, but for free. Moreover, in parallel at that time (2008), Facebook was becoming viral, and the idea of an adv business model was not particularly new. But nobody in Kodak had good knowledge of digital advertising and digital marketing business. It required a new set of core competences and a new mindset. For this reason, was quite natural for the management to try once again to exploit the Kodak's film-based and printing technology assets, pushing people to print pictures from the web site, setting a mandatory yearly subscription fee.

### **Organizational Design**

From the organizational design perspective, under the last year of Fisher, Kodak's assumed an ambidextrous organization with two distinctive strategies. The exploitation of the film business through the expansion in emerging markets such as China and the exploration of digital photography and new digital service businesses in developed markets. However, despite the change at the vertex, the TMT remained almost the same.

After that, in the fall of 2000, with the advent of the CEO Dan Carp, the film and the digital segments were regrouped together, ending almost a decade of internal strife. Despite the choice, the investments dedicated to digital imaging and digital businesses continued to grow. Then, in early 2003 the organizational structure was redefined into five new segments: digital and film imaging systems, commercial printing, display and components, health imaging, and commercial imaging. Initially, Ofoto was located in the digital and film systems division, in a context in which there was not enough autonomy to grow independently.

In April 2003, with the advent of Pérez, ex Hewlett Packard vice president, Kodak tried to give the definitive tear to accelerate the change of its portfolio towards the digital business. This willingness was reflected in the new composition of the Top Management. Seven on eleven members were replaced with new executives coming from the information technology business, in particular from

Lexmark, Hewlett-Packard, General Electric, and Olympus. Bernard Masson, ex Lexmark executive became the head of the digital and film systems division, and James Langley, manager from HP, was put in charge of the digital printing segment. Moreover, a further organizational restructuring and a refocus was performed. Pérez decided to reconsider once again the ambidextrous configuration, dividing the new digital business initiatives as Ofoto, from the film traditional related businesses, giving more freedom and independence to the formers and trying to recreate a good environment for Kodak's future businesses. Considering this, the company was reorganized into three areas: The Consumer Digital Imaging, the Health Imaging and the Commercial Printing based on Film and Photofinishing systems.

Then, as previously presented, Pérez decided to sold Kodak's centenary Health Imaging business despite was the business area with the highest operating income. The two-remaining business areas were reorganized into three new divisions: The Consumer Digital Imaging Group (CDG); the Film, Photofinishing, and Entertainment Group (FPEG); and the Graphic Communication Group (GCG). The ambidextrous configuration was maintained, keeping separated the Digital Division from the film business. All the three division directly reported to the Top Management which played the role of coordinator. The Kodak EasyShare Gallery (Ofoto) business was positioned in the Consumer Digital Imaging, along with other bets granting large autonomy to grow.

### **Organizational Culture Rigidity – Lack of social legitimacy**

Whether from the organizational design perspective Kodak assumed an appropriate ambidextrous configuration to simultaneously exploit the film business and explore new digital initiatives, from the organizational culture's point of view it remained quite static and incapable to create social legitimacy around Ofoto and other digital initiatives undertaken.

This was a problem deeply rooted in Kodak's centenary tradition in the film business. Since the beginning of the dualism between analogic and digital photography, Kodak's management framed digital imaging not as an opportunity but as a threat, directing most of the resources to improve the quality of films and its related equipment rather than believing in the future of digital photography.

In the '90s, when it was clear that digital was becoming the reference technology, Kodak's management tried, in accordance with its film tradition, to promote digital imaging not as a substitute but as a technology to improve analogic photography. There was a driving willingness to bring always everything back to the film business. The Photo CD and the APS system were a demonstration of this managerial belief which led the company towards these two ruinous failures and other lost bets.

A second crucial rigidity was the managerial absolute confidence in the traditional razor blade business model. This model built the fortune of Kodak but unfortunately, the new market of digital equipment and digital services clearly required a different revenues generation approach. However, mainly due to the ostracism of the middle management, Kodak rather than changing business model and discuss with the middle management other possible revenues' generation methods, it tried to bring all its digital explorations on the field of consumables. The Photo CD project, the digital kiosks business, the investment in inkjet printing technology, and above all, the decision to force Kodak EasyShare Gallery's users to print digital pictures, first increasing digital photo printing services on the platforms and then obliging them to spend an annual fee of 4.99 \$ in a platform's printing service, were clear examples of this out of tune managerial rigidity. Money had to derive from film and papers according to the top management. But Kodak EasyShare Gallery required a new business model, based on advertising rather than on periodical subscription.

The key obstacle was Kodak's incapacity to think digitally and to understand the long-term evolution of its customer' behaviours in the new digital environment. As a matter of fact, the decision to impose an annual purchase of 4.99 \$ and to force people to print pictures highlighted this closed thinking based on Kodak's chemical and manufacturing heritage. People did not want to print pictures anymore, but simply they requested to store their digital photos, share them with friends and socialize.

To overcome this problem and try to turn Kodak in a modern high-tech company, during Fisher's and in particular Pérez management period, Kodak hired also new managers coming from the information technology, the digital imaging and the computer electronics sectors. But despite the change pursued at the top management level, its members clashed against the traditional Kodak's middle managers culture which was pessimistic and not convinced to support Kodak's digital services initiatives.

Finally, another static cultural element that impacted on Kodak's failure in its digital transformation was the spasmodic research of the billion-dollar idea. The research of the product that could have revolutionized the market and launched Kodak, once again, as the undisputed market leader in the Digital Age. As John Larish reports in its book *Out of Focus*: "*The difference between Kodak and Japanese philosophies are comparable to baseball with the Japanese batting a lot more singles and Kodak only aiming for and wanting a home run each time they were at-bat.*"<sup>55</sup>

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<sup>55</sup> Source: *Out of Focus: The story of how Kodak lost its direction*; p. 41

All these cultural rigidities heavily contributed to not correctly support Kodak EasyShare Gallery and the other promising digital bets. Kodak was prisoner of its closed culture and a substantial lack of social legitimacy and dissent permeated most of all Kodak's digital initiatives explorations.

### **Organizational Identity Stillness and Middle Management Resistance.**

For almost one century, Kodak remained the undisputed leader of the photo film industry, without facing the threat of a real competitor for many years. Over time, it developed specific core competences and a robust, deeply ingrained organizational culture mainly devoted to the exploitation of its traditional film business, with the intent to preserve its profitable franchising rather than try to diversify and innovate for the future. However, in the moment of decline of its market share and its traditional business, due to the increase of competition and the introduction of digital photography, its points of strength, soon became its weaknesses, crystallizing its capabilities to change.

In the '80s and in the early '90s, its chemical DNA made underestimate the ongoing digital revolution, and its long leadership brought the generation of a certain managerial arrogance which led Kodak to not consider the evolution of its customer needs, but to merely rely on its brand and marketing capabilities. Fujifilm CEO, Shigetaka Komori, confirmed this interpretation in its personal biography, stating: *"It was the premier company for so long. This I believe, made it slow to adapt. From the outside, it appeared that Kodak deep down just really didn't want to"*.

However, after the first moment of disorientation, Kodak's management decided it was arrived the moment to change and explore digital technology and new businesses, applying differently its core competencies. Limiting our analysis to the period of reference (1998-2012), Kodak tried to realize the transition from its traditional film-based business to a new digital-based portfolio, hiring from outside, Fisher, the ex-Motorola's CEO. Fisher's tried to transform Kodak into a modern high-tech company based on digital imaging and information technology, capable of monthly launch updated devices mounting the last technology.

His contribution was important and gave a partial shock to the organization, but without transforming Kodak chemical manufacturing-based identity. An industry executive commented: *"Fisher has been able to change the culture at the very top. But he hasn't been able to change the huge mass of middle managers, and they just don't understand this [digital] world"*.<sup>56</sup>

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<sup>56</sup> Source: interview with an executive; Disruptive technology: How Kodak missed the digital photography revolution; Henry C. Lucas et al. 2009; p. 6



The main problem resided in the resistance of the middle management towards digital photography. They were strongly devoted to the film business but lacked the necessary global vision to see the necessity for a change. An exemplary case of what just affirmed was the comment, released by the general manager for Kodak's Digital Cinema, in 2000: "*Nothing captures color and the nuance of imagination better than film; there is no other medium that, in the hands of a talented cinematographer, offers a greater range of story-telling possibilities*"<sup>57</sup> To complete the picture, a closed, rigid, bureaucratic culture where "*everybody looked to the guy above him for what need to be done*"<sup>58</sup> completely prevented middle management to filter ideas coming from the market and to pass some of them to the top management's assessment. In Kodak, the process was substantially the reverse. Top management proposed explorations into new businesses that often did not get the consensus of middle management, which however did not directly oppose, but indirectly made fail the initiatives.

This situation created an irreversible stall and an inequality of purpose between the TMT and the middle management. After that, with the advent of Dan Carp (2000-2005), who insisted on the same direction traced by Fisher, Kodak got the first fruits from the change, was able to unlock the consumer digital camera market and became the market leader in the U.S. However, the greatest part of Kodak's sales and operating income still derived from its traditional business because the consumer digital camera domain was not enough profitable. Nevertheless, Dan Carp increased the investments in digital imaging and tried to make the change of identity true, promoting Kodak as a modern digital information-based company. However, also under Carp's management, the company struggled to overcome its classification of "film company" and the same tensions with the middle management were registered.

The story repeated with Pérez, who since the beginning promoted the idea to transform Kodak into an "*Infomaging*" company. But the message resounded even more confused among middle managers who welcomed with scepticism the arrival of Pérez. Even in this case, the identity transition failed. However, the contrasts with the middle management reduced, given the critical financial situation and the hiring policy of new managers coming from the information imaging sector.

Despite more than 14 years of attempts, Kodak was never able to take the definitive step to become an Information & Imaging company, migrating from its chemical and film manufacturer DNA. Kodak's centenary tradition in the film domain, a lack of expertise in digital services, and the cognitive

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<sup>57</sup> Source: interview with a general manager; Out of Focus: The story of how Kodak lost its direction; Larish, John; p.94

<sup>58</sup> Source: interview with an executive; Disruptive technology: How Kodak missed the digital photography revolution; Henry C. Lucas et al. 2009

resistance put in place by the middle management, always neutralized the accomplishment of the identity realignment. In light of what has been said, in 2009, many years after the end of his term, Fisher, the ex-CEO confessed: *“I think that the fear drove paralysis that manifested itself as time went on, to rigidity with respect to changing our strategy and I didn’t see that at the start...we really had to work very aggressively to get middle management first of all understanding what we were trying to do and believe that this was a story of opportunity, that we were in the picture business, that digital was just a technology just like film was, and that picture business opportunity was gigantic, and there was a future for them...Their [middle management] arguments would be all over the map:...Kodak can’t succeed in this market. We’ve tried some consumer products before and failed miserably. There is no money in this business; it’s all low margin... There is a new set of competitors...we don’t know anything about them.”*<sup>59</sup>

The real problem was Kodak’s incapacity to think digital as a whole organization. In Fujifilm and Konica, top managers, in the process of transformation, promoted the middle management engagement’s in the decisions and in the organizational identity realignment processes, making emotionally resound the new direction as necessary and in line with the company cultural and technical heritage, on the other hand in Kodak all the decisions were always taken by the Top Management. There was no filter between TMT and middle managers. The organizational structure was highly hierarchical, and the CEOs and their collaborators never promoted a moment of open dialogue, making middle managers directly participate in the change. Even if, opposite to Polaroid’s case, in Kodak, TMT was able to partially overcome the main static cultural believes and to develop a flexible cognition towards digital, they were not able to emotionally communicate the new message to the organizational levels below, leading to an irremediable stall. Senior management was never able to change middle management mindset, also because middle managers were never involved in the decisions about the strategic change of direction.

The only element of continuity that emotionally resounded during the attempted period of change, was the stubborn preservation of the “razor blade business model”. This managerial belief, deeply rooted in Kodak’s cultural heritage, became a managerial mantra among executives and middle managers, that completely blinded Kodak’s possibility to nurture a successful change.

This is clear, in particular considering Kodak EasyShare Gallery, which was turned from being a freemium picture sharing platform, into a subscription model online service platform that pushed

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<sup>59</sup> Source: Interview with an ex CEO; Out of Focus: The story of how Kodak lost its direction; p. 53

people printing digital photos. The strong manufacturing, film-based imprint remained predominant even in Kodak's final years, despite many attempts to change it and a brand dilution in the final stage.

Who knows what would have happened if Kodak had been able to transition, as a whole organization from being a chemical company to an imaging company or a social network company? Maybe Instagram, today would be called Kodak Gallery.

### **Lack of Technical and Social legitimacy led to an incomplete identity realignment**

Even if Kodak was aware where the wind of digital photography and digital imaging was blowing, top management decided to not face a wide, deep and radical transformation of the company's business portfolio but decided to diversify in Kodak's traditional (but less profitable) competitive domain, heavily investing in different stages of the information and digital imaging value chain. Such a strategic decision brought the American company to divest its most diverse lines of business such as the pharmaceutical and the healthcare ones, in order to raise the necessary resources to focus on digital storing and sharing pictures services, software for post-editing, minilabs and cheap inkjet technology, with the goal to definitively realize an independent portfolio from films and become a modern "Infomaging" company.

Even if, during the period of reference of the case, Kodak was able to recognize and anticipate the customers' changing needs in the new digital environment, what missed was a long-term vision about digital services and people changing behaviours. Kodak was only partially capable to expand its competences towards the correct direction. The problem was not inventing products or services but developing new managerial competences and the right expertise for being competitive in the new digital service field. Its previous competences became core rigidities, hindering the potential of the new skills, developed with difficulty. Kodak EasyShare Gallery, for instance, was an online photo sharing business that required digital marketing, social media marketing, cloud computing competences: skills never possessed by Kodak top and middle management. Consequently, the will to exploit Kodak's competences and assets in photo printing, turned the business towards the analogic side, ruining the good part of the job done, once again.

Moreover, a static organizational culture and a rigid application of some ingrained past managerial believes, did not realize the necessary organizational support around the new business initiatives and the new business domain. For example, considering Kodak Gallery, the change of the freemium business model into a subscription one, stimulating customer printing behaviours, reflected the will to preserve, once again the traditional business model based on consumables. In addition, an absent

engagement of the middle management in the identity realignment and in the decision-making process generated a complete lack of social support, which stimulated middle management resistance to change, nevertheless the quite good cognitive flexibility that distinguished Kodak's TMT during the period of reference under investigation.

Summarizing, a substantial lack of technical legitimacy, not compensated by a good degree of social legitimacy around Ofoto and the new digital businesses explored, did not allow the American company to go through the change successfully and to realign its past chemical film-based identity into a modern "Infomaging" one. Despite its brand's worldwide recognition and its past emotional connection with the public, in less than 2 decades, Kodak's empire disappeared.

### **Failing the transition:**

As narrated during the reconstruction of the case, Kodak encountered cultural and technical difficulties to adapt to the business changing conditions. In the period 1998-2012 taken in analysis, the American company came from a period in which it had struggled to recognize the digital threat and the imminent decline of the film business. At that time, a change of direction was required. Kodak's management, starting from Kodak core capabilities, opted to become an "*infomaging company*" with the aim to invest in the segment of digital imaging output services, which consisted in storage, sharing, printing digital pictures. The strategy was to undertake a diversification plan, but near to Kodak's business area of reference. Unfortunately, the new direction did not take off, even if before going in bankruptcy, Kodak had the possibility to turn its company in one of the first and most successful social media company of the time, anticipating the advent of Instagram.

Retracing Kodak business's decline in numbers, in 1987, in the U.S. market, people bought 710 million rolls of films. In 2006 the number decreased to 204 million. As a consequence, Kodak dismissed the production of 35mm film camera in 2004; the Super 8 in 2007, and in 2009, it definitely closed the Kodachrome film production, ending the business. In 2000 Kodak was able to maintain the sales' level of the '90s (around 14 billion \$), and it produced 1.4 billion \$ of profit, which became 800 million \$ in 2002 and then significantly dropped in 2006. From the stock exchange perspective, Kodak's share was present in the Dow Jones since 1930, but given the critical situation, in 2004 it was for the first time replaced by other titles. In 2006 its share value was 23.62\$ but after only two years, in 2008, it touched 6.08\$.

In this final period, the financial position of Kodak was problematic. Proceeding, as displayed in table 6.2, Kodak’s economic situation in the period 2008-2009 became unsustainable. Sales were going down quickly, and almost all divisions generated a negative profit in 2009 (Table 6.3).

Table 6.3: Kodak's business portfolio: Sales & Profit situation by segments, period 2008-2009. Kodak 10-Q October 2009. Source: Profile of Kodak: From Film to Digital Photography; 2010; Michigan Ross School of Business – (Table adjusted)

	First 9 months of 2009			First 9 months of 2008			% change in net sales	\$ change in segment profit (loss)
	Net Sales	Profit (loss) from segment	Segment asset	Net Sales	Profit (loss) from segment	Segment assets		
<b>CDG</b>	1,407	(345)	1,151	2,130	(136)	1,647	-34%	(209)
<b>FPEG</b>	1668	106	2,125	2,335	157	2,563	-29%	(51)
<b>GCG</b>	1,947	(78)	1,780	2,513	34	2,190	-23%	(112)
<b>Other</b>	2	(10)	5	5	(13)	8	-60%	3
<b>Consolidated</b>	5,024	(327)	5,061	6,983	42	6,408	-28%	(369)

The mistake done in the diversification strategy pursued by the TMT was evident, but Kodak had in its portfolio the business idea that could have made its difficult situation turn. Since 2001, Kodak invested in the development of Ofoto (named Kodak EasyShare Gallery). Fortunately, in 2005 the number of people who were storing pictures on-line was increasing. In 2008 the customer base in photo-services was expected to grow of the 50%, and the photo-sharing and storage industry was valued over 5,5 billion \$. In 2009 Flickr, an online web site counted 4 billion pictures saved, while in early 2010, over 2,5 billion pictures were posted on Facebook monthly.

Kodak gallery represented a big opportunity of redemption but, as we described, even in this case, Kodak failed to build a profitable, sustainable business, missing the opportunity to become the leading company in the sharing picture platform business. Probably, Kodak did not ask the right question: *today, in what business am I competing?* But tried to understand how to generate immediately more revenues through the platform, given also the bad financial situation in which it was. Kodak did not realize that was competing in the photo-sharing, social media business rather than in the storing and printing one. It approached the business from the investor perspective rather than the customer one. Its chemical-film manufacturer DNA hindered the transition once again.

Not having profitable businesses, in 2011 Kodak’s financial position deteriorated even more. It generated only 34 million of operating income, while the digital camera division lost 349 million \$. As a consequence, Kodak on January 19, 2012, was declared in bankruptcy, and as a part of the return plan, it sold Kodak EasyShare Gallery to Shutterfly for around 25 million \$ on April 2012, the same month in which Facebook acquired Instagram for 1 billion \$.

From being one of the most powerful company in the American Industry, Eastman Kodak, in less than 15 years, quickly fell into decline. In this period, Kodak had the opportunity to prepare for the disruptive wave originated by digital imaging, but did little to get ready and took many wrong decisions. Unfortunately, it invested too early and then late in the digital camera and in proprietary CCD sensors, and when it understood the unprofitability of digital photography, it decided for a narrow diversification strategy, rather than a wide-ranging one, dismissing the pharmaceutical and the healthcare imaging division. In addition, the wrong management of Kodak Easy Share Gallery hindered its last opportunity of redemption. Regrettably, Kodak stumbled in the errors that its founder, with entrepreneurial foresight, avoided twice, when he shifted the business from dry plates to film rolls, and when he decided to early invest in color film, even if black & white ones had a superior resolution.

Eastman Kodak, the founder, passed away committing suicide on March 14, 1932, when he discovered to have an incurable disease. Before dying, he left a message stating: "*My work is done*". But sadly, at Kodak, during its last 15 years of operations before being declared in bankruptcy, the work was not properly done.

## 6.5 Cross Case Analysis

The narrative presented in the within-case analysis, from section 6.1 to section 6.4, deeply investigated two successful and two unsuccessful cases of incumbents' organizational identity change, in the occurrence of a wave of disruptive innovation (or non-incremental innovation), which shocked the competitiveness and the profitability of the traditional photo-film industry business domain.

In specific, as explained in the previous paragraphs, the research counterposes the stories of two Japanese companies (Fujifilm and Konica) against two American companies (Polaroid and Kodak), leaders in the photo film industry, which faced two different kinds of transitions (competence enhancing vs competence destroying) in response to the emerging of digital photography and the smartphone revolution, achieving opposite results. In detail, the narratives show and motivate the success of the two selected Japanese firms over the two American ones, suggesting some of the causes that made the identity realignment process and the business portfolio change fail in Kodak and Polaroid.

To facilitate the cross-case analysis, the content of the four cases presented has been reorganized in a succession of tables, with the scope to underline and compare six relevant aspects, previously discussed in the literature review. These tables directly reflect the subdivision into paragraphs presented in the within-case analysis (paragraphs 6.1.2; 6.2.2; 6.3.2; 6.4.2). Proceeding in order:

In table 6.3, a synthesis of the company profile is reported. Here the period of reference of the cases and a brief description of the disruptive events faced by the companies under study are presented. Moreover, an accurate description of the Core Competences' and the Organizational Culture temporal evolution are displayed.

Secondly, in table 6.4, the top management's and the middle management's roles in the process of identity re-alignments are presented. In specific, in the table, evidence was given to the identification of the most relevant top managers involved in the change, the type of transition undertaken (competence enhancing vs competence destroying), the traditional competitive domain of the organization respect to the new competitive domain selected to continue to grow, and finally the level and type of engagement of middle management in the identity change process.

Table 6.5 instead, is dedicated to the concept of Framing. It summarizes the Cognitive Framing applied by the top managers to contextualize, comprehend and make sense of the decided identity's transition to face, and the Emotional Framing put in place to communicate the change to the lower managerial

levels, making the transition re-sound as necessary, appealing to the cultural principles of the organization and the feelings of its members. Finally, the consequences of the combination of the two kinds of framing are briefly summarized.

Continuing, table 6.6 summarizes the concepts of Social and Technical Legitimacy. The two motivational forces are the key drivers that respectively connect the Ideological and the Utilitarian identity facets with the organizational culture and the company's core capabilities. In detail, the table synthesizes if, and how, the company leaders created around the new undertaken direction the right technical and cultural affinity, between the past and the future of the company.

Table 6.7 is particularly meaningful because it summarizes the Organizational Identity Re-Alignment process and the effects, or the consequences generated by the process of change undertaken. Proceeding in order, first, the activation of the organizational identity facets (Utilitarian and Ideological) is presented, underlining if, and how they have been correctly contemplated by the top management. Then the table shows the organizational identity pre and post-transition, and finally, a quick synthesis of the results obtained during the process of change is displayed, mentioning if the transition was successful or not.

Finally, Table 6.8 presents the organizational structures put in place by the four companies object of analysis, before and after the decision to change the direction of the business portfolio. In detail, the table shows the structural arrangement implemented by the four companies to simultaneously face the exploration of new businesses initiatives, and the exploitation of the traditional corporate domain.

All the elements considered and reported in the tables have been deeply remarked in the literature review presented in Chapter II of this document. From the careful comparison and investigations of these concepts across the four cases presented in the within-case analysis, it has been possible to generalize and consolidate the data obtained, outlining an explanatory framework in response to the two research questions settled at the beginning of the investigation (Chapter 5), that for convenience are reported below:

- *When disruptive innovations occur, how can incumbents and their leaders promote new organizational identities that effectively accommodate a competence enhancing or a competence destroying transition?*
- *How can they take advantage of their history even as they move to different futures?*



The next two paragraphs will be respectively dedicated to the presentation of the framework and to its application on the four case studies presented, with the intent to show its validity, remarking the similarities and the differences among successful and unsuccessful organizational identity' transitions.

Table 6.4: Cases' Exhibit of synthesis 1 - Company Profile: Disruptive Events faced, Core Competences' and Organizational Culture's Evolution

Company Profile: Disruptive Events faced, Core Competences' and Organizational Culture's Evolution				
	<b>Fujifilm</b>	<b>Polaroid</b>	<b>Konica</b>	<b>Kodak</b>
<i>Period of Reference</i>	(1977-2002)	(1980-2001)	(1998-2007)	(1998-2012)
<i>Disruptive Event</i>	From analogic to Digital Photography	From analogic to Digital Photography	Digital photography & the raising of the Smartphone Industry	Digital photography & the raising of the Smartphone Industry
<i>Core Competences</i>	<p>(1934-1976) Basic chemical competences; X-Ray technology; precision coating; knowledge in functional polymer; nano-dispersion; functional molecules knowledge; manipulation of the molecules' oxidation; and chemical quality control processes;</p> <p>(1976-1988) X-ray system digital technology; printing through silver halide plates; inkjet technology; optical lens; computer memory; optical lens; digital cameras technology</p> <p>(1988-2002) Strengthen digital solutions, deepen semiconductor technology (CCD), Improve semiconductors' manufacturing capabilities</p>	<p>(1937-1980) Knowledge in instant photography which required competences in silver halide chemistry, optics, and electronics. Knowledge in Sonar technology. In house manufacturing skills in precision camera assembly and thin-film coating. Innovative use of mass-market retailers for its products. The main usage of a "razor-blade" business model.</p> <p>(1980-1998) Strengthening of photo film-related technology. Polaroid image sensor technology became stronger than competitors. Good knowledge in digital imaging for medical systems and X-Ray technology.</p> <p>(1998-2001); Strengthening in digital imaging technologies strongly diminished. New strong marketing competences. Rapid incremental product development.</p>	<p>(1873-1945) Manufacturing capabilities in box camera, matte paper, lithographic material, photographic paper; optical technology; basic chemical competences; silver halide chemistry; still manipulation; X-Ray Technology; precision coating;</p> <p>(1945-1980) Advanced chemical control processes; autofocus technology; auto flesh technology; basic knowledge in copying &amp; printing technology;</p> <p>(1980-1998) laser technology; high-speed copying technology; knowledge in floppy storage systems; blood analysis technology; X-ray images digitalization, digital imaging; inkjet technology; automation, electronic photography; graphic imaging, and medical diagnostics.</p> <p>(1998-2007) Advanced digital imaging; Functional materials; Tac Films for LCD; plastic pick-up lenses; polymerization toner; nanofabrication</p>	<p>(1880-1960) Dry plate tech.; control quality processes; silver halide chemistry for black &amp; white films; steel camera manufacturing; marketing skills; relationship with retailers</p> <p>(1960-1983) Color films; precision coating; photofinishing process; medical imaging, film for movies and graphic arts; X-ray tech.; motion film; instant photography; pioneering digital imaging</p> <p>(1983-1993) Laser and inkjet tech.; scanner tech; medical diagnostic; exploring pharma-drugs; digital image acquisition; digital storage system; digital software &amp; printing; digital video recording tech;</p> <p>(1993-1998) Color science; digital imaging; OLED technology; thermal dye transfer technology; image software solutions.</p> <p>(1998-2012) Digital camera manufacturing; Sharing digital images across a physical and digital network; software for photo editing; cheap inkjet technology; data storage</p>
<i>Organizational Culture</i>	<p>(1976-2008) 1) In Fujifilm, photography was considered an indispensable part of human culture.</p> <p>2) Fujifilm organizational culture, pre-digitalization era, was oriented towards challenging Kodak's leadership.</p> <p>3) Develop high-quality proprietary technology is fundamental for Fujifilm. Its '80s slogan is a proof: "Challenging the World with our Technological Prowess".</p> <p>(1985-2002) 1) Protect photography' culture over time. The difference between Analogic and Digital Picture is no relevant. The most crucial concept is imaging.</p> <p>2) Digital Camera Business is founded on a different business model: make margin on hardware and not on software (Consumables)</p> <p>3) Development of higher trust in marketing data for product development</p>	<p>(1937-1980) 1) Founder's imprinting who considered science as the only instrument for product development. He did not believe in market research as an input.</p> <p>2) Technology-driven company, not market-driven. Strong patents' culture and proprietary technology.</p> <p>3) TMT firmly believed in long-term, large-scale research projects to success. Lengthy product developments cycles.</p> <p>4) Customers valued a physical instant print.</p> <p>5) Strong belief in Razor-Blade Bus. Mod.</p> <p>6) Development of an artistic register that reinforced Polaroid belief in the value of instant pictures and instant satisfaction.</p> <p>(1980-1998): 1) Polaroid start to become more market-driven.</p> <p>2) Technology had to be also beautiful.</p> <p>(1998-2008): 1) Polaroid becomes market-driven.</p>	<p>(1873-1967) 1) Technology Driven Company</p> <p>2) Foster and preserve the culture of photography: creations of the Konishi School of Photography, today called Tokyo Polytechnic University (1923)</p> <p>(1967-1980) 1) Half technology-driven, half market-driven.</p> <p>(1980-2003) 1) Developing environmentally friend products</p> <p>2) "Touching Your Heart," Konica aims to improve the quality of life for people around the world by drawing on the world's most advanced technologies</p> <p>3) Invest in emerging markets and stimulate local businesses</p> <p>4) ) Strong belief in Razor-Blade Bus. Mod.</p> <p>(2003-2007) 1) Speed, Alliance, Network - (new values pursued in the SAN Plan 2003)</p> <p>2) From B2C to B2B</p> <p>3) new value creation principle</p>	<p>(1880-1960) 1) Eastman's principles: Mass Production; Internationalization; Extensive Advertising; Customer-Centric Approach;</p> <p>2) Quality first; 3) Tech-driven company;</p> <p>4) Attention for employees' welfare but low engagement; 5) "Razor-blade" Bus. Mod.</p> <p>(1960-1983) 1) MIT's Sloan School of business's adoption to train executives;</p> <p>2) Preserving status quo; 3) Man. Arrogance</p> <p>(1983-1993) 1) No vertical integration but acquisitions; 2) tight connection with B2C;</p> <p>3) Reluctance to use marketing data</p> <p>(1993-1998) 1) More market-driven; 2) preserving the razor blade B.M.; 3) B2C orientation; 4) internationalization in emerging markets; 5) fostering network and alliances; 6) middle management resistance to digital image; 7) Hierarchical company; 8) harmony first; no frontal discussion.</p> <p>(1998-2012) 1) Horizontal Company; 2) The value of Network; 3) Total Market Driven</p> <p>4) B2C orientation; 5) Razor-Blade Bus. Mod.; 6) Conservative Film-Mentality 7) Hierarchy</p>

Table 6.5: Cases' Exhibit of synthesis 2 - Top Management's decision & Middle Management role

Top Management's decision & Middle Management Role				
	Fujifilm	Polaroid	Konica	Kodak
CEO & Top Executives	<p><u>Minoru Onishi</u> - President (1980-2000) CEO &amp; Chairman (1996-2000)</p> <p><u>Shigetaka Komori</u> - President (2000-2020) Chairman and CEO (2003-2020)</p> <p><u>Hirozo Ueda</u> - Director Ashigar lab (1881-1995) Head of R&amp;D (1995-1998)</p>	<p><u>Edwin Land</u> - Founder &amp; CEO (1937-1980)</p> <p><u>Bill McCune</u> - President (1975-1986) CEO (1980-1986) Polaroid employee since 1939</p> <p><u>MacAllister</u> - CEO (1986-1996) employee since 1958. Low TMT turnover.</p> <p><u>Gary DiCamillo</u> CEO - (1999- 2001) Outsider who brought with him 15/25 new executives</p>	<p><u>Tomiji Uematsu</u>: President &amp; CEO (1996-2001)</p> <p><u>Fumio Iwaj</u>: President &amp; CEO (2001-2006)</p> <p><u>Yoshikatsu Ota</u>: President &amp; CEO (2006-2009)</p>	<p><u>Fisher</u>: CEO (1993-2000)</p> <p><u>Daniel A. Carp</u>: CEO (2000-2005)</p> <p><u>Antonio Perez</u>: President (2003) CEO &amp; Chairman (2005-2014)</p>
Enhancing Vs Destroying Transition Decision	Competence Destroying Transition	Competence Destroying Transition	Competence Enhancing Transition	Competence Enhancing Transition
Traditional Competitive Domain	Photo-Film Business	Instant Film & Instant Cameras	Film-Camera Business; Business Machine Market	Photo-Film Business
New Competitive Domain	Digital Camera Business - Digital Imaging	Digital Camera Business - Digital Imaging	Office Document and Industrial Business Machine Market (B2B Equipm. & Services); TAC film for LCD Screen Business (Optics)	Digital Imaging Output Services (Storing, Sharing, Printing Pictures). Specifically: Online Platform; Social Media.
Middle Management Engagement	<p><u>High Engagement</u>: Middle management created a strategic planning committee in which took part 10 members of different departments. Before the commercialization of the first digital camera, they periodically met to discuss about the identity of Fujifilm and its future direction. Middle management and TMT together agree on the new direction. TMT spent many times to discuss with middle managers in order to convey the urgency to change.</p>	<p><u>Low Engagement</u>: The middle management of the Electronic Imaging Division had a different view about the new digital market domain respect to the senior executives' perspective. Their proposals and suggestions were never accepted by the TMT. The parties never came close.</p>	<p><u>High Engagement</u>: An identity redefinition process in which middle management took actively part is not documented. However, employees were taken seriously into consideration. At different managerial levels, they were exhorted to think and discuss the future of Konica with the scope to help the company to define commonly shared goals, before and after the integration with Minolta. A survey was also spread at different levels to ask their opinions regarding the integration. Managers and employees agree with the idea to exploit core competences to foster the copying &amp; printing business and open new businesses</p>	<p><u>Low Engagement</u>: Middle managers were never involved by the TMT in the decision-making process regarding Kodak's strategic change of directions towards the digital service businesses. TMT never spent the time to discuss and explain the need for a change and an organizational identity redefinition process with middle managers was never undertaken. Furthermore, favoured by a strong hierarchical culture, the TMT limited itself exclusively to giving orders, adopting a top-down approach. As a result, middle management's conservative approach completely clashed against the idea of change proposed by the TMT.</p>

Table 6.6: Cases' Exhibit of Synthesis 3 - Framing Flexibility: Cognitive and Emotional framing

Framing Flexibility				
	Fujifilm	Polaroid	Konica	Kodak
	<p><b>Cognitive Framing:</b> The TMT was able to categorize digital photography within the corporate boundaries, building on previous knowledge in X-Ray digital image (and other acquired competences) and by stretching Fujifilm organizational identity. Despite the competitive scenarios for the new market appeared completely different, Fujifilm idea was to become a leader in digital camera with proprietary technology as it was in the photo film industry. Both technical capabilities and corporate beliefs were expanded and flexibly activated</p>	<p><b>Cognitive Framing:</b> Digital photography was viewed by TMT mainly as a technological shift, not as a market one. The consequence was the managerial insistence to pursue the same business model. TMT was able to foster the development of new competences in the digital domain, leveraging on its technical repertoire and old beliefs, but was not capable to embrace the technical change with a new set of shared values. As a result, digital cameras struggled to be categorized within the company's boundaries, too much hardware-oriented.</p>	<p><b>Cognitive Framing:</b> To be competitive in the new digital imaging uncertain scenario, with more competition, and fast technological improvements, the TMT decided to rationalize and expand its corporate boundaries, limiting investments in the traditional film and camera business and promoting exploration in the business machines and optical technology's fields. The change of direction was supported by a reevaluation and an accurate expansion of the technical and the cultural repertoires, according to the new targeted businesses and by the integration with Minolta.</p>	<p><b>Cognitive framing:</b> Understood the film industry's decline, TMT correctly limited investment in Kodak's traditional business and reframe corporate boundaries as a necessity by investing in digital image output services and updating TMT compositions. However, this strict diversification strategy was not enough. Although TMT revalued Kodak's past core competencies, the change of direction was not supported by a substantial expansion of the technical repertoire and a full set of values in line with the new competitive domain &amp; direction. The lack of a business model's change is an example</p>
<i>Framing flexibility: Cognitive &amp; Emotional</i>	<p><b>Emotional Framing:</b> TMT and Middle management agreed to protect the photographic culture and gave importance to the concept of image rather than film, in continuity with their heritage but in line with the new Digital Age. Moreover, a strong feeling of survival instinct compacted the management of the organization at different levels, who met on different occasions.</p>	<p><b>Emotional Framing:</b> The change was not emotionally framed by the top management. A cognitive dissonance, regarding the business model and the business strategy to commercialize digital cameras raised, and it generated a cultural clash between the Electronic Imaging Division and the TMT's view. Company members were not united under a shared direction. Two incompatible radical souls were born.</p>	<p><b>Emotional framing:</b> TMT was able to make the urgency of change emotionally resound among different managerial levels, presenting the transition as a matter of survival against a threatening scenario. Employees were engaged in the transition by the TMT and compacted by the sense of continuity given by the reevaluation and the application of core competences and managerial values into new fields. After the merger, a new vision, corporate philosophy, and identity unified the entire management towards the new shared direction furtherly.</p>	<p><b>Emotional framing:</b> the change was not emotionally communicated by the TMT. Even if top managers agreed about the need to shift from a film company to an "Infomaging" modern company, reevaluating some of Kodak's core competence into new business fields, the necessity to change did not resound among lower managerial levels which were more conservative and tended to protect their franchising. Although not directly, as the organization was very hierarchical, TMT mentality clashed with those of middle and low management.</p>
<i>Generated Effect</i>	<p>United under a new common intent, Fujifilm managerial levels accepted the dualism between digital-analogic cameras and increased their effort toward the new exploration side. This brought to drastic technical improvements of the proprietary technology and fast commercialization of the product. Fujifilm became the market leader in the initial phase of the digital imaging market.</p>	<p>No shared direction and purpose among managerial levels. The digital imaging initiative was pushed on the market with poor support and delay. Digital Imaging was a complete flop despite the great technical features of Polaroid full digital cameras.</p>	<p>A perfect symbiosis between cognitive and emotional framing, brought management to face the change successfully. TMT consistently reshaped the business portfolio to foster additional corporate grow and made the company independent from its previous main business. As a result, in 2006 the photo imaging segment was sold and in 2007, Konica Minolta knew its historical best results.</p>	<p>No shared direction and purpose across managerial levels concerning Kodak's future business portfolio. All-new digital business explorations encouraged by the TMT, such as Ofoto, failed or were not enough profitable due to an underestimation of the new competences required, the rigid application of previous managerial beliefs like the razor blade business model, lack of support by middle management.</p>

Table 6.7: Cases' Exhibit of synthesis 4- Social & Technical legitimacy

Legitimacy				
	Fujifilm	Polaroid	Konica	Kodak
Social Legitimacy	<p><u>Social legitimacy:</u> few years before the commercialization of the first digital camera, social legitimacy was promoted leveraging on the meaning and the importance of photography's culture for Fujifilm also in the digitalized Age. In this process, TMT and middle managers agree to preserve the concept of photography rather the one of film, re-contextualizing the digital initiative under the new "image and information" label. They also agree on the needs to embrace digitalization to survive and a strong sense of urgency to change permitted Fujifilm among top managers and then across different managerial levels.</p>	<p><u>Social Legitimacy:</u> In the years before the commercialization of Polaroid's' digital cameras, no actions to promote a social consensus towards these new digital devices were undertaken. TMT believed that customers continued to value instant photography and that its superior quality respect to digital pictures would have remained. Moreover, TMT ostracism to preserve the razor blade business model precluded any other form of business that did not generate at least the previous margins. Their will was to try to apply the "consumables" mentality on whatever new business initiative. A cultural clash between the believes of the Electronic Imaging Division and the TMT's closed mentality generated Polaroid inertia. When Polaroid finally launched the product, it was too late, and the main employees of the electronic imaging division left the company.</p>	<p><u>Social Legitimacy:</u> at the beginning of the transformation process, employees' social consensus was built on the sense of continuity, given by the exploitation and the revaluation of existing core competences. In addition, in the business machine segment, the legitimacy was driven by the promotion of the razor blade business model. While, in the optical, Konica's history in film manufacturing was critical to support the TAC business. However, to sustain the new initiatives, Konica also developed a new set of managerial values such as the necessity to shift from B2C to B2B. Another critical point was the good management of the merger with Minolta, making an equal footing integration. Then, the creation of a new vision, the attention paid to the creation of a new organizational culture after the merger, and the promotion of an organizational identity realignment, strengthened the consensus towards the new direction.</p>	<p><u>Social Legitimacy:</u> the social consensus towards digital picture output services was never built properly. Despite the main role given to pictures and the traditional consumer segment, and the sense of continuity given by the revaluation process of digital imaging, picture sharing, data storage and software for photo editing competences, TMT was not able to create a set of suitable organizational values around Ofoto and others initiatives. Even if a large part of the TMT members were changed, Kodak's manufacturing mentality remained. The continuous attempts to apply the razor blade business model, the will to exploit the huge physical assets inherited by the film business also for digital services, the research of businesses with 60% of margins, are a clear demonstration that Kodak was never able to think digitally. All the new business explorations were traced back to its rigid and closed chemical manufacturing DNA. A new clear shared vision was never created.</p>
Technical Legitimacy	<p><u>Technical legitimacy:</u> Fujifilm, exploring the X-ray domain approached to electronics and digital imaging, and it understood digital imaging disruptiveness. Digitalization at first was framed as a technical shift. Leveraging on the newly acquired competence in the X-Ray domain and on Fujifilm's strong technical orientation, TMT decided to further explore digital imaging and digital cameras, developing new knowledge, and creating proprietary technology in Fujifilm's R&amp;D departments. Soon Fujifilm expanded its technical repertoires and developed the necessary technology. But the most drastic improvements occurred after the identity re-alignment process.</p>	<p><u>Technical Legitimacy:</u> In its old models of anagoric camera, Polaroid had already introduced a few electronic components to improve the quality of its instant photo. So, deepening the knowledge and making investments in digital sensors and software solutions, was natural according to its competence's repertoire and the corporate will to improve the quality of its instant pictures. Moreover, the early exploration of the electronic camera was legitimized by a solid belief in the primacy of technology to realize new commercial breakthroughs, undertaking major research projects.</p>	<p><u>Technical Legitimacy:</u> Konica's transformation towards more independence from the photo film &amp; camera industry was supported by a process of revaluation, strengthening and combination of its core competences. In the business machine field, it was critical the reinforcement of the proprietary technology in fast copying and printing to develop MFPs and LBPs. While in the optical field, the revaluation of old patents and Konica's knowledge in the film for polarizing plates' protections, was fundamental to create consensus towards the new TAC business for LCD. Then, starting from its technical background Konica flexibly expanded its repertoire investing in research, centralizing the R&amp;D department, and fostering a partnership, (then integration) with Minolta which owned complementary competences.</p>	<p><u>Technical Legitimacy:</u> To realize a business portfolio independent from film photography, orienting the company towards output pictures digital services, TMT carefully assessed the affinity of new businesses respect to Kodak's technical repertoire. Despite a great synergy with Kodak existing digital competences, the need to develop further knowledge to be competitive in the new selected domain was underestimated and was covered only with acquisitions and hiring few managers from the high-tech industry. Considering the acquisition of Ofoto, Kodak was skilled in sharing pictures and storing data, but not in digital marketing, advertising, cloud computing, and social media management. Kodak underestimated the expansion of its technical and managerial competences towards the direction of its digital sharing platform and its other digital explorations.</p>

Table 6.8: Cases' Exhibit of Synthesis 5 - Organizational Identity re-alignments' description

<b>Organizational Identity Re-Alignment</b>				
	<b>Fujifilm</b>	<b>Polaroid</b>	<b>Konica</b>	<b>Kodak</b>
<i>Identity Facets Activation (Ideological vs Utilitarian)</i>	Both the Ideological and Utilitarian facets were flexibly and correctly activated, making the change possible and successful.	Only the Utilitarian Facet was flexibly activated. The ideological remained rigid and hindered the change, making it slow, difficult, and unsuccessful.	Both the Ideological and Utilitarian facets were flexibly and correctly activated, making the change possible and successful.	Both the Ideological and Utilitarian facets were not flexibly and correctly activated to enable the change. However, the underestimation of the utilitarian one had a more incisive negative influence
<i>Pre-Transition (Old)</i>	Be a "Photo film manufacturer leader".	"Company with the early dream of instant print."	"Information & Imaging Solutions" Company	Be the leading "Film and Digital Imaging Company"
<i>Ongoing &amp; Post Transition (New)</i>	Be a world-class "Image & Information Company"	No Change	"Essentials of Imaging" Solutions Company. From B2C to B2B	No effective Change - Failed to become a modern "Infomaging Company"
<i>Failure or Success?</i>	<u>Success:</u> In 1988 Fujifilm created the first marketable full digital camera in the world called DS-1P. In 1998 introduced the FinePix700, with a comparable resolution (1.5 megapixels) respect the traditional silver-halide film. At the end of the '90s, Fujifilm was able to acquire 28% of domestic market share and 23% of the global market share of the digital camera industry.	<u>Failure:</u> In 1992 Polaroid developed the first fully digital camera prototype. But internal cultural clash brought to continuous delay in the development of the digital camera, to the impossibility to make partnerships with external companies, and generated the delay in the commercialization. The first full digital camera was sold only in 1996 (It was too late). The market share of Polaroid was not enough significant anymore to sustain the survival of the company. Between 2001 and 2008 Polaroid declared bankruptcy twice and was sold three times.	<u>Success:</u> The company became fully independent from the film and the camera business revolutionizing its portfolio. 64% of the new sales derived from Business Technology; 13,5% from Optics; 15,4% from Medical and Graphic Imaging; 1,6% from industrial inkjet and sensing. In the professional printing and copying business, it reached 12% of the global market share. It opened the new business of TAC film for LCD in the Optical Technology segment, whose sales grew from 0 yen in 1999 to 55 billion yen in 2007, getting 20-25% of the global market. In 2007 it experienced its highest historical total revenues and operating income.	<u>Failure:</u> Kodak failed to become a modern "Infomaging" company" by creating a business portfolio completely independent from the film industry. Given the low profitability generated by the digital camera industry, its rigorous diversification strategy towards digital image output services was not able to cover the decline of the film industry. Mismanagement of the transition caused Kodak EasyShare Gallery and other ventures to not be sustainable and fail. Not having a profitable division, Kodak went bankrupt on January 19, 2012, and as part of the return plan, it sold, its last chance of redemption: Kodak EasyShare Gallery (Ofoto) to Shutterfly for approximately \$ 25 million in April 2012.

Table 6.9: Cases' Exhibit of synthesis 6 - Organizational Design Configuration

Organizational Arrangement				
	Fujifilm	Polaroid	Konica	Kodak
Pre decision	<p><u>Exploitative organizational design configuration</u>: Bi-divisional structure, composed by the Consumer Photo Products Division, and the Industrial Materials &amp; Products division. Both the divisions were mainly related to the exploitation of the primary business. R&amp;D departments were quite decentralized and created near the factories of each product category</p>	<p><u>Exploitative organizational design configuration</u>: three separated R&amp;D research departments (black and white film, color film, instant cameras). All the other departments were integrated, in particular the marketing, the sales and the distribution one.</p>	<p><u>Exploitative organizational design configuration</u>: Konica was divided into two business segments: Photographic Material and Business machines. Inside each division, the structure was not well defined, and the new business initiatives were suffocated by the need for exploitation of the traditional ones. R&amp;D departments were quite decentralized according to the type of products and technology, mainly in Japan and in the US.</p>	<p><u>Exploitative organizational design configuration</u>: Kodak was organized into five divisions: Digital &amp; Film Imaging systems, Commercial Printing, Display &amp; Components, Health Imaging, and Commercial Imaging. Ofoto and other new digital imaging initiatives were managed under the Digital &amp; Film Imaging Systems division, together with the traditional film business. The division was not structured to give the right degree of autonomy and independence to these new businesses.</p>
Post decision	<p><u>Ambidextrous organizational design configuration</u>: Creation of a separated department from the traditional business called Electronic Imaging department; coordinated by TMT, having its own processes and dedicated engineers, salesmen, and marketers. R&amp;D departments were decentralized, created near the factories of each product category</p>	<p><u>Ambidextrous organizational design configuration</u>: Electronic imaging group was established in 1981 with a microelectronics lab in 1986 separated from the traditional organization. The two branches were coordinated by Polaroid's TMT. In the new branch, 90% of the employees were new. The leader of the new division was a long-experienced Polaroid executive. In 1990 Polaroid undertook another reorganization. Electronic Imaging division remained separated. It introduced ad hoc marketing resources and an outsider was put at the head of the division. The sales channels were not differentiated. The microelectronics lab was sold in the moment of maximum dissonance.</p>	<p><u>Ambidextrous organizational design configuration</u>: six independent companies (K.M. Business Technologies; K.M. Opto, Inc.; K.M. Camera Inc; K.M. Photo Imaging Inc. K.M. Medical and Graphic, Inc.; and K.M. Sensing, Inc.) possessing clearly delineated responsibilities and authority, unified under a new holding company named Konica Minolta Inc., which had the goal to allocate resources, coordinate each of the six companies, and maintain a good equilibrium among cash cow, growing, and future businesses. Soon, K.M Camera and K.M Photo-imaging were combined and then sold. The R&amp;D was accentuated in a new shared supporting function called Konica Minolta Technology centre.</p>	<p><u>Ambidextrous organizational design configuration</u>: Under Pérez's mandate, first Kodak was organized into three areas: The Consumer Digital Imaging, the Health Imaging and the Commercial Printing based on Film &amp; Photofinishing systems. Then Once Kodak sold the Health Imaging division, it was reorganized into three other areas: The Consumer Digital Imaging Group the Film, Photofinishing, and Entertainment Group; and the Graphic Communication Group. In this reorganization, Ofoto and the other business initiatives were separated from the film and other exploitative businesses. All the divisions were independently managed, with well-defined responsibilities, roles, but coordinated at the top by a common TMT</p>

## 6.6 Final Emerging Framework

### A small assumption

Before presenting in detail the theoretical model emerged from the cross-case analysis, an assumption must be made explicit. The framework explains how incumbents' leaders can foster an organizational identity change, to accommodate a competence enhancing or competence destroying transition, in the occurrence of a disruptive wave of innovation that reframes the competitive domain. It also explains how top managers should use elements from the past and develop skills and values for the future, to pursue a consistent organizational identity realignment toward the new business direction selected.

For this reason, it is important to underline that the theoretical model proposed will dive into the red box identified in the flow chart 6.16. For what concerns the part of the chart in which top managers decide to not face any kind of transition, waiting for the evolution's of the events, or voluntarily choose to not act, keeping the as-is organizational status quo and increasing the market entry barriers, these aspects are not the object of study. For this reason, they will not be considered in the discussion of the framework. Consequently, we will assume that the top management of the incumbent organization under analysis has already decided to react to the disruptive innovation, facing a competence destroying or a competence enhancing transition.

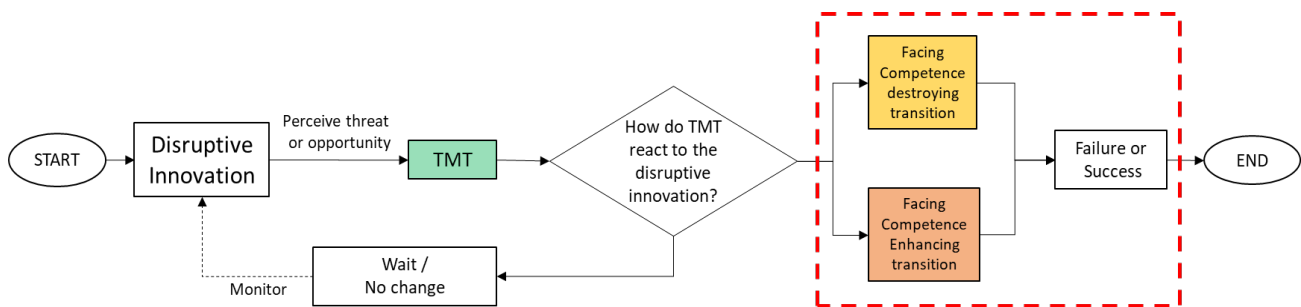


Figure 6.15: Emerging framework's assumption

### Emerging Framework's explanation

Exhausted the premise, now it is possible to focus on the explanation of the theoretical model. This framework emerges from the accurate within-case analysis of the four case studies previously presented and from the intersection and the comparison of the data collected in the tables of the cross-case analysis (paragraph 6.5). The quality of the data captured and the reference to four different well-documented business cases guarantee greater reliability of the result here discussed. In picture 6.17 the final theoretical model is displayed.



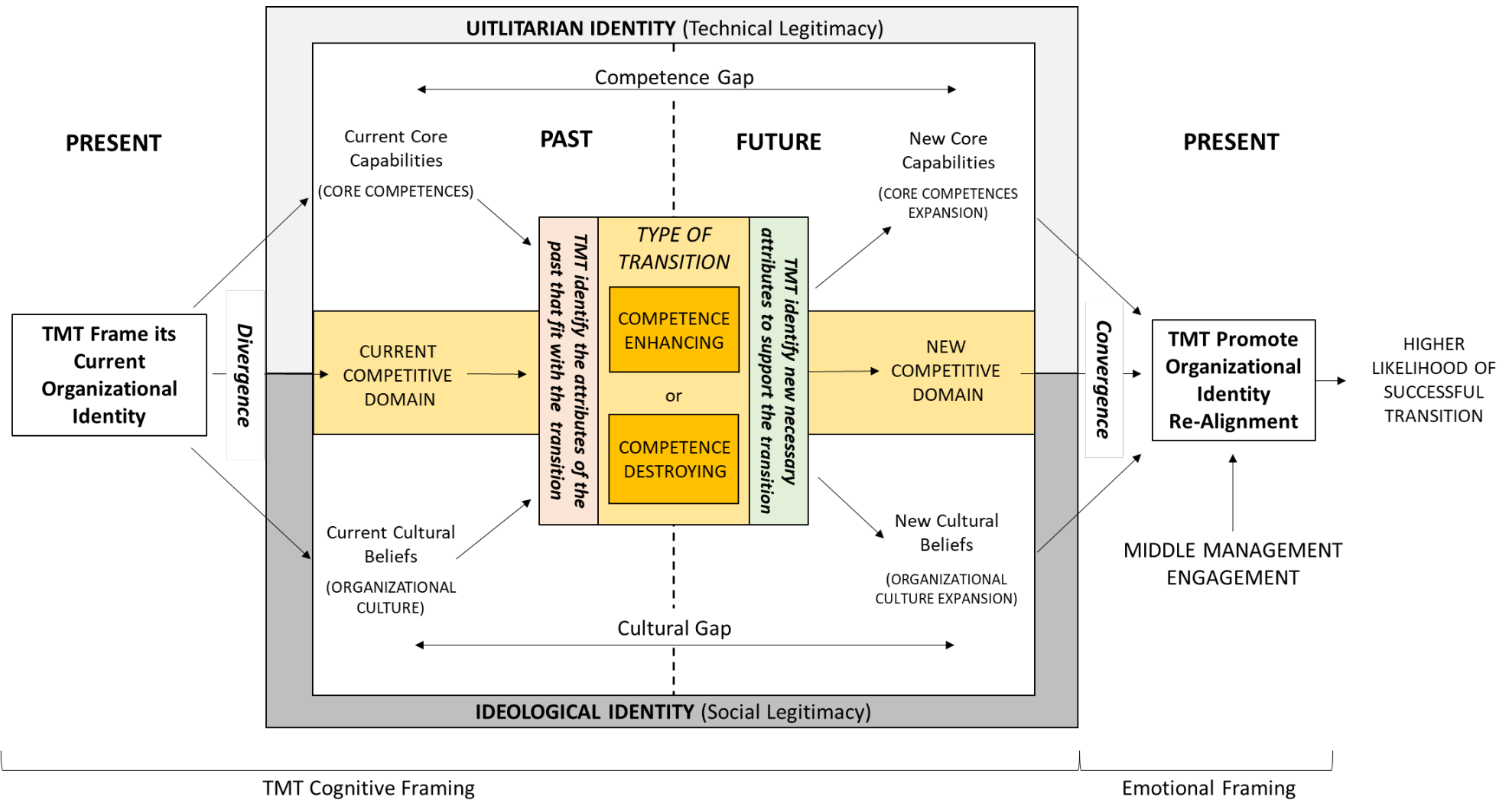


Figure 6.16: Final Emerging Framework

As anticipated, the model proposes a process of organizational identity change, or identity re-alignment for incumbent organizations, in the event of a disruptive wave of innovation that shocks and reframes the traditional competitive boundaries and market balances. Entering more in detail, the framework describes how incumbents' leaders can promote an organizational identity change, to accommodate a competence enhancing or competence destroying transition, when a disruptive innovation emerges, revolutionizing their company business portfolio and their corporate essence. Not secondarily, it also explains how top managers should use the competences and the cultural values belonging to their corporate past, and develop skills and principles for the future, to create a consistent bridge, between the old and the new envisioned organizational identity, in the direction of the business trajectory selected to guarantee a future to the company.

The purpose of this framework is incredibly relevant because when a disruptive innovation occurs, incumbents' organizational identity is put under pressure since the company's products or services become quickly uncompetitive and their leadership is supplanted by that one of newcomers who shape a completely new competitive ecosystem, in which incumbents' modus operandi becomes obsolete. In this critical scenario, to survive, enterprises need to change direction, applying their competences and organizational believes in other sectors or developing a new set of skills that entirely or partially substitute their previous technical and cultural repertoire. In this specific process, managing properly the organizational identity transition becomes one of the most critical success factors to increase the probability to realize a change of direction.

Following, the theoretical model will be presented in all its components, to better clarify how it works and the ideas behind its structure. The discussion will be divided into 6 subparagraphs and it will make use of partial images of the framework (in figure 6.17), to guide the reader step by step, in the total comprehension of the framework just introduced. These 6 subparagraphs will be presented under two macro-concepts that are respectively: 1) TMT Cognitive Framing; 2) Emotional Framing.

## **TMT COGNITIVE FRAMING**

Social studies define cognitive frames as a mental structure through which people interpret external stimuli in relation to a decision to take or a given situation to face (Gavetti & Rivkin, 2007). Scholars demonstrated their influential relevance in many strategic decision-making processes, especially in organizational change (Tushman & Anderson, 1986), the main subject for this research. Describing more deeply their functioning, cognitive frames help TMT to collect and synthesize a great amount of correlated information (Weick, 1993) extrapolating the needed meaning from it. They can be thought

as cognitive interpretative filters through which the reality is scanned. These cognitive filters, or cognitive lens, in the mind of company leaders, can be contracted or expanded (Raffaelli, 2018). Contracted lenses bring to a mental closure towards organizational change, while expanded ones allow to have a flexible vision of it and to reconcile inconsistencies linked to the type of transition decided to face. Three important cognitive filters, identified in this theoretical framework, are: 1) the company core capabilities, 2) organizational beliefs, and 3) the competitive business domain. The theoretical model presented will combine these three elements, in a single practical process, designed for the TMT of incumbent firms.

Specifically, in the economy of the framework introduced, with the label Cognitive Framing is intended a mental process through which top managers make sense of the organizational identity change (or re-alignment) they need to undertake, according to the type of transition decided to face. It is an interpretative schema which helps the Top Management to shape and organize their perceptions about the company they are leading and the new competitive domain they want to face. Its final goal is to lead top managers to promote a consistent and persuasive proposal of identity re-alignment, capable to successfully support the organizational change they have in mind to accomplish.

### **1. Frame Current Organizational Identity and discern its Utilitarian & Ideological facets**

The explanation of the theoretical model proposed starts from the assumption that top management has already taken the decision to change the business direction of the incumbent company it represents, and consequently an organisational identity re-alignment becomes necessary.

First, TMT has to become conscious of the current state of the organizational identity of the company. This process requires time and a deep investigation of the present and the past heritage of the company.

As we enlightened in the literature review, the concept of organizational identity directly answers to two essential questions: “Who we are” and “What we do” as an organization. Recalling and building on the thought of Gustafson (1995), these two questions express two distinctive but complementary facets of the organizational identity. “Who we are”, reflects the cultural repertoire of a company and represents the social definition of the organization given by the way its members cooperate and act to reach a shared final purpose. On the other side, “What we do”, concretely describes the activity of the company, what the company do for the society and how it uses its technical repertoire (core competences) to achieve a given final purpose. By exploiting the concept of multiple identities, the framework brings these two expressions back to two specific sides of the organizational identity

respectively called Ideological and Utilitarian Identity. The chart below, already presented in section 2.1.12, clarifies even better the concept just expressed.

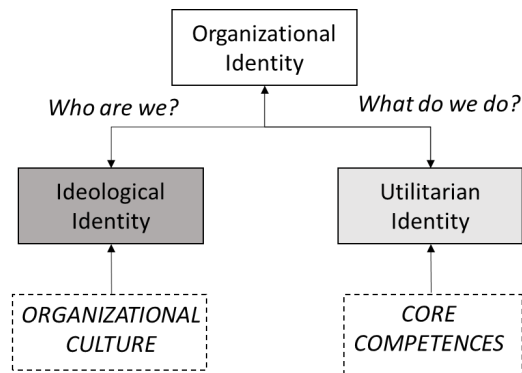


Figure 6.17: Organizational Identity's breakdown

This line of reasoning is crucial because to fully and deeply comprehend the current organizational identity, in other words, what the company is and what the company does, TMT needs to put in place a cognitive divergent process and decompose the corporate identity into the two complementary facets just mentioned, the Ideological and the Utilitarian ones. The scope is to understand what are the current and past core competences and the core cultural values that sustain and support the current organizational identity of the company. (See figure 6.19)

In parallel, this process has to come with the identification of the current business domain in which the company is participating, putting in place a reflection regarding how its current organizational core competencies and cultural repertoire are consistently linked to the current competitive arena.

## 2. Consider Current Core Competences, Cultural Beliefs & Traditional Competitive Domain

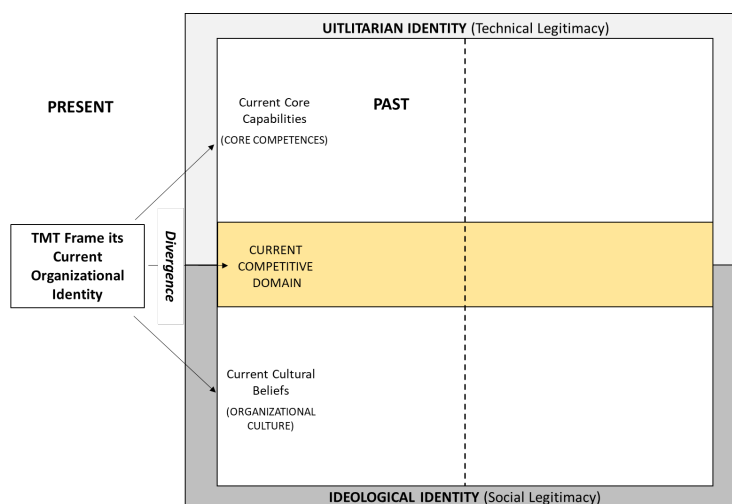


Figure 6.18 Emerging Framework - Construction step 1 - Current Capabilities, Cultural Beliefs & competitive domain

As we previously mentioned, this process of divergence put in place by the TMT is aimed at identifying three specific inertial forces, which characterize and sustain the current organizational identity of the company.

These forces are represented by the current Core Capabilities, the current Cultural Beliefs, and the current Competitive Domain of the firm, as shown in picture 6.19. They refer to the past of the company, and with the term past, here we also intend the present of the organization, because they belong to a company that now wants to change direction, but it still anchored to its previous identity. These three forces have been defined as inertial because they are strictly entangled with the current organizational identity and tend to preserve it over time. They are difficult to be modified and express some of the most essential and distinctive traits of the company.

The current Core Capabilities or Core Competences represent the main technical attitudes of the organization. Specifically, they are a distinctive set of resources and skills that distinguish the company in the marketplace (Hamel & Prahalad, 1994). But because they are very characteristic, the risk is that they can become core rigidities, making the company prisoner of them and preventing it to change. As it happened in Kodak with the obstinate preservation of the film-based technology and competences. However, these capabilities if put at the service of new business opportunities or applied in an original way in other sectors can give life to new sensational and profitable businesses. For example, Konica, exploited its strong chemical and film background to give rise to the TAC film business for LCD screens and displays. Together, the core capabilities form the so-called technical repertoire, expression of the Utilitarian Identity facet.

The current Cultural Beliefs represents the most relevant organizational guiding principles capable to influence and drive the behaviour and the actions of the company's members towards the achievements of shared results. The entire set of cultural beliefs, constitute the so-called organizational culture or cultural repertoire, that here, has to be intended, following Schein (1983) definition, as *“a pattern of basic assumptions that a given group has invented, discovered, or developed in learning to cope with its problems of external adaptation and internal integration – a pattern of assumptions that has worked well enough to be considered valid, and therefore, to be taught to new members as the correct way you perceive, think, and feel in relation to these problems”*. (p. 49). These principles are so ingrained in the corporate routine that are difficult to change, in particular, if in the past they revealed to be successful. These elements strongly characterize the organizational identity of the company, and with the time they can crystallize, producing unsurpassed rigidities, as it happened in Polaroid with the “razor-blade” business model tradition. However, cultural beliefs are

more manageable and malleable than one may think and if carefully selected, directed and applied in the right context can reveal a very powerful tool of social cohesion within the company towards the new directions undertaken. For example, Fujifilm, reevaluating the concept of “*image*” rather than film picture, was able to smoothly shift from analogic to digital photography.

The last inertial force to consider is the current Business Domain. With this expression, we intend all the businesses in which the company is now competing. In this category, the most traditional businesses are the most inertial because they exert a greater influence on the organizational identity than the least mature. Traditional businesses carry with them a series of legacies from the past that are difficult to resolve in the short term since at the base there are large investments of time, people, effort and money. For example, in the four case studies presented, all the companies were involved in the film manufacturing business for almost a century and their exposition towards this industry was heavy. This centuries-old tradition played a great inertial force on the company's ability to react to change.

However, it is important to remark, that if a company has a long tradition of diversification, probably the inertial forces connected to its traditional business domain are weaker than in a single business firm. The same logic can be applied for the companies that are used to scan broadly their competitive domain in search of potential competitors or opportunities in sectors and industries far from the one of origin. Contrary a narrow scanning is a synonym of rigidity and potentially it brings companies to experience more inertial forces aimed at preserving the current business of belonging.

Identifying the current Business Domain of the company is cognitively very relevant for the TMT because it helps to make sense of how Core Competences and Cultural Beliefs contribute and relate to the company's current business activities, and consequently how they shape and define the current organizational identity. The congruence among these three components explains why the company is following that given direction, what is the company now, what is doing, and in which sectors is competing.

### **3. Identify the elements of the past that perfectly fit with the kind of transition chosen.**

The aim of this process of cognitive divergence put in place by the TMT is not the comprehension of the congruence among current core capabilities, cultural beliefs, and the company's competitive domain. But their identification is necessary to consistently sustain the change of direction and identity, in response to the disruptive wave of innovation faced in the industry of origin. But before explaining this, a step back is required. As we previously stated, the change can be pursued undertaking two different types of transition: a competence enhancing or competence destroying transition.

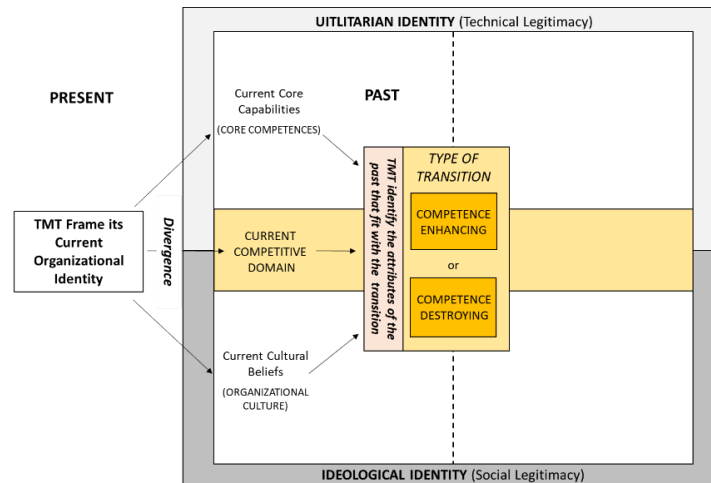


Figure 6.19: Emerging Framework - Construction step 2 –  
 Identification of the elements of the past that perfectly fit with the transition undertaken

A competence enhancing transition supposes the application of the company’s current core capabilities and believes in a completely new business field far from the one of origin, with the intent to create new technology, product, service, giving rise to a different profitable market for the organization. For example, Konica, exploiting its film-chemical competences and advanced knowledge in electronics, was able to apply its competences in the business field of fast copying, printing, and scanning machines, revolutionizing its portfolio of business. Another example, but not successful, was the one of Kodak, which tried to exploit its competences in digital images, software and data storing to become the leader in the photo-sharing platform business with the acquisition of Ofoto.

On the other hand, a competence destroying transition supposes to enter a business which requires the creation of a new set of skills, competences and believes that are not reconcilable with the old ones. They cancel the previous knowledge, making the incumbent company start a new business almost from scratch. This is the case of Fujifilm and Polaroid when they tried to realize the transition from analogic photography to digital photography. Digital imaging required a completely new set of technical and managerial competences, and organizational beliefs, in contrast with the chemical DNA of these companies.

The organizational identity breakdown process in its utilitarian and ideological facets and the identification of the overall company business domain, it is a first crucial preliminary step towards the final organizational identity realignment in the direction of the transition decided to pursue. In specific, once the TMT have cognitively identified all the current core capabilities, organizational beliefs, and current competitive domains, it should recognize and discern which aspects, which attributes, from these three categories, still perfectly fit with the type of business transition (enhancing or destroying)

they want to pursue. Which past core competencies, which cultural principles and which previous business characteristics and competitive rules are still determinant and necessary to sustain the competence enhancing or the competence destroying shift decided, and which are no more consistent.

So, at this stage, the main set of questions top management should answer are: “Which are the elements from the past that perfectly suit the kind of transition we want to undertake?” Which are the current organizational core competences, cultural beliefs and characteristics of our current business domain suitable for the type of change we are trying to pursue?”

Answering these questions adequately and identifying the aspects that best fit the decided change of direction allows TMT to create solid foundations for change, deeply rooted in the company's tradition. The scope of this second part of the cognitive process, which can be seen as a convergence towards the transition to be implemented, is to create a clear, strong link with the past, allowing the TMT to then propose the change in continuity with the company’s heritage and past activities; so that organizational members will be able to identify themselves in the change.

#### 4. Identify new necessary elements to support the kind of transition chosen

Reflecting only on the organizational past is not enough, otherwise, the company would become prisoner of its tradition. TMT wants to make a successful change, re-aligning the organizational identity to the type of transition desired. For this reason, as shown in the second part of the theoretical model (figure 6.21), thinking about the future becomes relevant too.

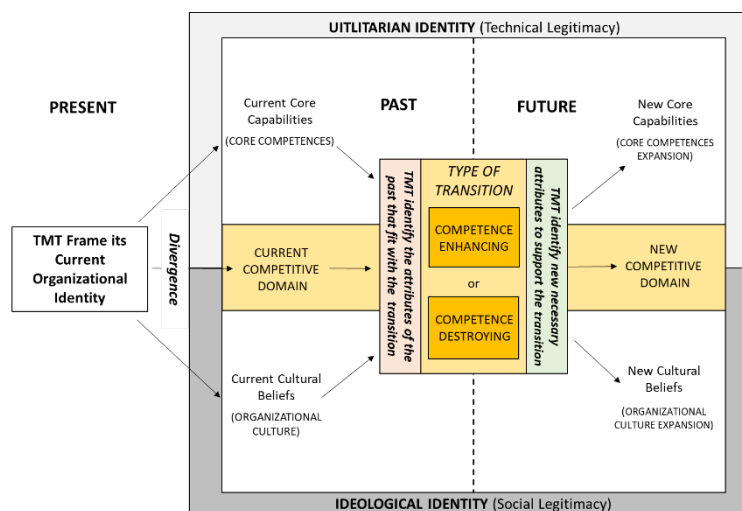


Figure 6.20: Emerging Framework - Construction step 3 –New Core Capabilities, Organizational Values & Competitive Domain

Once understood what organizational elements from the past results to be relevant to sustain a given transition and to keep the continuity with the company tradition, the TMT is ready to project the



company into the future. In fact, in the next step, company leaders need to understand and identify which are the new necessary attributes and the missing organizational elements to successfully sustain the type of transition decided to undertake. More in detail, TMT has to put in place a second divergent cognitive process, that from the selected type of transition, go to define which new Core Capabilities, new Cultural beliefs the company needs to develop and which new business characteristics should consider and integrate to support successfully the type of transition selected. The expansion of the company's technical and cultural repertoires here results critical.

For example, Fujifilm, when decided to transition from film to digital cameras business, perfectly understood that to become competitive in the new business domain, had to develop proprietary technology for the most expensive components such as the (CCD). So it expanded its core competences towards electronics, semiconductors, and digital image. Furthermore, Fujifilm comprehended that the traditional razor blade business model became obsolete, and for this reason, it developed trust in other forms of business which made margins on the device sold and not on consumables. Kodak, on the other side, when tried to become the leader in the digital picture storing and sharing services with Ofoto, underestimated its lack of experience in cloud computing, digital marketing, and social media management and tried to turn its digital platform into a printing pictures business because, at that time the platform was not enough profitable, despite the great number of users. But this revealed to be a fatal mistake. Kodak applying its rigid manufacturing mentality and its traditional razor blade business model, distorted Ofoto's authenticity and uniqueness. Kodak was never able to understand and develop the new necessary organizational attributes to make its transition successful.

So, at this stage, the main set of questions top management should answer are: *“Which are the new necessary attributes that our company needs to develop to consistently sustain the transition we want to undertake?”* *Which are the new organizational core competences, cultural beliefs and characteristics of the new business domain that our organization have to integrate to support the type of change we are trying to pursue?”*

Answering these questions properly and identifying the missing elements to develop allows the top management to project the company directly into the future, going to concretely outline the aspirations that TMT has for the company's change of directions. The scope of this stage is to reflect on the necessity to develop new organizational competences, managerial beliefs, and business characteristics to effectively pursue the change because the past is not enough. It is risky to think about an organization that can change direction only looking at its tradition and recombining the same elements

with the same mentality in a new market domain, as Polaroid and Kodak did. For this reason, it is important to honestly identify these necessary elements and understand their potential impact they may have on the Utilitarian and Ideological identity facets, and consequently on the entire organizational identity.

**5. Be aware of the Competence & Cultural Gap and Promote Organizational Re-Alignment ensuring Technical and Social Legitimacy to the transition**

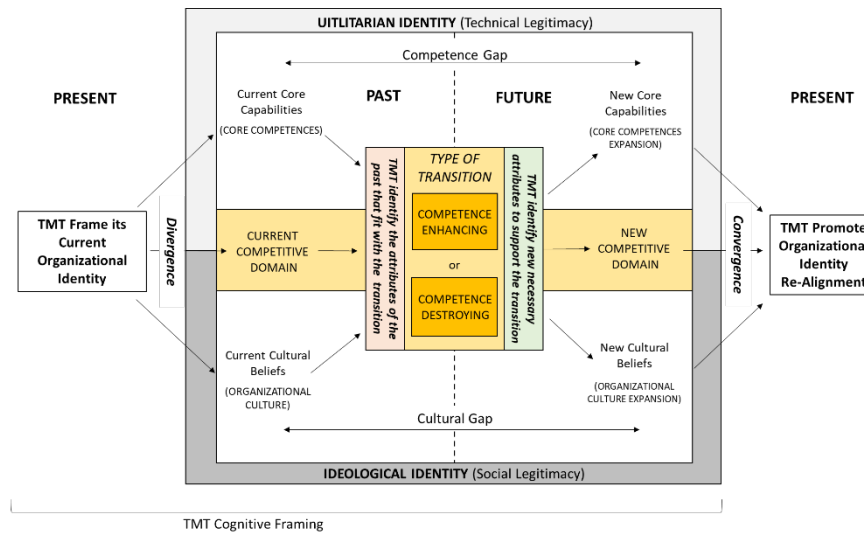


Figure 6.21: Emerging Framework - Construction step 4 - Cultural and Competence gap; Organizational Re-alignment's Promotion

Once recognized and selected all the past and new organizational elements, necessary to consistently sustain the type of transition undertaken, it is important that TMT linger on the distance between new and past core capabilities and organizational beliefs, before being ready to promote the organizational Identity re-alignment to make the change happen. The theoretical model, showed in picture 6.22, names respectively these distances, Competence Gap, and Cultural Gap. Accordingly to the type of transition pursued and the new target competitive domain, these distances can be more or less deep, and they do not necessarily go hand in hand. TMT have to become aware of these two gaps and work to fill the distances.

What was observed in the analysis of the four case studies previously presented, is that the gaps between past and new core competences and cultural beliefs determine the degree of difficulty of the transition and the depth of identity change required. Therefore, in more simple words, higher the discrepancy between past and future, more complex will be the realization of transition. It will require higher investments of time, money, human resources, communication, and coordination efforts. On the other side, lower the discrepancy, easier will be the accomplishment of the transition.

So the top managers have to become aware of the competence and cultural gaps to cover, assessing the best method to fill these distances. For example, they should understand if go for an acquisition or a partnership, put in place an ambidextrous organizational design or not, decide to refresh the managerial representatives at different managerial levels and so on. After this consideration, the leaders of the company can choose between two options:

- Give up the decided transition if the Competence and the Cultural gaps cannot be bridged within an acceptable time frame and conditions.
- Promote the Organizational Identity Re-Alignment

If the first option is selected, the TMT can decide to review the type of transition or to keep the status quo. In case the second option will be evaluated as practicable, TMT is ready to start a final process of cognitive convergence, aimed at promoting the change of identity in the direction of the transition decided to undertake.

Therefore, continuing the discussion of the second option, at this stage, TMT has identified all the past and future organizational elements (core competences, organizational beliefs, and competitive domain characteristics) deemed essential to consistently support the transition. All these aspects, as already explained, have a direct impact on the Utilitarian and the Ideological identity facets of the company, and consequently on its entire organizational identity. So what the TMT is called upon to do is to realize a perfect synthesis of these organizational attributes, consciously proposing to company's members and stakeholders a new organizational identity in line with the type of transition decided. In this process of identity re-alignment, the organizational elements taken from the company's tradition and heritage will produce a sense of continuity with the previous identity, while the new organizational elements will help the TMT to project and contextualize the company directly into the future, in line with the new aspirations. Safeguarding the past will provide a solid anchor to set up the new organization, while the projection into the future will foster the development of new capabilities, cultural and managerial beliefs, business routines and experience in the new field.

This process of connection and projection of past and future organizational elements directly connected with the Utilitarian and Ideological identity facets is driven by two critical motivational and psychological factors named: Technical Legitimacy, and Social Legitimacy.

Technical Legitimacy relates to the technical affinity between the type of transition selected with respect to the current core competencies repertoire of the organization. It also reflects the ability of the top management to know how to appropriately trace the change back in the technical tradition of the

company, recalling some skills and competences of the past, to create a solid technical basis for the future. Fundamental to create a consistent level of technical legitimacy is the congruence between the past and future core capabilities selected during the stages previously explained. In particular, it is important that the identified elements are compatible with each other and that the selected capabilities of the past do not exclude the ones of the future and vice versa.

On the other side, Social Legitimacy concerns the cultural affinity between the type of transition selected with respect to the current cultural beliefs of the company. It also reflects the ability of top management to be able to appropriately bring the change back into the tradition of the corporate organizational culture, connecting the change to past managerial principles and cultural beliefs, to create a strong emotional and ideological bond with the company heritage. The congruence between the past and future organizational beliefs selected during the process previously explained is critical to create a consistent level of social legitimacy. It is important that the identified elements are compatible with each other and that the selected organizational beliefs belonging to the past do not overwhelm the new cultural elements needed for the future and vice versa.

Both the two motivational aspects are critical to create technical and social acceptance around the transition at the moment in which the TMT will try to promote the organizational identity re-alignment, communicating it to the company. These two factors can be strengthened, as we will see later, by engaging other managerial levels in the process of change and identity redefinition.

To conclude, with the synthesis of past and future organizational elements put in place to define a new organizational identity in line with the change to pursue, and with the awareness of having created an excellent basis to trigger Social and Technical Legitimacy around the proposed transition, making the change accepted, the so-called Cognitive Framing's phase (see figure 6.23 on the bottom) ends and the Emotional Framing one begins.

## **EMOTIONAL FRAMING**

The second block of the framework is dedicated to emotional framing. As presented in the literature review, sociological studies demonstrated how cognitive frames can be particularly influential and powerful when they harmonically resonate with participants' beliefs and values (Robnett, 2004). Emotional framing, in the economy of the theoretical model presented, is the process through which TMT communicate and promote the organizational identity change, theorized during the cognitive process previously explained, at different organizational levels, by evoking feelings, corporate values and beliefs in line with the company ethos (Giorgi, 2017), in order to get acceptance from the

majority of organizational members across the company. This step is particularly relevant because emotional framing can solve possible inconsistencies among old and new core capabilities, organizational beliefs and competitive domains; it can also help to close and weld the technical and the cultural gaps between the past and the future organizational identity, triggering and reinforcing the technical and social legitimacy around the selected transition.

At this stage, TMT should pay attention to transmitting the urgency of change to the entire organization, in a story-telling of opportunity, capable of recalling the previously identified elements of the past to make the perception of business continuity resonate, and the new attributes to develop, necessary to ensure prosperity for the organization. If this urgency is correctly communicated and perceived by all the organizational members, the likelihood of identity change adoption dramatically increases. As we will underline in the next section, a critical step to make this urgency emotionally resound across the company is to engage organizational members in the process of identity realignment (Ravasi, Rindova & Dalpiaz, 2011), especially the middle management, which frequently, in incumbents company, opposes to great changes. Gotten the organizational acceptance of the identity's transition across the board, the company is ready to make the change happen.

## 6. Engage your middle management in the Organizational identity Re-Alignment Process

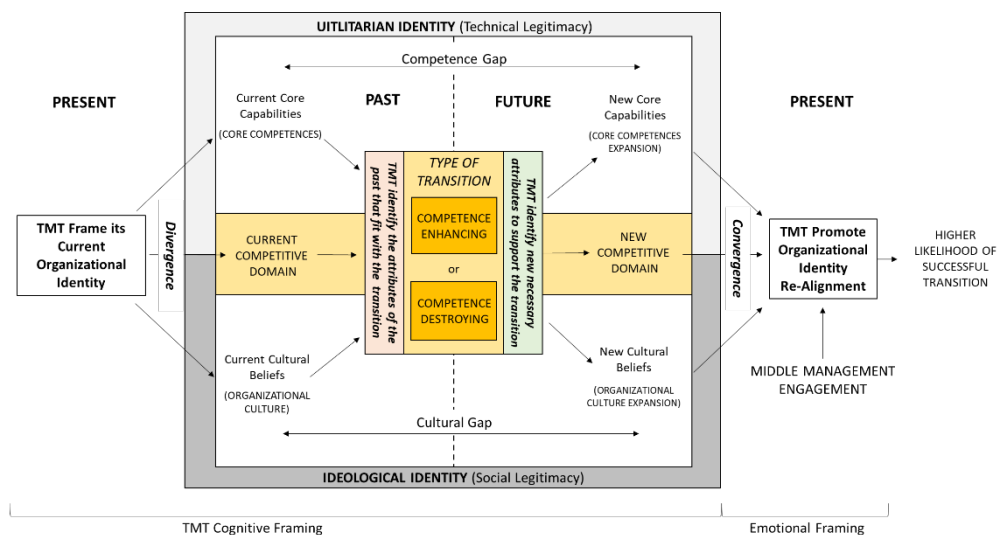


Figure 6.22: Emerging Framework - Construction step 5 - Middle Management Engagement and Emotional Framing

Once the traits of the new organizational identity have been defined, the identity re-alignment process is not concluded yet, but just started. The theoretical model, partially presented until this point of the narrative, describes the cognitive process that should happen within the TMT. Specifically, until now we have presented the mental map that company leaders should follow to come up with a new

consistent and persuasive proposal of organizational identity, in harmony with the type of transition selected.

However, creating a new proposal for organizational identity, changing the logo and the company motto on the brochures is not enough to ensure that the strategic change of direction takes place effectively and the organizational members move in the same direction (Tripsas 2009). To make the change happens, the TMT must transparently communicate and discuss the change of organizational identity and the new direction undertaken with company members, at different levels of the organization, before finally announcing it to the external environment.

In specific, top managers should spend time to transmit the sense of urgency for the change to the entire organization, across the board. Company leaders have to present the transition appealing to organizational members feelings, by utilizing the past organizational elements to propose the change in continuity with the company heritage and exploiting the new organizational attributes to inspire them. The ultimate scope of this stage is making the change resound harmonically across the entire organization, in order to make it happen. The creation of an official event, the writing of a letter directed to every single employee, setting individual meetings to speak with lower levels managers are some of the methods used by the successful companies investigated to communicate the change.

This stage, although theoretically, it may seem simple, practically it is not and sometimes is completely underestimated. Organizational members, especially middle managers, generally are reluctant to change. This category of organizational members is particularly relevant because they are the people who operationally implement the change defined by top management at a strategic-theoretical level. So it is extremely relevant to get their support in order to actually start changing the company. In particular, as shown in the case study of Kodak, middle managers were extremely tied to the razor blade business model and to the photo-film competitive domain and consequently opposed to the transformation of the company into an infomaging modern firm because the change was not suitably presented to them. Another example is Polaroid, where middle managers had a different vision respect to the TMT about the direction to give to the digital camera's business. In this case, TMT completely ignored the suggestions of middle managers and as a result, Polaroid failed the transition.

Consequently, it is not only important to communicate the change but directly try to engage organizational members and especially middle managers in the identity re-alignment process. In the cross-case analysis, we observed that when decisions, aimed at modifying the company DNA, were shared from only a single side of the organization, they struggled to take root effectively. But when

these decisions were shared and taken by mutual agreement, putting into practice a multilateral constructive dialogue that involves the organization across the board, the likelihood of success of the transition dramatically increased.

For example, as highlighted in the Fujifilm successful transition case study, middle management created a strategic planning committee in which took part ten members of different departments. Before the commercialization of the first digital camera, they periodically met to discuss about the identity of Fujifilm and its future direction. The results of the discussion were then presented to the TMT and influenced the final decisions. Also in the Konica Minolta case study, middle managers and employees were taken seriously into consideration. They were exhorted to think and discuss the future of Konica with the scope to help the company to define commonly shared goals, before and after the integration with Minolta. A survey was also spread at different levels to ask their opinions regarding the integration and the future change of direction. As a result, Konica's transition revealed to be successful. On the other hand, this level of engagement was not found in the bankruptcy cases of Kodak and Polaroid, where the TMT always took and imposed decisions independently from the rest of the organization.

These examples clearly underline the importance to communicate the organizational change and to engage the middle management in the process of identity re-alignment. If the TMT will be able to make its vision of identity's change, built on the principles of past, present and future previously explained, emotionally resonate across the company, higher will be the likelihood of success of the transition undertaken.

### **Final Clarifications**

The theoretical model presented, does not have the presumption to affirm that if it is correctly followed whatever transition is undertaken by incumbents, in the occurrence of disruptive innovation, will be successful. But it wants to identify a logical method to help the company leaders to effectively promote new organisational identities in order to increase the possibility to succeed in the realization of a competence enhancing or a competence destroying transition.

The first part of the process grouped under the label: TMT Cognitive Framing, is needed to allow top management to create a coherent proposal of organizational identity re-alignment, in line with the type of transition decided to undertake. The proposal coming out from this process is extremely well structured, consistent, and persuasive at the same time because concretely rooted in the company's past and built on the type of future envisioned for the organization. It could be not definitive and could

be subjected to modifications after moments of discussion of the change with other organizational members outside the top management (Emotional Framing Phase). However the utilization of the theoretical model should not be rigidly understood, but it should be applied iteratively until all its components are reciprocally congruous and all the organizational members, in specific TMT and middle managers come to a shared vision of the future organizational identity, triggered by shared technical and social legitimacy motivations built around the transition undertaken.

As the last remark, it is worth notice how the theoretical model presented works only when the TMT applies its intellectual honesty in evaluating which are the organizational aspects of the past to safeguard in order to guarantee business continuity, and which aspects need to be developed in the future in order to guarantee a new change of direction. This reasoning is particularly relevant if we consider some borderline cases. For instance, trying to hide the evidence of having the necessity to develop a new set of capabilities, new cultural believes, or a new approach to business respect to what the company currently is and is capable to do, or on the other hand, denying the company past with the intention to completely replace the current core competencies and organizational culture with new ones, are not credible approaches. In between these extremes, there are many intermediate situations. The more the top management makes a lucid and honest evaluation of its core competences, organizational believes, and competitive domain, the more will be the chances for an effective identity re-alignment process.

## **6.7 Application of the Emerging Framework on the four case studies presented**

Now that the explanation is concluded, in this section, the theoretical model presented will be applied on the four case studies previously introduced in order to show its effectiveness and to visually synthetize the reasons that led Fujifilm and Konica to succeed and Polaroid and Konica to fail, with the final intent to draw meaningful conclusions. The narration will follow the order of presentation of the cases utilized for chapter 6, which clearly reflect the cases selection matrix introduced in paragraph 5.2. The discussion will be accompanied by appropriate graphic use of the theoretical model presented, in which, as can be seen in figure 6.24, eight main components have been identified. These components will take on the green color when in the reference case study, they have been activated or adequately considered by the company under analysis. On the other side, they will take on a red color when they represent problematic aspects that have led to compromise the successfulness of the transition.



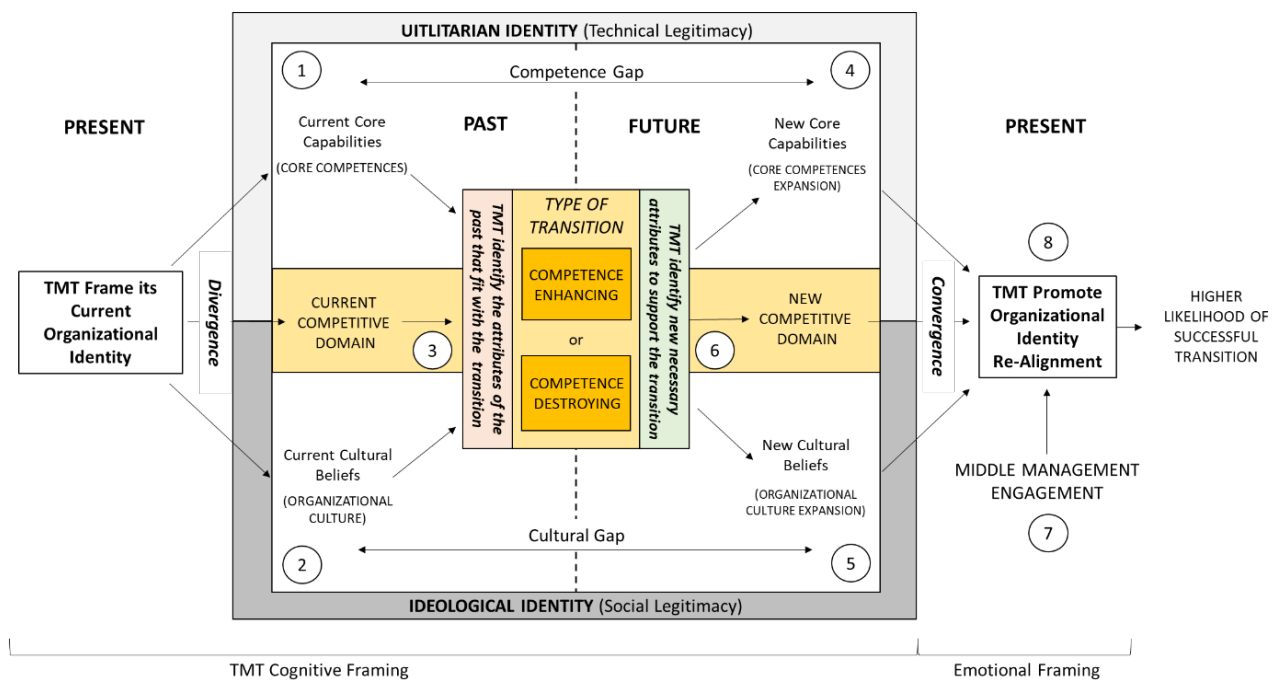


Figure 6.23: Emerging Framework divided into eight major components

The first two case studies considered are respectively Fujifilm and Polaroid. Both the two narratives treat the competence destroying transition, from analogic to digital photography, faced by these two incumbents, because of the wave of disruptive innovation imposed by the rise of digital imaging, in their industry of reference. However, the results obtained by these two prestigious companies have been the opposite.

Observing picture 6.25, it is possible to notice how Fujifilm activated all the 8 components of the theoretical model previously identified in picture 6.24 and consequently, it was able to successfully support the new company's direction, from film to digital cameras business, promoting a coherent shift of organizational identity that led Fujifilm to move from being a "Photo Film Manufacturer leader" to become a "World-class Image & Information company".

On the other side, looking at picture 6.26, it is possible to observe that the process described by the framework was not correctly executed by Polaroid, and specifically, four components were not properly considered. Consequently, the American company was not able to promote a change of organizational identity to support the competence destroying transition from film instant photography to digital cameras.

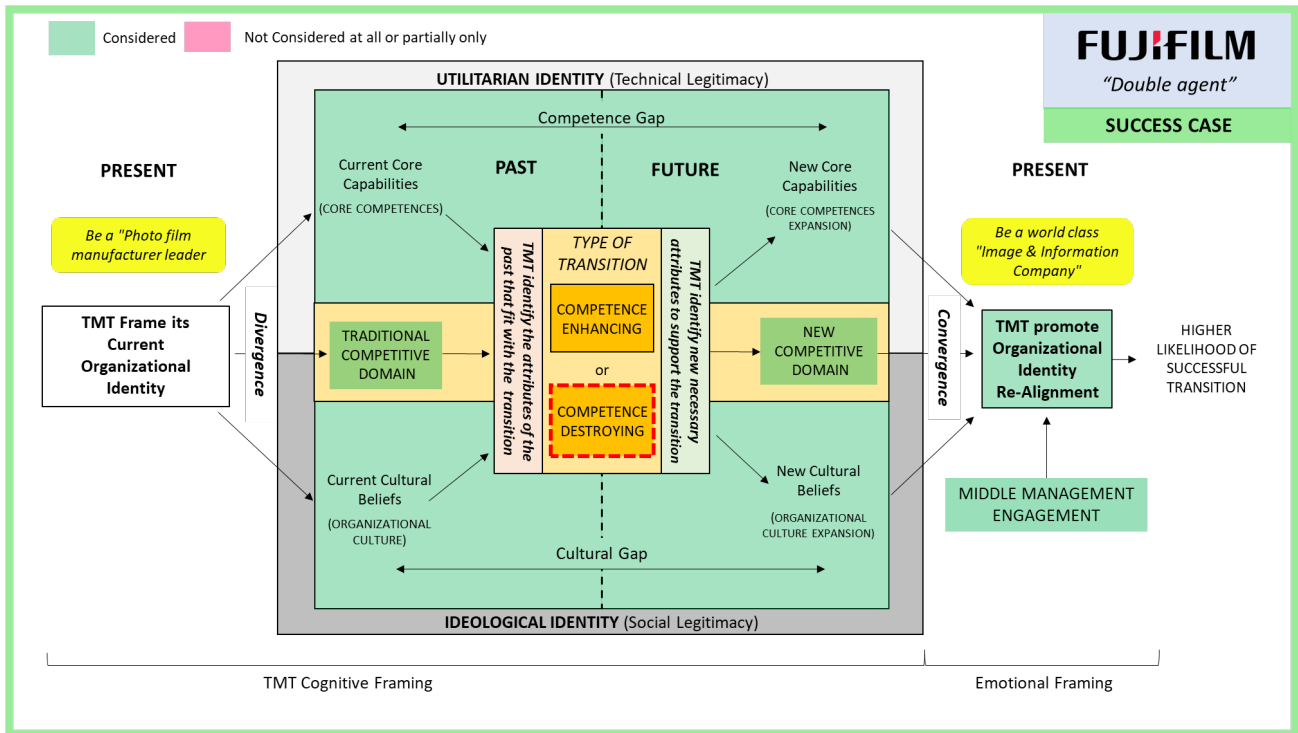


Figure 6.24: Fujifilm's Case Synthesis – The "Double Agent"

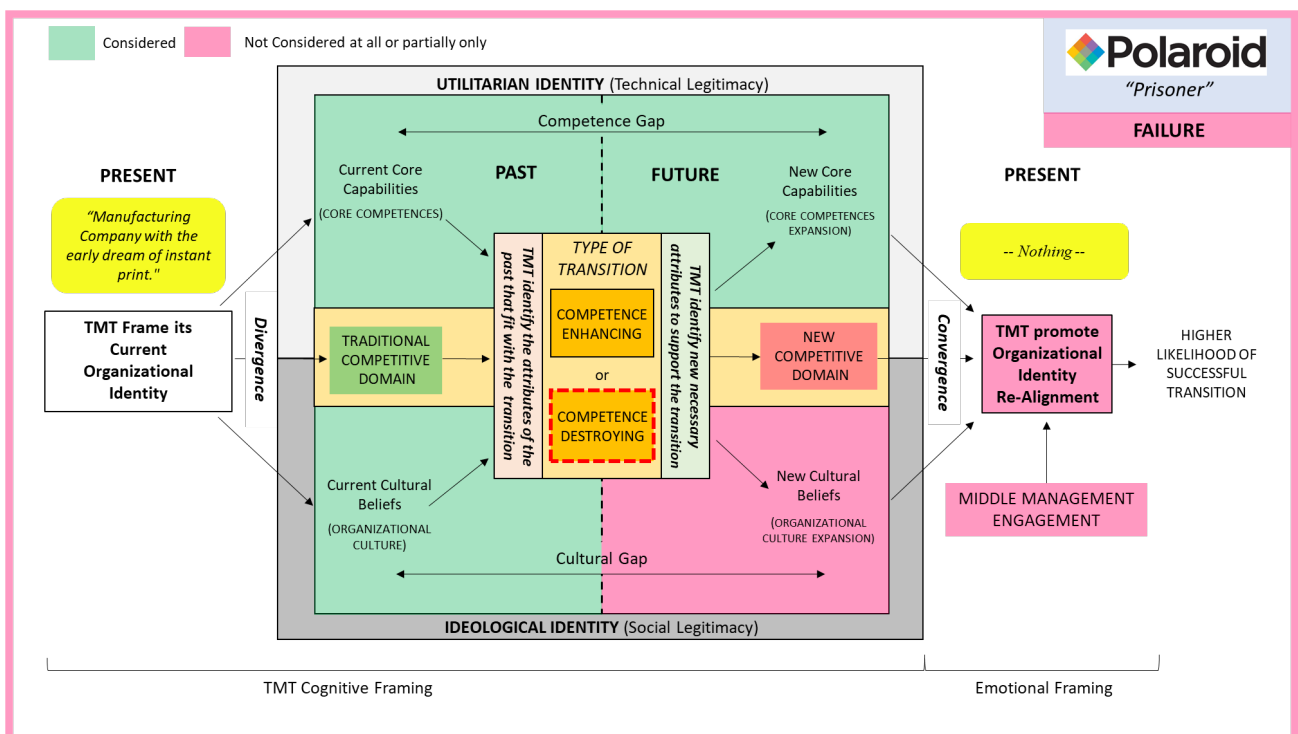


Figure 6.25: Polaroid's Case Synthesis – The "Prisoner"

Specifically, even if Polaroid's TMT was able, following the company's technical orientation, to expand the organizational core competencies in the direction of digital imaging and digital cameras developing light sensors capable to generate the highest resolution on the market (1.9 million pixels) during the '80s, a more efficient compression algorithm and triangle pixels to enhance the possibility

of color recovery, the same cannot be said for the organizational beliefs. TMT was not able to put aside the idea to apply the Razor Blade business model and it never abandoned the conviction that customers still valued and needed instant printing. The idea of top managers was to use digital technologies to improve instant photography. They did not believe that digital pictures could reach film photography's resolution. Consequently, TMT tried to push on the market hybrid cameras (half analogic, half digital) which revealed to be a complete failure. This decision showed TMT's lack of understanding of the new competitive domain. Company leaders focused on the problem of matching the resolution between film and digital photography, underestimating the new customer needs to download, share and use pictures on different devices. Moreover, they rigidly applied the past business model, not comprehending that the digital camera market was based on hardware, sold through specialist distribution channels. This managerial rigidity to frame the transition brought to a cultural clash with the new Electronic Imaging Division, composed by new hired digital imaging experts and researchers who had a completely different view of the digital cameras business respect to the TMT, being nearer to market. The middle managers of the division tried to discuss the organizational change with TMT who, in response, never took into consideration their proposals and never tried to engage them in the organizational identity re-alignment process. As a result, middle management opposed to TMT rigid transition's vision and the launch of the first full digital Polaroid camera was delayed for many years, due to the stalemate originated inside the company. Finally, when it was launched it was too late and the transition failed. In Polaroid, company leaders were never able to effectively promote a change of identity and the company never abandoned its definition to be a "*Manufacturing Company with the early dream of instant print*".

On the other hand, Fujifilm was able to both expand its organizational core capabilities, developing proprietary technology, in particular its own CCD, the most expensive and critical digital camera's component, and flourish new organizational beliefs, such as conviction in a new business model, higher trust in marketing data as input for the product development, and the revaluation of the concept of "image" rather than "film picture". The characteristics of the new competitive domain were cheerfully examined by Fujifilm TMT, who understood the importance to use specialist distribution channels and manufacture in-house the most expensive components because the new business would have been based on a hardware price competition and consequently the previous margins would not have been repeatable. So the optimization of the production cost was evaluated as essential. Leveraging on the meaning and the importance of Fujifilm photography's tradition, TMT was able to propose and communicate the digital transition in continuity with the company's heritage. Moreover, middle management engagement, created around the competence destroying transition, strengthened

the TMT position, making possible the organizational identity re-alignment. In fact, respect to Polaroid, Fujifilm's leaders spent a lot of time to properly communicate the shift to organizational members across the company, and a middle managers' group was invited to realize a strategic planning committee, comprising 10 members of different departments (R&D, Manufacturing, HR, Sales) in order to proactively discuss the identity of Fujifilm and its future business direction. This group met once a month and submitted a final report to the top management with whom they shared and discussed their business view of the company. Because of the full activation of the eight critical components of the theoretical model presented, the company was able to redefine itself into an Information and Imaging Company and to successfully complete the transition from film to digital camera business. As a matter of fact, in 1988, it successfully commercialized the first marketable full digital camera in the world called DS-1P. Thanks to its forward-looking activity, at the end of the '90s, Fujifilm was able to acquire the 28% of the domestic market share and 23% of the global market share of the digital camera industry.

Summarized the reasons why Fujifilm was successful in making the transition and Polaroid failed to accomplish the change, in light of the cases shown, it remains to comment the labels assigned to these two incumbent companies, which respectively have been defined as: "Double Agent" and "Prisoner".

Fujifilm was aforementioned "Double Agent" because it was able to face a dramatic competence destroying transition, making coexist successfully for twenty years the exploitation of its traditional film business and the exploration in digital photography, accomplishing the transition toward the digital camera business. Fujifilm was capable to manage the tensions between these two-opposite business domains, from the beginning of the '80s to 2005, until the photo-film market substantially disappeared. On the opposite, Polaroid was defined "Prisoner", because its top management remained devoted to the same cultural believes that originated Polaroid's success many years before, without being able to critically understand which new managerial beliefs were necessary to sustain the competence destroying transition undertaken. The cultural repertoire remained anchored to the past, in completed dissonance with the managerial believes required to commercialize digital photography. This cultural rigidity imprisoned Polaroid in its past, making it insensitive to change.

Proceeding with the two remaining case studies, the next section of the paragraph will consider the narratives of Konica and Kodak, which alternatively, faced a competence enhancing transition obtaining opposite results. The Japanese manufacturer was able to turn its business portfolio, becoming totally independent from the film camera business and expanding its presence in the B2B Office Document and Industrial Business Machine market, and successfully exploring the Optics -

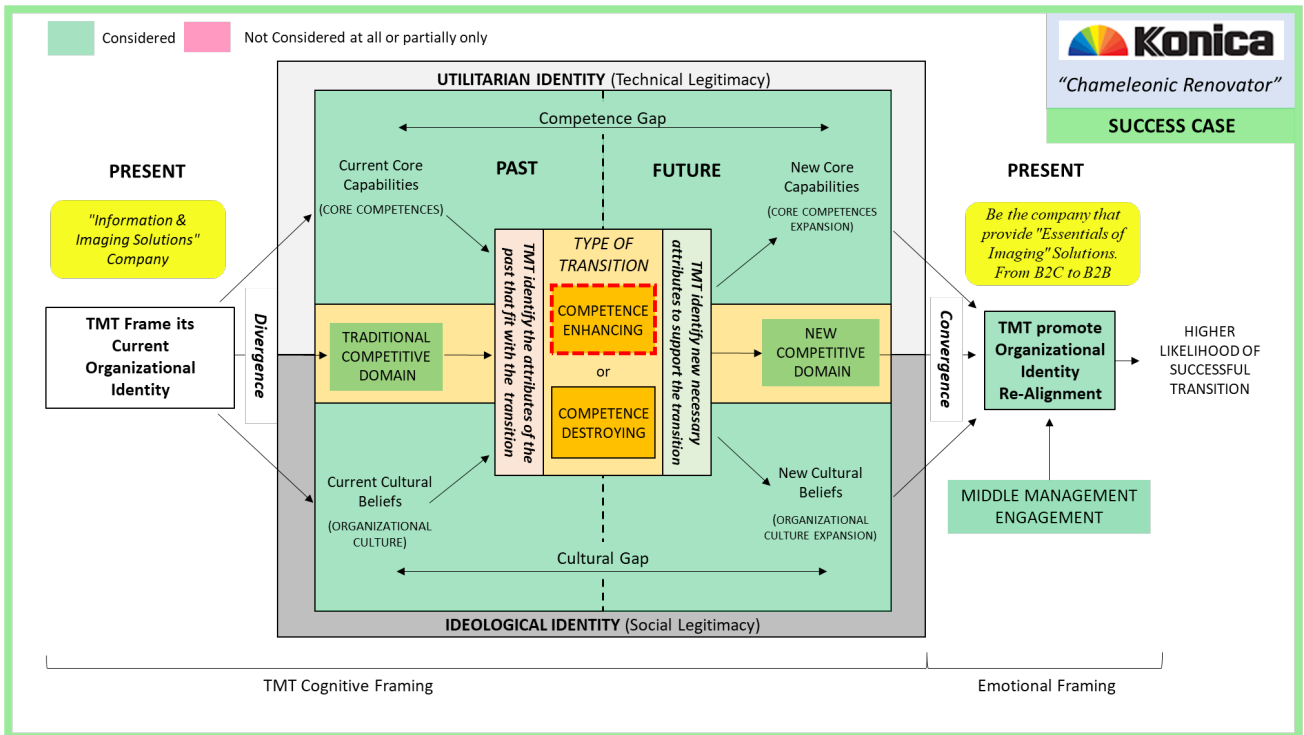


Figure 6.26: Konica's Case Synthesis – The “Chameleonic Renovator”

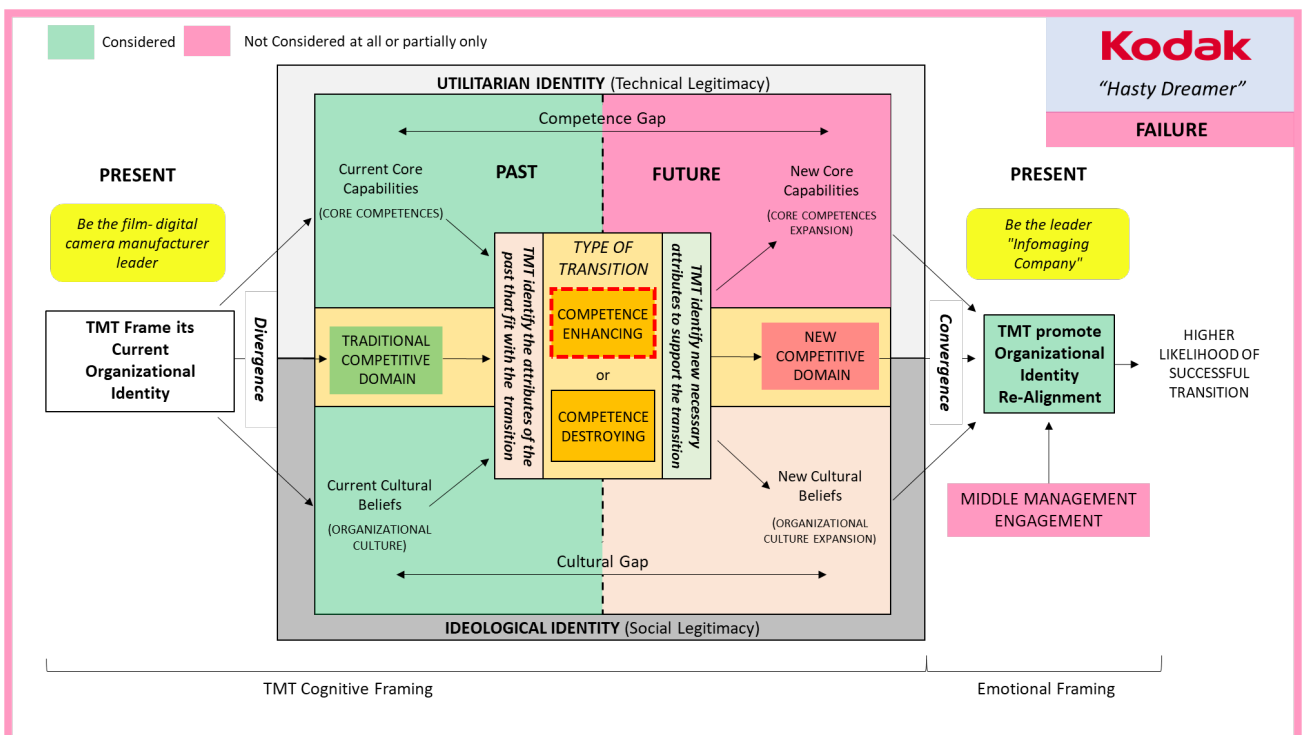


Figure 6.27: Kodak's Case Synthesis – The “Hasty Dreamer”

business, entering the competitive domain of LCD screens through the production of TAC films. As a matter of fact, observing picture 6.27 it is possible to notice how Konica’s TMT, correctly activated the entire process described by the theoretical model previously introduced and thanks to it, succeeded in realizing an organizational identity realignment, passing from being an “Information Imaging

*Solutions Company Provider*” focused on B2C, to become a “*Company Provider of Essentials Imaging Solutions*” focused on B2B. On the other side, Kodak, the worldwide film manufacturer leader, was not capable to revamp its business portfolio, becoming independent from its traditional photo film industry and passing to profitably deliver output services (Storing, Sharing, Printing, Editing) for digital images. In fact, looking at picture 6.28 it is possible to notice, that Kodak’s TMT did not observe all the eight components of the model and consequently, was unable to turn Kodak in a modern high-tech “*Infomaging company*”, despite many announcements from its CEOs.

Moving on to comment the differences between the two cases and the reasons that led Kodak to fail the competence enhancing transition undertaken in the period (1998-2012), certainly, the role played by the core competences was decisive. Taking the story of Ofoto, a digital platform acquired by Kodak to compete in the digital platform business for storing and sharing pictures, despite it had a great affinity with Kodak’s knowledge in digital imaging, storing data and photo editing, and its belonging to the Digital Imaging Consumer segment, the American company completely underestimated the competences needed to successfully manage the transition from films or digital products towards providing digital online services. So despite the synergic opportunity, Kodak’s managers were not able to develop the needed skills in digital marketing, cloud computing, advertising, social media marketing inside the company. Kodak’s core competences in film production always remained more relevant than ones in digital services. Not many managers and employees were specialized in these fields and in providing services. To close the competence gap, only a few managers were hired from other infomaging and high-tech companies. But this was not enough. A deeper organizational change should have been put in place.

In parallel, a partial rigidity (for this the relative component has been coloured of pink in the picture 6.28) in the development and application of new cultural organizational believes made the organizational identity realignment even more complicated. For instance, Kodak TMT was not able to select a new suitable and profitable business model for Ofoto and for this reason decided to continue to defend its traditional “razor blade business” model, shifting from a freemium to a subscription revenues generator method, which imposed people to print periodically their digital pictures from the digital platform under analysis. But this aspect was also influenced by the centenary core competences developed in film manufacturing and the huge number of assets available to produce films, which were becoming quickly obsolete and which imposed managers to try to exploit them differently. Core competencies became important core rigidities.

This complicated situation was also aided by a lack of understanding regarding the competitive domain in which Kodak was competing. TMT correctly predicted customers' necessity to store, edit and share their digital pictures. But what missed was a long-term vision for the digital service provided through Ofoto. Kodak did not realize that was competing in the photo-sharing, social media business rather than in the storing and printing one. Main users liked sharing pictures with friends on Kodak Gallery, commenting and spending time on the platform. Kodak had in the hands the first version of Instagram, in the years in which Facebook was booming. But this new type of business required new competences and managerial values respect to Kodak's traditional business and manufacturing mentality. The rules of the game were completely different, as long as Kodak was transitioning from film to digital, from products to services.

Despite these shortcomings, Kodak's company leaders announced many times the willingness to promote a change of organizational identity turning Kodak, from being the leading film and digital camera manufacturer, to a leading and modern "*Infomaging Company*", but this desire was never fulfilled. The reason is not only due to the lack of social and technical legitimacy built around the transition but also for the ostracism put in place by the middle management. In fact, Kodak's middle managers were strongly devoted to the film business and lacked the necessary global vision to see the necessity for a radical change like the one proposed by the TMT. Moreover, this clash was accentuated by the incapacity of the organizational leaders to present the transition in continuity with the company heritage, making the change emotionally resonate in a narrative of opportunity and by the lack of middle management's engagement (and other lower levels) in the identity realignment process. All the decisions were taken from the top. There was no filter between TMT and middle managers. The organizational structure was highly hierarchical, and the CEOs and their collaborators never promoted a moment of open dialogue, making middle managers directly participate in the change.

On the other side, Konica successfully sustained the competence enhancing transition decided to undertake, putting in place an appropriate process of organizational identity realignment as shown in picture 6.27. In specific, it revolutionized its business portfolio, extremely dependent from the film and the camera business, pointing on the expansion in the Office Document and Industrial Business Machine domain and exploring the Optics technology field, entering the market of the LCD Screens by launching the production of protective TAC films. Moving on to comment the reasons that led Konica to succeed in, first of all, it is important to point out that Konica's TMT invested time and resources to create the right technical and social legitimacy around the transition.

First of all, considering the technical perspective, the TMT decided to centralize the R&D department to trigger cross-contamination among different business and to start a process of revaluation of old patents and its traditional core competences to understand how Konica could have applied them differently in other industries. Successively, starting from this process, it promoted the San Plan 2003 agenda to increase its R&D expenditure in the professional business machine and in the optical technology domain in order to raise, over a next level, its knowledge and core competences. This process of core competences' expansion culminated in the merge with Minolta, another Japanese manufacturer specialized in camera manufacturing, copying and printing technologies and optics. The new organization, merging Konica's knowledge in fast copying, materials and chemical liquids with Minolta's expertise in color image processing technology, created the polymerization toner, which was essential for Konica Minolta's MFP (Multifunctional peripheries) and LBP (Laser Beam Printers) commercialization and consequently for its expansion in the business machine domain. Moreover, leveraging on Konica's film manufacturing tradition, and on its knowledge in chemistry, optics, precision engineering and coating, the new organization was able to open the market of the TAC films for LCD. So, summarizing, from the technical point of view Konica respect to Kodak, not only created a strong business continuity link, retracing the change of direction in the past organizational core competences, but also invested resources and merged with Minolta to develop synergically new capabilities to be competitive in the new business domains selected.

The same reasoning can be applied for the organizational cultural believes. In fact, also many managerial principles were subjected to a process of revaluation, and flexible development. Considering the Business Machine domain, TMT consistently preserved the traditional razor blade business model based on consumables. While considering both businesses (Business Machines and Tac Films), TMT preserved the importance to bring on the market products capable to guarantee high image quality definition, and respectful for environmental sustainability. In addition, these businesses were in line with the traditional manufacturing mentality of the company. Instead, for what concerns new cultural believes developed to sustain the transition, Konica company leaders, successfully promoted the concepts on Speed, Alliance, and Network. The speed value was pursued to push Konica to be more customer responsive, increase flexible decision making, accelerate the product development process. Alliance was considered a milestone to expand the company's technical knowledge and the innovativeness of its products, rationalizing costs (the merge with Minolta was a consequence of this value). And finally, Network was related to the idea that society would have been connected with the internet, and for this reason, Konica solutions had to grant open architecture and adaptation towards several input/output formats. Another new fundamental value promoted was the



necessity to shift from B2C to B2B. So, also from the organizational culture perspective, the TMT activated the cultural register flexibly, creating continuity, and fostering new values in line with the transition.

Furthermore, TMT demonstrated to be capable to read the evolution of the digital imaging competitive domain, anticipating potential problems and future needs. From this, the decision to veer on these two business directions, abandoning the consumer photo film industry, and starting a process of new core competences' and organizational believes' development, in line with the new competitive domains selected. In fact, digitalization created a war of price among companies deriving from different business fields. International expansions and concentrations were reshaping the market balances. The environment was in continuous change with increasing competition. It required always updated technologies and competences, new efficient and specialized distribution channels, and new business models.

Identified the past and the new technical-cultural principles around which promoting the change of identity in perfect harmony with the company's tradition and the new business direction, Konica's TMT started a period of reflection and came out with a new vision and a new corporate philosophy based on: "the creation of value", to communicate across the organization the intention to reshape Konica Minolta's business portfolio and to take advantage of the digitalization trend, fostering the growth of the professional copying and printing market and encouraging the exploration towards new business initiatives in particular in the optics domain.

We cannot underestimate the merge between Konica and Minolta behind the realization of this organizational change. A merger between two historical companies, with important historical heritage, could have generated a cultural shock between the members of these two organizations. Nevertheless, the new TMT, promoting a merger on par and taking seriously in consideration the engagement of the middle and lower management was able to gain support towards the transition and to make resound the urgency of change in a period in which Konica's survival was threatened. In detail, employees, at different managerial levels, were exhorted to discuss the future of the company and to help the organization to come out with the definition of common suitable goals. A survey was also spread across the company to understand the level of satisfaction for the integration.

Thanks to this careful process carried on by the company's leader, activating all the 8 components displayed in the theoretical model, Konica Minolta was able to realize the organizational identity realignment and consequently succeed in the competence enhancing transition pursued. In specific it

passed from being an “*Information Imaging Solutions Company Provider*” focused on B2C, to become a “*Company Provider of Essentials Imaging Solutions*” focused on B2B, where the terms essential has a double meaning: the intent to become an essential company for its stakeholders and the willingness to focus only on profitable and future profitable business related to imaging, restructuring, or dismissing not lucrative areas. As a result, Konica Minolta in 2008 was able to generate 58% of the operating income by the new core business of copying and printing peripheries and a 17-18% from the optical technology segments, in which the largest part of the sales was produced by the TAC films. Together these businesses accounted for 75% of the overall operating income of the company. The independence from the photo-film and digital camera industry was accomplished.

Summarized the reasons why Konica, was successful in making the enhancing transition and Kodak failed to accomplish the change, in the light of the cases shown, it remains to comment the labels assigned to these two incumbent companies, which respectively are: “Chameleonic Renovator” and “Hasty Dreamer”.

Konica, later renamed Konica Minolta after the merger, was aforementioned "Chameleonic Renovator" due to its ability to successfully re-evaluate and enhance the company's core competencies in fields far from its traditional photo-film and camera business domains, becoming independent from its original industry and drastically revolutionizing the structure of its business portfolio. The “Chameleonic Renovator” not only is capable to find new directions for its technical heritage but is also capable to adapt its previous cultural principles respect to the change undertaken and to develop complementary skills and beliefs to effectively sustain the enhancement of its core capabilities in other business domains. On the other side, Kodak was nicknamed “Hasty Dreamer”, because of its inability to adequately estimate its core competences with respect to the type of competence enhancing transition decided to undertake. The “Hasty Dreamer” overestimates its current core competencies and underestimates the complementary competencies needed to enter in a new given business; or alternatively, it mistakenly perceives his own skills as central to the new business he wants to tackle when in reality they are not core or are partially core. It is usually in a hurry to change and therefore can also underestimate the adaptation and the development of its cultural principles to consistently support the new change of direction.

## **6.8 Meaningful conclusions drawn from the graphical application of the theoretical model on the case studies**

From the application of the theoretical model on the four case studies previously presented, three meaningful considerations can be derived:

The first one, albeit evident, is the importance to activate all the eight components that constitute the theoretical framework introduced in paragraph 6.6. In the cases presented only the companies' leaders who considered all the eight elements of the model were able to realign the organizational identities of their firm and pursue consistently and successfully a competence enhancing or competence destroying transition. On the other side, the company leaders who underestimated or missed the application of one or more components of the model were not able to make the change of identity and the change of business direction happen.

In this specific process of identity realignment and change adoption, the flexible activation of the Utilitarian and Ideological identities and the middle management level of engagement played a role particularly critical.

When one of the two identity facets, or both, remained anchored to the past, the realignment proved to be ineffective leading the identity transition towards failure.

Moreover, the underestimation of the role of middle management, and the lack of their engagement in the identity realignment process, from an operative perspective, created an irremediable fracture of thought between top management and the rest of the organization, reducing the possibility of a successful transition. In the cases analyzed, this situation happened because one of the two organizational groups (TMT or middle managers) remained closed in the past and a constructive dialogue aimed at creating a common direction, making organizational members perceive the urgency to change, was never properly implemented. For this reason, it is important to involve lower managerial levels in the process of identity change, motivating the shift to every member and making it emotionally resound across the organization, presenting the transition as a natural step in continuity with the past organizational core competencies and cultural values, and conveying it as an unmissable opportunity for the future prosperity of the company.

The second and third considerations emerged from two specific patterns discovered through the graphic application of the theoretical model, as it is possible to notice from pictures 6.26 and 6.28.

Considering the first two case studies presented (Fujifilm and Polaroid), based on the realization of a competence destroying transition, and in particular observing picture 6.26, referred to Polaroid, it is possible to ascertain that the American company had problems in developing new cultural beliefs consistent with the kind of transition undertaken, and consequently in expanding its Ideological identity facet. This observation is particularly relevant because highlights that when companies face a competence destroying transition, the most critical issue is overcoming the past cultural beliefs and cultural resistances rooted in the organizational culture of the company, especially in the mind of top and middle managers. Companies that decide to face this kind of transition should direct their main efforts to create the right level of social legitimacy around the transition, rather than focusing only on the development of new capabilities, as happened for Polaroid.

As described in the cases, this transition is particularly painful and complex because it imposes the company to put aside its traditional core competences, and to start again the activity from scratch, in a context of business only apparently similar to the previous one, based on a different technology and different competitive principles. But in the new context, past core competencies become quickly obsolete, so the company would no longer have an interest in using them, and it is obliged to renew its technical repertoire and to expand its Utilitarian identity. On the other hand, the temptation to use the old managerial and cultural principles could insidiously arise, jeopardizing the successful outcome of the transition.

Moving on, considering the other two opposite case studies (Konica and Kodak), focused on the realization of a competence enhancing transition, and specifically, observing picture 6.28, related to Kodak, it is possible to verify that the American Company had its main problems in developing new organizational core competences consistently with the kind of transition undertaken, and consequently in expanding its Utilitarian identity facet. In parallel, it also faced some hurdles in maturing new appropriate cultural beliefs and consequently in expanding its Ideological identity. However as commented in the paragraphs 6.4.2, and 6.7, the impact of the lack of Utilitarian Identity's stretching was significantly greater and more incisive.

This observation is particularly relevant because it remarks that when companies face a competence enhancing transition, the most critical issue is adequately assessing the company's organizational core competences, without overestimating actual core capabilities, and at the same time without underestimating the need to develop new necessary core competences to compete in the new business space identified. The lack of experience in the selected competitive domain and a certain managerial arrogance in evaluating actual core capabilities as central, even if they are not, can bring the company

to underestimate problems or to take decisions not appropriate for the new business context. Companies that decide to face this kind of transition have to direct their main efforts to create the right level of technical legitimacy around the transition. Finding a simple link with the past is not enough. The core competences selected must be central and not secondary, to the transition undertaken, and the company must focus its attention on developing those additional complementary skills to effectively support the change.

As described in Konica and Kodak cases, this transition is not particularly painful from the organizational culture perspective because, respect to the competence destroying transition, the technical heritage does not become completely obsolete but it is re-evaluated and applied in a new business domain. This implies that in facing this transition, there is not a level of cultural resistance comparable to that presented in the two previous cases (Fujifilm and Polaroid). Consequently, obtaining approval for diversification, it is easier than attempting a competence destroying transition because this initiative does not directly undermine previous historical businesses and the corporate tradition. So, the critical issue remains the correct evaluation of the actual and new necessary organizational core competences.

Furthermore, companies should also consider that this easiness to get approval for diversification can mistakenly lead to not appropriately sustain the transition developing the correct organizational and managerial values, but to unconsciously apply, in a deleterious way, past organizational beliefs, bringing the initiative to the failure.

## 7 External Generalization

Referring to Jeffrey, W. L. (2013), the main goal in science, and consequently in all the social science disciplines, is the creation of generable knowledge, not constrained by time and places. External validity, it is a process of generalization of the research's findings, "*either from a sample to a larger population or to settings and population other than those studied*" (Jeffrey, W. L., 2013; p .1).

In light of this definition, as anticipated in chapter 5, the research undertaken is not limited to the proposal of a new theoretical model of organizational identity management, emerged from the cross investigation of four meaningful case studies in the photo film industry, to help company leaders understand how to consistently support a competence enhancing or a competence transition in times of change. But the willingness of the author is to take a step ahead and try to generalize the results obtained, applying the theoretical framework on two more contemporary cases referring to companies operating in slightly different settings respect the film one.

More specifically, in paragraph 7.1, the unsuccessful case of GoPro, the global American leader of the action camera business which tried to enhance its competences, entering the drone industry with the launch of its Karma Drone, is presented. This case not only refers to a different business context respect to the film industry but also to a more contemporary time frame: (2015-2018). Moreover, the attempt to diversify put in place by GoPro is not due to the emerging of new disruptive innovation, but from a shrink of sales caused by the price competition settled by new Chinese action cameras' manufacturers (as DJI) and the improvement of the video-recording performances of the smartphones.

Moving on, paragraph 7.2 will introduce the case of Nikon, one of the main Global Japanese leaders in the high-end professional DSLR (digital single-lens reflex) business domain which is trying to revolutionize its business portfolio, enhancing its organizational core competences (Opto-Electronics and Precision Technologies). In specific, it is working to enter the Healthcare and Material Processing Business to realize definitive independence from its traditional but declining digital camera sector. Even this case will refer to a slightly different setting and time reference. However, its particularity is that the transition described is not yet fully accomplished. While for GoPro the theoretical model will be applied ex-post, for the Nikon case, the application of the model will be used to predict the future. As we will show, the Japanese manufacturer has started in late 2017 a process of identity realignment to support the business portfolio change of direction, activating after a period of uncertainty and difficulty, all the eight components of the model. Theoretically, the transition seems to be paying off. However, the first positive results need future consistent numerical confirmations in terms of sales,

gross margin, and net income. If Nikon will return to grow in the next two or three years, the normative value of the model presented will be confirmed and further strengthened (Christensen, M. C., 2006; p. 45).

In light of what explained, this section must be considered as a first step to verify the external validity of the research's findings previously presented.

## **7.1 GoPro Case**

### **7.1.1 Company Introduction**

GoPro corporate history can be traced back in March 2002, when Nick Woodman, burnt from the failure of its first entrepreneurial initiative, Funbug, an online gaming service companies, decides to leave for a long trip to Australia and Indonesia, following its passion for surfing, to reorder the ideas. During his holiday, Woodman looked for a solution to capture the perfect wave moment. He came out with a rudimentary support for his Kodak camera, directly attached to his wrist, using a surfboard strap and other rubber bands. That was the AHA moment. Turn back from the trip, Woodman worked day and night to create its first prototype of a waterproof camera, equipped with a limited number of accessories to unlock its potential during surfing activities.

In October 2002, on the base of the prototype just realized, he founded Woodman Labs, then renamed GoPro Inc., such as the name of its famous product. Then, September 2004 was a key date in GoPro history because, for the first time, Woodman presented his wrist-mounted, revolutionary still camera at a famous action sports retailer convention in San Diego. This camera, still film-based, immediately aroused the enthusiasm of many surf fans, because it allowed the user to become the hero, the protagonist of his own videos or photos in extreme conditions. Signed a deal with Hotax Manufacturing Co. Ltd, a Chinese manufacturer of photo cameras, Woodman started successfully the business, producing cameras for 3\$ and selling them for 15\$ to surf specialist retailer shops. The success of the product gave rise to a completely new business domain: the action camera market.

Starting from the 2006 Woodman extended the camera business domain to other market segments such as skiing and mountain biking enthusiasts, however, the rapid climb to success began with the transition from film to digital, launching the DigitalHERO series. The first GoPro digital camera was not able to record audio and took a video for a maximum of 10 seconds. Starting from the

DigitalHERO3, the device improved allowing an unlimited audio and video recording time. But it was with the DigitalHERO 5, that in 2008, the company exceeded 8 billion \$ of sales in a year.

2009 was a significant year for the camcorders and video camera business because Apple Inc introduced the iPhone 3GS, a smartphone capable to take video at 3 megapixels of resolution. The iPhone disrupted the traditional digital camera business but GoPro, launching its HD HERO Black, became a pioneer of a new business space, still far from iPhone performances: High-Definition Cameras that allowed unique point of view. Thanks to this product and targeting the mass market, GoPro in 2010 earned 64 million \$ of revenues. GoPro numbers continued to raise refreshing its main products and adding features until 2014 when Woodman Labs changed the name in GoPro Inc, and its founder decided to go public, putting in place an IPO in New York. The initial public offering valued Woodman's company 3 billion \$. Investors however made triplicate the starting value touching 11.5 billion \$ of Market Cap. In that same year, GoPro was the leader of the action camera industry, possessing the 47% of the market share and Nick Woodman, became on the most paid CEOs in the world.

This idyllic moment continued until the end of 2015, when due to a series of unlucky models, pricing mistakes, market saturation, and price competition from new entrants the demand for GoPro cameras dropped. Units sold decreased for 30 and the stock value tumbled 90.7% at the end of 2016. Commenting this period, GoPro's Senior Vice President Brown J., admitted a certain degree of managerial arrogance widespread in the organization: *"Everybody loved everything we were doing. [...] We thought we could just throw the thing out the door and charge \$399--they'll buy it because it's a GoPro"*<sup>60</sup>

Despite these negative numbers, the GoPro brand remained one of the most influential and valuable in the world. However, analysts were concerned about GoPro's ability to innovate beyond its core product line and worried about the growing competition in the action camera market due to the entry of new global players such as Sony, Polaroid, Panasonic, ION and low-end Chinese manufacturers of cameras. Moreover, the increasing features of modern smartphones were putting additional pressure on GoPro profitability and dominant position. For this reason, in such a context, Tony Bates, former president of GoPro together with Nick Woodman started to evaluate the idea to extend the brand, and the organizational capabilities in new interesting market spaces, entering new businesses to ensure sustainable growth to the company.

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<sup>60</sup> Interview with a manager. Foster, T. 2020



In parallel, during this challenging period, a new technological innovation was emerging creating a new opportunity of business: the drones. Since 2013, these devices became accessible to the public at reasonable prices. They were mainly used to capture holidays, event, sports moments from the sky, thanks to a camera and a stabilization system mounted on the body of the drones. GoPro conscious of this interesting trend, since 2013 was collaborating with the main drones' manufacturers (such as DJI and 3D Robotics) and thanks to this partnership, the 10% of the GoPro sold in 2015 were utilized to equip Drones of these manufacturers. However, in 2015 the drones' market was in its nascent stage but had the potential to be an influential innovation in many industries, such as the action camera one. Consequently, given the declining situation in its traditional business and the affinity with the drone industry, GoPro decided to explore this new market domain and started a competence enhancing transition in functions of this new business opportunity.

### 7.1.2 From action camera to the drone business – An unsuccessful competence enhancing transition

To better guide the reader in understanding the application and the affinity of the theoretical model concerning the investigation, the unsuccessful case of GoPro has been summarized in figure 7.1.

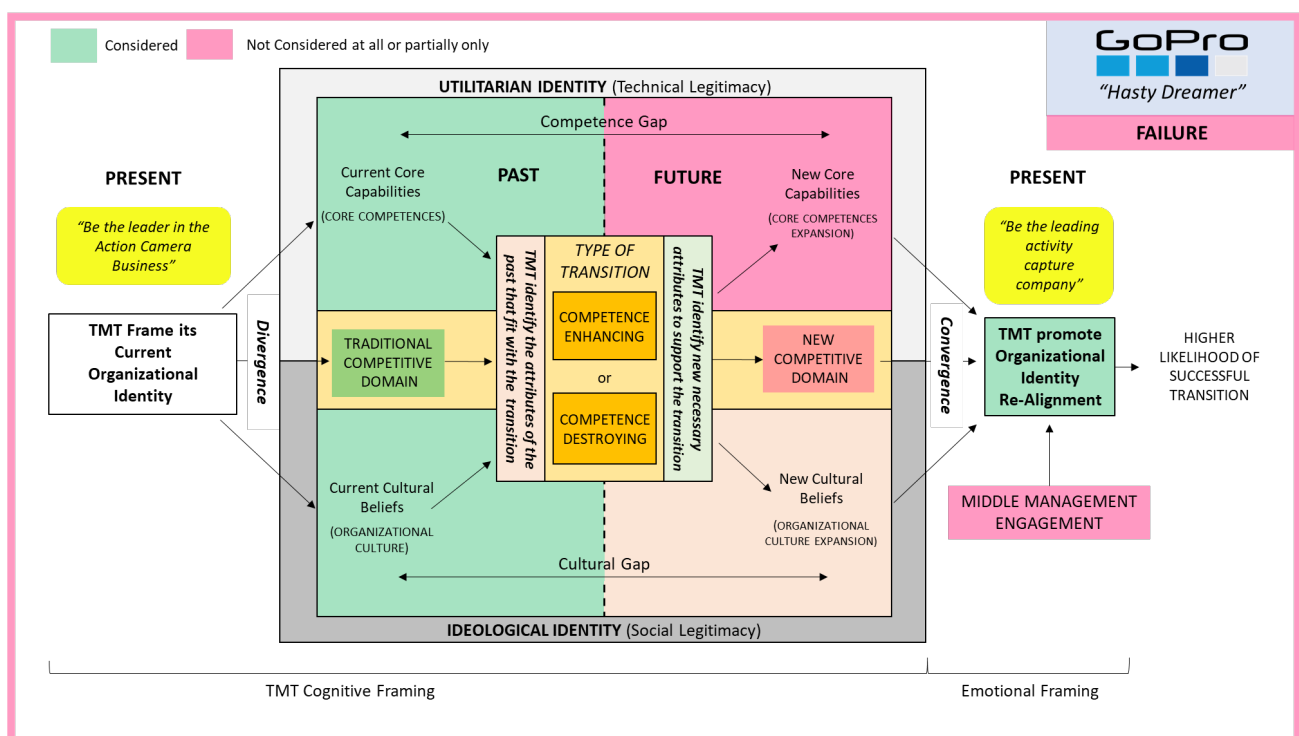


Figure 7.1: GoPro's Case Synthesis

In late 2015, GoPro officially announced the intention to enter the drone business with its first (UAV) unmanned aerial vehicle, called Karma to counter the biggest competitor DJI, with its Mavic Pro. The launch of the product was fixed in the first half of 2016.

In evaluating the decision to transition towards this completely new market space, Nick Woodman and the TMT were perfectly aware that this change, to result effective in the future, required a certain re-alignment of GoPro's organizational identity. Looking at the left part of the model (figure 7.1), it is possible to observe how they correctly assessed the big affinity in terms of core competencies between action cameras and drones. The two devices were synergistic, moreover, HD digital videorecording and stabilization technologies were past organizational core competences that resulted fundamental and completely in line with the type of transition decided to undertake. On the other side, from the organizational believes perspectives the drone represented a new kind of accessory that could expand the potentialities of GoPro and revitalize the sales of the camera. Moreover, the drone consumer business reflected the company philosophy to help people to celebrate exciting moments, inspiring others to do the same. It was seen in perfect continuity with the idea of the founder to enhance the lifestyle of the people, by sharing experiences recorded through GoPro products. Finally, for what concerns the aspects of the traditional business domain to consider, TMT correctly understood that distribution channels and the business model required were quite similar between action cameras and drones for the mass market.

The main problems raised on the right side of the model. In specific, the critical issue was related to the development of new core capabilities to consistently sustain the transition. The competence gap from digital action camera to drones was particularly deep, and for this reason, required more attention. Despite action camera had a technology compatible with drones, aerial vehicles were not the usual GoPro accessory. But inversely, from a certain perspective, the digital camera was more an accessory for drones, than vice versa. The core technology for drones is not only video recording, and stabilization. A drone is composed by many components (such as Standard Propellers. Pusher Propellers, Brushless Motors. Landing Gear, Battery, Electronic Speed Controllers...) very far from the action camera ones, in which GoPro had no manufacturing experience.

So, GoPro even if heavily invested in Research and Development, doubling the annual expenses, hiring influential developers and engineers, and acquiring UAV start-ups to learn how to build drones from scratch, was not able to bring on the market a reliable product in a so short time. The launch was delayed of a quarter. But in October 2016 it was finally brought on the shelves. Nick Woodman

presented it at a Ski Resort in Squaw Valley, near Lake Tahoe in front of many influencers, vloggers and athletes, to show to the world that GoPro did not lose its magic and was still capable to innovate.

Unlucky, a few days after the commercialization, a customer posted on YouTube a video showing the Karma drone crashing to the ground in mid-flight, even if the battery was fully charged. After the video, many other customers complained about the same problem. Due to the collateral danger to hurt people and housings, within 16 days from the launch, GoPro was obliged to retire all the 2500 products sold. About it, Woodman affirmed: *"This wasn't like somebody's camera was freezing up and they're not getting the shot," Woodman says. "It was a [four-pound] drone that could fall out of the sky and hit a kid. And as soon as you say that, you're just like ..."* -He chokes up and pauses to compose himself- *"You pull it. It was like, 'Fuck.'"* <sup>61</sup>

The reason for this technical failure has to be researched in the design of the plastic latch holding the battery of the drones. It became loose, causing the battery connection to slip when the drone was flying. The main problem was in quality control. The same kind of problem found in the new Hero5 Black, commercialized in parallel to the drone. Coming back to Karma, for a device that cost more than 1000\$, this mistake was not admissible. Some experts argued that the problem was caused by too challenging deadlines settled by the company. But the most accredited version was the lack of technical background of the personnel chosen by GoPro, as Pablo Lema, to control the production and the manufacturing process of the new product.

GoPro invested many resources in the Karma's project in 2015 and 2016, but without receiving the expected returns and creating critical losses by the first quarter of 2017. After the first recall, the company tried to map out and solve all the potential problems of the drones, hiring from outside a team of engineers and experts to diagnose criticalities. In February 2017, the new version of the Karma was relaunched with the hope to revitalize sales, but after the first recall of the drone, the company felt the pinch and its credibility in this eyes of the customers dramatically reduced. As a result, a year later, in the annual report 2018, Woodman officially announced the definitive exit from the business and a new strategy to refocus the company on its core business and main competences: the action camera. GoPro's stock evaluation remained around 9\$ per share in 2018.

Moving on with the expansion of the cultural repertoire, GoPro's cultural believes partially adapted to the new business. For example, the marketing strategy adopted was different respect to what made GoPro cameras famous. GoPro did not use contents created by its customers to push other people to

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<sup>61</sup> Interview with the CEO. Foster, T. 2020

do the same. This time, GoPro decided to collaborate with vloggers, influencers, YouTubers, experts to communicate the features of its Karma drone and to compare it with the performance of the competitors. Moreover, the initial target customers were different from the mainstream segment. However, on the other side, considering the drone as a mere accessory was absolutely wrong. About it, Bates, former president of GoPro, after the second relaunch of the Karma, affirmed that “[Drones are] *A very smart accessory for the GoPro*”<sup>62</sup>. But the complexity of a drone is not comparable to the one of previous GoPro accessories that were mainly made of plastics and were static devices. For GoPro, its camera was still central. This drone’s conception brought to underestimate the real technical issues behind drones and to direct the main attentions on the action camera.

Instead, considering the characteristic of the new market domain, GoPro even if announced that the Karma drone reached the second market position, TMT declared that the product was facing margin challenges in a so competitive business space and that US and European regulatory reforms for aerial reduced the dimension of the opportunity to develop a drone business. In the light of these affirmations, it’s clear how GoPro started the transition without properly evaluating the characteristics of the industry selected and lacked a strategy to bypass these obstacles and generate alternatively margins. Becoming the number one of the drone consumer business is not a strategy. Moreover, the drone industry was particularly attractive not only for the consumer business but in particular for the enterprise segments (Geology, Agriculture, Real Estate Survey....). This perspective could have given a reason for business analysts to believe in GoPro future re-growth. But this radical shift was not taken into consideration by Bates because according to GoPro’s management “*It’s probably going to be less exciting as a consumer business*”<sup>63</sup>

Considering the promotion of the organizational identity re-alignment, Nick Woodman and GoPro’s TMT were aware that an identity shift was necessary to consistently sustain the transition. For this reason, after many evaluations, the founder, correctly redefined GoPro, as a “*World-leading activity capture company*” rather than “*The action camera leader.*”, stretching consistently the organizational identity according to the transition undertaken. In light of it, Woodman, at the end of 2015 affirmed: “*We’re sort of narrowly described as being an action camera company. I’d prefer, we would all prefer, that we think of it more as GoPro as the world’s leading activity capture company*”.<sup>64</sup>

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<sup>62</sup> Interview with the manager. Source: GoPro Brand Extension. Stanford Business School Case. (2017); p. 11

<sup>63</sup> Interview with the manager. Source: GoPro Brand Extension. Stanford Business School Case. (2017); p. 11

<sup>64</sup> Interview with the CEO Source: GoPro Brand Extension. Stanford Business School Case. (2017); p. 4

However, even if this shift of identity, resonated publicly, it was not properly communicated across the company. Decisions were always taken by Woodman from the top, and the middle management was never consulted in the process. In addition, several problems of communication were encountered across many areas of the organization because GoPro decided to structure itself more rigidly. This enabled mistakes. Nick Woodman commented on the problem in this way: *“As a company, how you organize your teams and your communication affects your efficiency. What we did was, we structured ourselves as a much bigger business. But complexity breeds complexity, and we learned that when the organization is structured that way, you're not as nimble. [...] When you have fewer lines of communication, things are less likely to break or get lost in translation”*.<sup>65</sup> However, respect to the Kodak case, middle managers tried to accommodate the transition because in line with the company philosophy and because the cultural principles were less rooted in the employees' mind, given the fact that GoPro is not a centenary corporation.

As a result of the mistakes committed in the process, GoPro competence enhancing transition in the drone's industry failed. The business after the second relaunch was completely dismissed in 2018. As a consequence around 500 people were fired--more than a quarter of the company. The stock value of the company did not improve and got worse year by year (today is around 5 \$). As a response, Woodman decided to refocus GoPro business around its main action camera domain and on what the company knows to do better, improving the profitability of the organization; in light of it, Woodman declared: *“We're guilty of having reached too far and we stumbled. We've decided to return back to that very focused business that does just a few things extremely well, instead of doing too many things marginally”*<sup>66</sup>. In addition, commenting the failure Woodman confirmed most of the problems underlined in the analysis: *“[...] have our reputation falling out of the sky, coupled with the Hero5 Black problem--it was absolutely crushing. It made us look like we were completely incompetent”* and then: *“One of the big lessons is that when things are going really well, you can be lured into thinking that everything's easier than it is. Because you're doing a really good job, you think you must be smart and good at this stuff. So, why can't we go do this other thing? The reality is that you can't expect your experience in your core business to translate. Just because you're a World Series-winning pitcher doesn't mean you can go play quarterback.”*<sup>67</sup>

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<sup>65</sup> Interview with the CEO. Foster, T. 2020

<sup>66</sup> Interview with the CEO. Dwesar, R. & Singh, G. 2018; p. 6

<sup>67</sup> Interview with the CEO. Foster, T. 2020

### **7.1.3 External Generalization's Conclusion**

The case just introduced perfectly demonstrates how the failure to activate at least one of the eight components identified in the theoretical model reduces the chances of success in undertaking the change of identity and direction desired. Furthermore, it confirms that in a competence enhancing transition, the most critical aspect lies in the correct expansion of the technical register of the organization, and therefore in the correct activation of the utilitarian identity. As in Kodak, the core competences necessary for the type of transition undertaken have been underestimated. Such a marked technical gap, from cameras to drones, required more critical and less hasty evaluations. This problem was also remarked by the cultural belief to consider the drone as a simple GoPro accessory.

For the purpose of the external generalization, the case also confirms how the theoretical model works in a different reference context (the action camera industry) in a more contemporary time (2015-2018). In addition, it verifies that the model can be applied to incumbent companies that desire to change, even though their business of reference has not been revolutionized by disruptive innovation.

## **7.2 Nikon Case**

### **7.2.1 Company Introduction**

The corporate history of Nikon started on July 25<sup>th</sup>, 1917, in Japan, when three important optical equipment's makers merged, creating the Nippon Kogaku (日本光学工業株式会社 that means "Japan Optic Co., Ltd."). The company provided a full line of optical products and from 1918, it started also the production of optical glasses. At that time, the leaders of the optical industry were Germans, with companies still famous today such as Zeiss and Leica. Nippon Kogaku tried to enter in partnership with optical German companies to increase its knowledge in the field but without success. However, in 1920, it numbered eight German engineers in its organization, from who grasped the needed know-how to develop ultra-small prism binoculars and the JOICO microscope. With the advice of Germans and with more experience, Nippon Kogaku, in 1932, designed its own camera lenses (called Nikkor) and in 1939 it was listed on the Tokyo Stock Exchange for the first time.

The rise of a global conflict pursued the Japanese government to increase investments in precision optics for navigation and bombing devices. This decision created a new business for Nippon Kogaku, which was together with Minolta the major manufacturer of optical equipment. In the meanwhile,

Japan made the Tripartite Pact with German and Italy, from which obtained further support to learn advanced knowledge in the production of military optical equipment.

After the second world war, the company continued to grow, shifting from the military optical industry to the consumer business. The Japanese manufacturer started to produce eyeglasses, monitoring instruments, binoculars, and microscopes. It is in this period that Nippon Kogaku decided to enter in the business domain for which it will become famous throughout the world: the camera industry. Specifically, in 1946, the Japanese manufacturer introduced its first camera model called Nikon. Respect to other Japanese manufacturers such as Minolta (1928) and Canon (1934), Nippon Kogaku entered the market with delay. At that time, the camera of reference was the German Leica 35 mm, however, since the beginning, the Japanese manufacturer distinguished itself from other Japanese manufacturers for its high-quality cameras. Its notoriety grew when the Korean War broke out. Journalists started asking Nippon Kogaku to produce special lenses compatible with Leica cameras. Because of this, Nippon Kogaku's reputation grew rapidly among insiders. However, the real success of Nikon cameras began when Nippon Kogaku introduced the first single-lens reflex (SLR) camera in the world in 1959. It was a new type of camera that allowed the photographer to see exactly what the camera was capturing. This camera model (the Nikon F SLR) was so successful that it became the new standard for high-end 35mm devices, supplanting the old Leica for a cheaper price.

Uncommonly, from the '60s to '70s, when the majority of the Japanese camera manufactures decided to diversify their business, entering the office equipment domain by producing calculators, copiers, and scanners, Nippon Kogaku decided to stay focused on the camera industry and improve its products. Until 1982, more than two-thirds of its revenues derived from the sales of its Nikon cameras, but the time to diversify came, because new technologies, new competitive camera models and new production techniques were eroding its margin on its most famous and profitable product. A critical moment was the launch on the market of the Canon AE-I in 1976, a camera-equipped for the first time with a chip to change automatically shutter speed, focus and lens aperture. Nippon Kogaku, due to its conservative managerial approach reacted with a similar product: the Nikon FG 35mm, only six years later. The diversification choice, in the meanwhile, continued to be delayed, and the Japanese manufacturer gradually lost competitive ground, despite its great reputation.

In the following years, Nippon Kogaku finally decided to broaden his portfolio by launching new products and deepening new neighbouring businesses. It invested in ophthalmic technology, eye refractive index measuring machines, and semiconductor-production machinery becoming the global leader of this last sector. To these new initiatives, it always accompanied the production of its classical

optical equipment. The semiconductor market grew quickly and generated more than half the company revenues in a short time. The company, in the meanwhile, started to expand internationally.

In 1988, the name of the company was changed definitively in Nikon Corporation, recognizing that optical equipment was not the company core business anymore. The first part of the '90s was prosperous. Nikon launched a new waterproof camera and a new series of digital cameras, among which the Coolpix line available from 1997. The step from analogic to digital was not so critical as happened for the film company previously treated. However, the semiconductor's machinery market (60% of Nikon's Revenues vs 40% generated by the consumer segment) became the main business but unfortunately, it quickly went in oversaturation, causing a lowering of price and consequently a downsizing of the profit after few years.

In response, the management launched "Vision Nikon 21" a series of goals to achieve in the first decade of 2000 to contrast the crisis. In 2001 the company was subject to a restructuration. From two divisions: Consumer products and Industrial Instruments passed to a configuration of four divisions: Precision Equipment, Imaging Products, Instruments, and Others. Luckily, in the moment of down for the semiconductor business, the digital camera market took off. Thanks to it, Nikon passed from 483.957 billion Yen of total revenues in 2001 to 1,010,494 billion Yen in 2013. The Precision equipment and the imaging products businesses passed respectively from generating 47.7% and 34.6% of Nikon total revenues in 2001, to 21.0% and 69.9% in 2014. The company from semiconductor machinery business's dependency shifted to rely once again on its traditional consumer imaging market domain. The expansion of the digital camera business was sudden, and except for 2010, Nikon's sales steadily increased year by year until 2013.

Respect to other digital camera manufacturers, the shrinking of the market was perceived lately by Nikon because professional DSLR cameras knew a relevant slowdown much later than compact cameras. However, from 2008, the competition, raised by the smartphones industry, started to heavily influence the entire digital camera industry, as long as the Nikon's Coolpix compact cameras' sales dramatically shrank, going to gradually deteriorate the financial position of Nikon.

2014 was the first year that the Japanese manufacturer experienced a major decline in total sales and net income, due to a decrease in camera sales. The necessity to react and diversify the business portfolio in order to ensure further growth to the company became always clearer.



## 7.2.2 From Imaging consumer products to Healthcare and Digital Manufacturing – A potential successful enhancing transition.

The Nikon case starts from 2014, when both its two main existing businesses, the semiconductor’s machinery and the digital camera ones, were suffering. The top management agreed about the necessity to change, exploring new potential growing business, but starting from a reevaluation of the company core competencies. The two new industries targeted for this scope were the healthcare and the material processing business. A clear decision to move towards B2B and pass from selling hardware to service-solution was taken. To better guide the reader in the comprehension of the *possible* successful case of Nikon in relation to the theoretical model presented, figure 7.2 graphically synthesizes the narration presented below.

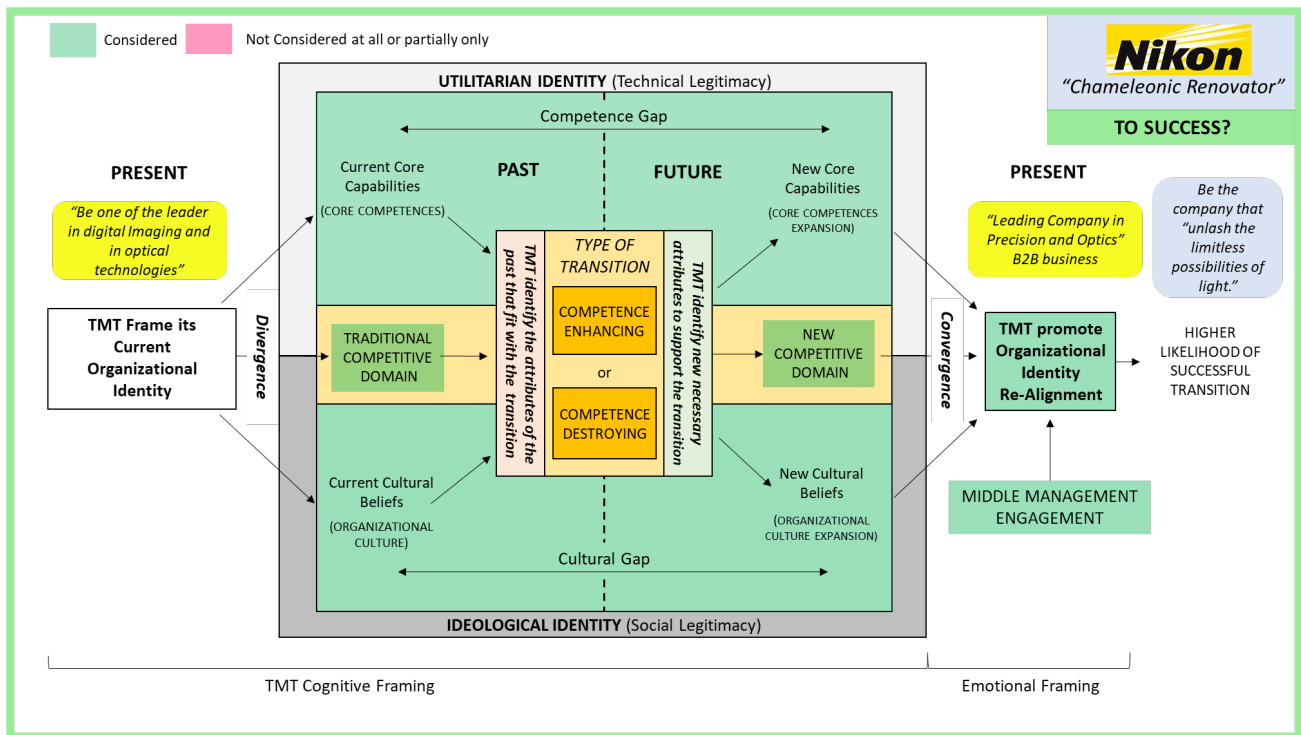


Figure 7.2: Nikon's Case Synthesis

Given the necessity to find new potential growing areas of business, the first decision taken by Nikon’s TMT was to promote a change of organizational structure, aimed at exploring new businesses and improving the communication among departments. Consequently, Nikon was recombined into a flatter divisional organization, divided into a portfolio of six business segments: the Semiconductor Lithography Business, the FPD Lithography Business, the Imaging Products Business, the Microscope Solutions Business, the Industrial Metrology Business, and the Medical Business. After that, the management launched the Medium-Term Plan named: Next 100 – Transform To Grow - with the idea to rationalize the profitability of its three mature businesses (Semiconductor Lithography, FPD

Lithography, Imaging Products), and to direct the cash towards the development of the other three growing divisions (Microscope Solutions, Industrial Metrology, and Medical). The objective of the restructuring was clear: lay the foundations for the future of the company. The duration of the plan was triennial.

However, the fast decline in the camera and in the semiconductor lithography markets brought the management to adjust the forecasts of the plan one year later, and to extend the measures until 2017. Despite the shrank of the sales in these mature businesses, in the growing divisions, the TMT's expectations were met. As promised in the plan, Nikon invested in the acquisition of Optos PLC, a leading retina diagnostics imaging company, and signed a partnership with Lonza, the world's largest manufacturer of cells for regenerative medicine therapeutics. The TMT idea was to mix the advanced know-how of these two companies, with Nikon core competences in ophthalmology, optics, precision control technologies, image processing and high precision measurement technology, to nurture the medical division and enter the healthcare business vigorously.

Despite TMT was evaluating Nikon's core competences affinity with new business domains to expand the technical repertoire of the firm, top managers were careful to trace back the transition to the corporate philosophy: "Trustworthiness and Creativity" and tried to communicate the urgency to change as an opportunity. But the shift did not happen. In fact, in 2016 the imaging products business still counted for 63.2% of the total sales of the company. Moreover, the profitability of the segment and of the overall company was deteriorating. According to CEO Kazuo Ushida, Nikon struggled to enter and innovate in different business, mainly for the conservative mentality developed by its employees and managers. In fact, it stated in the shareholder letter:

*"A factor that again came to the fore during the course of the initial year of the Medium-Term Management Plan was that a transformation in the Company's mind-set is still being developed. [...]we need people with a mindset that continually creates our own value-added. Causing that mindset to become more deeply ingrained throughout the Company is recognized as a major challenge. While breaking out of our shell and taking a bird's eye view of the value chain, starting from the business area for which we are responsible, we will venture into adjacent areas. I would like to greatly increase the number of employees who possess this kind of mindset, which also encourages them to take action."*<sup>68</sup>

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<sup>68</sup> CEO and President Kazuo Ushida. Shareholder's letter 2016; p. 11

For this reason, Nikon decided to promote a new measure, called “Future in Focus”, to enhance employee’s way of thinking and encourage them to take more entrepreneurial actions.

The situation turned in 2017, the celebration’s year for Nikon’s centenary. TMT seeing no significant progress in the profit and the revenue structure decided to discontinue the Medium-Term Plan settled in 2015 and to put in place a more radical phase of restructuration. The first decision was to centralize the R&D departments and the production of optical components to favour the cross-contamination among different organizational areas. This decision brought to a deep process of assessment and reevaluation of the past patents and core competences, from which emerged that Nikon core capabilities mainly resided in Opto-Electronics and Precision technologies. The top management decided to start from this unique technical repertoire to identify three possible future pillars for the long-term profitability of the company. These three business directions were in order: Digital Manufacturing (Industry 4.0), Vision/ System Robotics and Healthcare. Once identified the business areas in which future potential breakthroughs could emerge according to Nikon’s core capabilities, the new scope of the management became to concretely realize the transformation of the business portfolio and the identity of Nikon towards these directions.

To do that, a new Middle-Term plan was set in which were drawn up five different goals:

- 1) Reach the break-even in the Semiconductors Lithography business;
- 2) Increase and maximize the profit in the consumer imaging products;
- 3) Create a Material Processing Business division that revolves around 3D printers and laser processing systems, to take advantage of the Industry 4.0 revolution;
- 4) Continue investments in Healthcare;
- 5) Scale management DNA in new businesses such as Robotics systems, Image sensors connected to AI, and machine learning technology.

In parallel, to strengthen the willingness to change and to celebrate the centenary, TMT promoted a new corporate Vision, synthesized by the new motto “*Unlock the future with the power of light*”, opening de facto to a new conception of the company, based on a new business portfolio capable to enhance Nikon’s key organizational core competences.

As the CEO and president Kazuo Ushida stated in the Shareholders’ letter 2017: “*Nikon is a company that changes society with light. It is, therefore, my goal to have Nikon become synonymous with light-related fields and to have its technologies used in all areas of society. At the moment, society is wrapped up in the fourth industrial revolution which is well known as industry 4.0. I am confident in*

*the ability of Nikon to become a central player in this revolution by increasing its focus on light and supplying the types of products and services that only it can.”*

In pursuing this enhancing transition, TMT’s conviction was to continue the transition from B2C to B2B and consequently change the business model from hardware to service solutions. To realize it, the president and CEO Kazuo Ushida first, and Toshikazu Umatate then, and all their strict collaborators understood the necessity to sustain the change putting in place an Identity realignment process, aimed at transforming Nikon in the new “*Leading Company in Precision and Optics*”.

Retracing the theoretical model presented in this research, now we will see how Nikon management carefully has recently activated all the eight critical components to pursue this competence enhancing transition, taking as references, when needed, the implementation of its two most promising businesses: the Material Processing and the Healthcare Solutions business segments.

Starting from the identification of the current core competences, as already mentioned the optoelectronics and precision technology know-how has been identified as the central technical repertoire for the realization of the competence enhancing transition. These core capabilities, for instance, have been central for setting the Material Processing business based on new additive manufacturing solutions and laser processing systems. In fact, the high quality of Nikon camera lenses and its expertise in ultraprecise measurement and control technologies have allowed to reduce the size of the modern 3D industrial metal printers machines. Today, the Nikon’s 300-kg metal 3D printer is less than 1 meter long and wide and under 2 meters high, making it usable in small production environments.

Furthermore, as it has been mentioned in the annual report 2017 (p.5), Nikon has created the Technology Strategic Committee with the scope to promote portfolio-based management from a technological perspective. This committee is tasked to examine core competency and formulate mid-term strategies to explore consistently new focus areas, defining the business plans and the technologies needed to sustain these strategies.

Looking at the cultural believes, even if the TMT promoted a new vision, the company kept central its business centenary philosophy: “Trustworthiness and Creativity”. In particular the trustworthiness quality, according to the TMT, is essential because it expresses the quality and the reliability of Nikon products. In a sector such the Healthcare one, trustworthiness is probably the most critical attribute that products need to possess. More in general, in B2B, reliability is one of the most essential characteristics. On the other side, Creativity has to be considered as a state of mind, to solve the

challenges that affect the world and to promote innovation. Moreover, the culture of photography was revalued, giving importance to the concept of light to sense the world around ourselves (AI, Vision system robotics) rather than focusing just on the concept of pictures to capture moments.

For what concern the current business domain, Nikon has taken the main inspiration from its Semiconductor Lithography and Metrology Businesses which were already B2B segments and shared useful characteristics in terms of the business model and relationships with customers.

Observing the right side of the model, instead, for what concern the new necessary core competences to develop and the comprehension of the new competitive domain, the company have decided to pursue acquisitions and partnerships to quickly gain the experience and the needed knowledge and also the access to sales channels. For example, in the Material Processing Business, the company have formed an alliance with DMG Mori Co., Ltd and in the Healthcare with Optos and Lonza. Moreover, to increase the competence skills Nikon put also in place a program to hire specialists in the new business areas identified. This process has been supported by the Technology Strategic Committee, settled by the TMT, whose scope is to identify in the medium-term period which complementary knowledge and capabilities are required to pursue consistently a new specific business. For instance, for the Material Processing, it has identified the need to acquire additional knowledge in additive manufacturing, machine learning, artificial intelligence and programming.

While for what concerns the new B2B philosophy, TMT perfectly understood the necessity to put in place a new brand strategy to enhance the consciousness of the external environment about Nikon B2B solutions for the industry 4.0 and the healthcare sector. In fact, till 2017, Nikon was mainly known for its consumer business.

Moving on to the cultural believes, Nikon has promoted three new qualities of mind that its employees have to consider: “*Curiosity*” to cultivate fresh ideas, “*Acceptance*” to warmly embrace diverse ideas, and “*Inspirational Power*” to share our ideas with infectious enthusiasm to effect positive change in the world. These Principles have been remarked to widespread an entrepreneurial spirit, aimed at creating new business opportunities, to contrast the too conservative managerial mindset of the company that prevented it to diversify and create an alternative source of profit in the phase 2014-2017. In addition, going more in-depth, another important value that TMT decided to stand out, perfectly in line with the Material Processing Business and the Industry 4.0 trend was the Enhancement of Nikon Group’s Monodzukuri (Manufacturing) Foundation, which is an initiative to improve

fundamental aspects of Nikon's manufacturing production system in preparation for the future changes that the industry 4.0 revolution will bring.

Once identified the past and new organizational core competences and cultural beliefs necessary to sustain the transition and considered the different characteristics required by the new competitive domain respect to the traditional one, TMT has passed to the promotion of the organizational identity re-alignment, synthesizing all the organizational elements considered. Moreover, it has outlined a new Mid-Term plan aimed at establishing the foundation for Nikon's sustainable growth. The process has been consistently sustained by the implementation of the new vision, previously introduced and by presenting the change in continuity with the past. As stated by the new CEO, Toshikazu Umatate, in the 2019 shareholders' letter:

*“Keeping true to the principles of our corporate philosophy of “Trustworthiness and Creativity” and our vision of “Unlock the future with the power of light,” this plan calls on us to pursue the medium to long-term goal of becoming a “**Leading Company in Precision and Optics.**” Guided by this plan, we will work to achieve sustainable improvements in enterprise value over the medium to long term by concentrating resources on the precision and optics field businesses in which we boast significant scale and a leadership position. The new Medium-Term Management Plan defines the three years beginning with the fiscal year ending March 31, 2020, as a period for “Establishing a Foundation for Sustainable Growth” to achieve sustained improvements in enterprise value after the conclusion of the plan. Our top priority is establishing this foundation for sustainable growth, and we look to steadily enhance Nikon's long-term profit-generating capability.”*<sup>69</sup>

In parallel, the promotion of the new stretched organizational identity concerning the new change of business focus undertaken, was properly emotionally framed putting in place many initiatives to engage the middle management and the employees across the company in the period 2017-2020. For example in 2017, after the announcement of the new restructuring phase, Senior Management created an employee survey for the approval of the transition, from which emerged a wave of consensus and strong commitment for the restructuring. In addition, in 2020, a brand strategy team was launched not only to correctly communicate and strength the image of the Nikon brand as a B2B company towards customers, but also towards employees. In fact, this team has been made responsible also to foster a deeper understanding regarding the Nikon brand and company's mission among employees, improving the awareness and motivation towards this phase of transition. Furthermore, Nikon put in

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<sup>69</sup> Toshikazu Umatate - Shareholders' letter 2019; p. 14

place a face to face communication between employees and the President/CEO. Starting from July 2019, Nikon held many meetings with 6’600 employees, at 14 facilities in Japan and overseas, in less than eight months. At these meetings, the purpose of the new Mid Term Plan and the transition has been explained, and then, in turns employees have shared their opinions and perplexities during these moments.

To put in place this transition, TMT, repetitively have shown the willingness to shape an organization in which every employee could feel the sense of urgency to change. The attempt to create a strong sense of community and approval toward the transition has been and seems also today strong. As a matter of fact, the CEO Umatate has affirmed in 2019: *“I then want to devote myself to making Nikon into an energetic and empowered company that inspires its employees to march toward that vision. I do not want Nikon to be a place where we are overly focused on current conditions and results. Rather, I want us to be an organization where everyone is united in our pursuit of future growth based on solid situational analyses and projections. The restructuring tested us and was painful, and we never forget what we went through. However, it is also a fact that, through this, we gained invaluable experience that united us in pursuit of overcoming the challenges that had plagued us for years.”*<sup>70</sup>

Coming to the current situation, the results to have correctly implemented the organizational identity realignment process presented in the research are not yet particularly evident. But some meaningful steps ahead have been made in the right direction. In fact, despite the fiscal year 2020, closed on the 31<sup>st</sup> of March, cannot be considered as an indicative year due to the global pandemic, the results of 2018 and 2019 are encouraging. Nikon dependency from imaging consumer products decreased from 69,9,% of the total sales in 2014, passing to 51.1% in 2017 and finally to 38.2% in 2020. Moreover the two-growing business: “Healthcare” and “Industrial Metrology and Others”, which contains the material processing business grew respectively from 2.7% and 9.8% of the total sales to 10.5% 10.7% in 2020, generating together more than one-fifth of Nikon's total revenues.

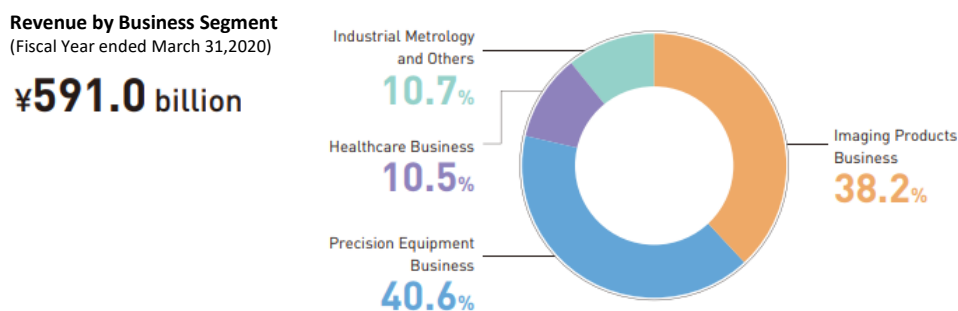


Figure 7.3: New Business Portfolio Revenues structure. Annual Report 2020. P. 22

<sup>70</sup> Toshikazu Umatate - Shareholders’ letter 2019; p. 13

Recently, in particular, in the area of material processing Nikon has been capable to innovate, bringing on the market its two first branded laser machines: the Lasermeister 100A and 101A, that are kinds of 3D metal printers' forerunners, and introducing a technology called additive lamination. These machines use beams of light instead of cutting tools to enable accurate measurement of a workpiece's location, reducing the burden of initial installation. Moreover, the use of non-contact laser processing allows the non-application of the workforce on the workpiece, so there is no need to secure it with clamps. Nikon is thinking to apply this technology in three main areas: "*additive processing for adding material to parts; removal processing to form high accuracy features; and riblet processing for patterning precise micron-scale structures on the surfaces of parts*". <sup>71</sup>In the Healthcare business instead, in April 2020 from the Ministry of Health, Labour and Welfare of Japan, Nikon has acquired the manufacturing approval to commercialize regenerative medicines. So it is imminent the launch of new regenerative products from which Nikon expects to improve importantly its profitability.

### 7.2.3 External Generalization's Conclusions

Although it is too early to state whether or not the transition and the change of identity implemented by Nikon are successful, as noted above, there are all the conditions that this could happen.

For the purpose of the external generalization, this case wanted to test the application of the theoretical model in a different reference context (the high-end DSLR camera and optical equipment industry) and in a more contemporary period (2015-2020) to explain the competence enhancing transition undertaken by Nikon and try to understand its likelihood of success or failure. As explained, the Japanese manufacturer taken into the analysis has correctly activated all the eight components of the framework presented. Moreover, respect to the GoPro case, it has given great attention in the revaluation of its core competences and the development of new ones, have created a new supportive Vision and have dedicated an incredible effort to engage its employees in the change. For this reason, Nikon may become a successful "*Chameleonic Renovator*" in the future. However, given the fact that today we cannot express a definitive judgment on the transition undertaken by Nikon, in the event of a positive outcome, this result would strengthen the normative value and also the predictive capacity of the theoretical model introduced.

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<sup>71</sup> Shareholder letter 2020 – Annual report; p. 7



## **8 Discussion**

The following paragraph is dedicated to the discussion of the findings that emerged from the research. In detail, section (8.1) illustrates the theoretical contributions of the study, categorized for streams of literature. Continuing, section (8.2) sheds light on the managerial implications, while section (8.3) discusses the research limitations, with a focus on the country's cultural factors that potentially have influenced the results (8.4). Finally, section (8.5) is dedicated to the presentation of future research trajectories.

### **8.1 Theoretical Contributions**

The study collected qualitative data from multiple case studies to induct a theory on how incumbents and their leaders can promote new organizational identities that effectively accommodate a competence enhancing or competence destroying transition when disruptive innovations occur. It also investigated how they take advantage of their history even as they move to different futures. In the next three sections, the theoretical implications of the findings will be introduced. First of all with a discussion of the literature on organizational identity (section 8.1.1), then presenting the contributions related to framing (section 8.1.2), finally, the implications on the disruptive innovation theory and organizational ambidexterity will be the object of consideration (section 8.1.3)

#### **8.1.1 Implications for Organizational Identity Literature**

This research project makes considerable contributions to the fields of study centred on organizational identity and organizational adaptation in the context of incumbent companies' responses to disruptive innovation (Kammerlander et al., 2018; O'Reilly & Tushman, 2013; Anthony & Tripsas, 2009; Tripsas, 2009). For the first time, this investigation introduces an explanatory model on incumbents' organizational identity management process to accommodate competence enhancing or competence destroying transitions, in response to the emerging of disruptive innovation, but not only. In fact, GoPro and Nikon cases, presented in the external generalization's chapter, demonstrated that the model works also in more general cases in which the long-term survival of a company is put at risk.

Continuing, the inducted framework presented in chapter 6 confirms identity as a fluid concept (Ravasi & Shultz, 2006; Gioia; Shultz & Corley. 2000; Gioia & Chittipeddi, 1991; Dutton & Duckerick, 1991) and provides some of the first empirical evidence about the managers' capability to intentionally shape and promote new organizational identities, with the final goal to sustain a strategic transition (Pratt &

Foreman, 2000; Cheney, 1991). In fact, the first implication of the model is the possibility to manage organizational identity strategically, planning proactively changes to support the organizational shifts, as supposed by Altman and Tripsas (2015) and Ravasi and Shultz (2006).

Moving on, thanks to the qualitative data collected, as the second theoretical contribution, the study proposes a new multifaceted conceptualization of organizational identity based on Ideological and Utilitarian Identities. The proposal observes Pratt's (2000) six conditions to recognize multiple identities. Moreover, it responds to the call of Gustafson (1995) to go beyond the concept of identity intended as membership in a given business domain, and to the request of Kammerlander et al. (2018) to deepen the research on multiple identity's facets in the event of disruptive innovation.

This new proposal takes roots in the traditional conceptualization of identity of Albert and Whetten (1985). In fact, according to the two authors, organizational identity mainly answers to two questions: "Who are we?" and "What do we do?". If the first query was extensively investigated (Corley et al., 2006; Ravasi & Shultz, 2006; Hatch & Shultz, 2002; Gioia & Chittipeddi, 1991; and others), the second one was quite neglected. Building on Gustafson (1995) and Gustafson's and Reger's (1995) multifaceted identity perspective, this project has conceptualized two new identity facets, the Ideological and the Utilitarian identity, which in this order directly tackle the two identity's questions previously enounced: "Who are we?" and "What do we do?".

Delving into the concept of Ideological identity, this facet is shaped by the organizational culture of a company. The term "Ideological" incorporates the concept of organizational ideology expressed by Sandstorm (1993) and by Garud and Karunakaran (2018), who defined it as a "set of interconnected beliefs and their associated attitudes", that can create commitment towards identity-challenging innovations and transitions.

On the other hand, the Utilitarian Identity facet refers directly to the core capabilities of an organization. It represents its rational soul, and it is influenced by the technology managed by the company, its corporate resources, and its technical and managerial skills. Besides, respect to the substantial identity facet presented by Gustafson and Reger (1995), this one is connected only on core capabilities and not to other "*attributes*" such as strategies, product, geographies, customer segments.

This new dualistic view of identity that we propose, foresees the same level of flexibility for both the identity's facets in contraposition to the multifaceted view of Gustafson and Reger (1995), who recognized the adaptive property only for the "*substantive*" or "*tangible*" facet, not for the intangible one designated to preserve the corporate values and believes overtime. Moreover, from the empirical

evidence collected, the simultaneous flexible activation of both facets seems necessary to increase the likelihood of transition's adoption. In fact, in the cases analyzed, when one of the two facets had not been properly activated by the top management, the companies failed the transition (Polaroid, Kodak, GoPro). Furthermore, we noticed that in case of a competence destroying transition, the flexible activation of the ideological identity results more critical than in the case of a competence enhancing transition, where the flexible activation of the Utilitarian one becomes more problematic (Tushman and Anderson 1986). In addition, respect to the multifaceted view proposed by Kammerlander et al. (2018), based on domain and role identity, the two facets presented in the study are not suitable to explain heterogeneous responses to disruptive innovation but to consider the affinity of adaptation between the organization and the transition selected.

To corroborate the consistency of the proposal, the qualitative evidence collected confirmed the importance of the organizational culture in shaping the Ideological Identity facet, and consequently in influencing the overall Organizational Identity (Ravasi & Shultz, 2006; Hatch & Shultz, 2002). In line with Ravasi and Shultz (2006), organizational culture was found to be a key source of cues supporting ideological "sense-making" and "sense giving" actions aimed at affecting the internal perceptions of the identity. These cues can be manipulated or interpreted by organizational leaders to obtain their scope, such as the realization of a given transition (Ravasi & Shultz, 2006).

On the other side, this study also highlights the importance of organizational core competencies as important Utilitarian Identity's shapers. As for the organizational culture, qualitative evidence demonstrated that also the organizational technical repertoire represents a key platform of cues to support managers' "sense-making" and "sense giving" acts, aimed at affecting the internal perceptions of the identity, from the utilitarian (or technical) perspective.

In light of it, the third greatest contribution of this research project is represented by the proposition of core competencies as a key variable for explaining identity dynamics. Previous authors demonstrated that disruptive innovations require drastic and expensive shifts in core competencies (Tushman & O'Reilly, 1990) and noted that because organizational members have a shared understanding of "who we are", there is also an implicit agreement about "what we do", so organizational capabilities have the potential power to influence identity (Navis & Glynn, 2011). In addition, Hatch & Shultz (1997) stated that who we are is [inevitably] reflected in what we are doing, while Ravasi and Shultz (2006) implicitly reported that B&O's members focused on the core competences of the company to reconstruct its organizational identity. However, only Gustafson and Reger (1995), defined core capabilities as one of the central attributes capable to influence the

“substantial” or “tangible” side of the organizational identity. But they did not provide empirical evidence. This project relaunches the importance of core capabilities in organizational identity realignment processes, providing well-structured qualitative proves. So following this logic, core capabilities should be considered together with “*organizational image*” (Gioia, Shultz & Corley, 2000) and “*organizational culture*” (Hatch & Shultz, 2002), as a key variable influencing identity adaptation, or identity dynamics. The synthesis of the multifaceted identity perspective proposed is displayed in Fig. 8.1.

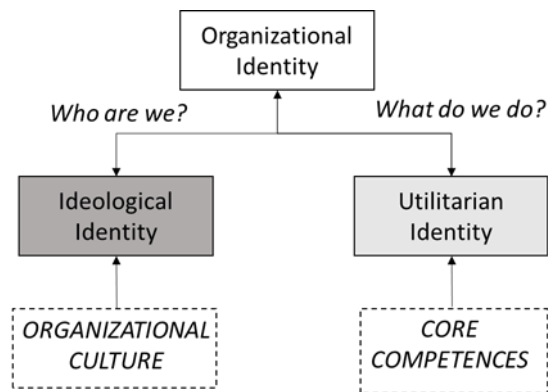


Figure 8.1: New Multifaceted Identity’s proposal.

The consequent theoretical implication of this proposal, as it can be clearly observed from the chart above, is the possibility to influence and change the Ideological and the Utilitarian facets directly acting on the organizational culture and the core capabilities of the organization, or in other words, on the cultural and the technical organizational repertoires. This conception is supported by Ravasi, Rindova, Dalpiaz (2011) which in their paper, sustain the managerial possibility to proactively expand the organizational cultural repertoire with new cultural resources. Then organizational leaders can consequently influence the organizational identity by picking from this cultural repertoire, as a “tool kit” (Swidler, 1985; Bourdieu, 1990; Weber, 2005), only the necessary cues, attributes, or resources, to accommodate and promote new strategies of action in the direction desired. However, respect to Ravasi, Rindova, Dalpiaz (2011) the concept of cultural repertoire here is different. Is not just a set of cultural resources coming from many backgrounds, or from artistic, cultural or philosophical streams. But, more broadly, is a set of corporate, managerial and business beliefs following the definition given by Shein, (1983). Sometimes the resources incorporated in the cultural repertoire can be paradoxical, but the role of the identity is to accommodate the tensions rising from different elements, as it happened for Fujifilm and Konica. Consistently with this view, the critical step done by this research is to have found empirical evidence that supports the extension of the same logic of Ravasi, Rindova, Dalpiaz (2011) to the company's technical repertoire, and consequently to the Utilitarian Identity.

To conclude, it remains to discuss the organizational identity adaptation mechanism to accommodate a competence enhancing or competence destroying transition and how organizational leaders can take advantage of the company history even as they want to move toward different futures.

The empirical evidence collected supports the identity temporal perspective of Shultz and Hernes (2013). Past and future are continuously reconstructed by organizational members, in particular by top managers and middle managers, when they try to redefine what the organization is becoming (Shultz & Hernes, 2013). In the cases presented, the top managers, who led their companies toward a successful transition, intentionally re-evaluated and selected from the current cultural and technical repertoires, a specific set of cultural beliefs and core capabilities, and from the current business domain, the competition rules and the characteristics most in line with the kind of transition to undertake, neglecting which were inconsistent. But they did not stop there, because otherwise, companies would have remained prisoners of their past (Gavetti & Tripsas, 2000). They also intentionally identified new cultural beliefs, core competencies, and business rules necessary to be developed in order to support the transition consistently. They did it, realizing concretely the expansion of the cultural and the technical repertoires of the company in the direction of the transition undertaken. Once identified the key elements of the past and of the future necessary to sustain the transition, company leaders synthesized them in a new organizational identity's proposition, communicating the future organizational direction within an identity narrative of opportunity, which could draw coherence with the organizational past (also rhetorically) and establish the way for the future. (Chreim, 2005)

These findings corroborate the relevance of temporality (Shultz & Hernes, 2013; Bruner, 1991; Chreim, 2005; Czarniawska & Joerges, 1994) in triggering interesting dynamics if accompanied by "opportunistic picking" described in the sections (2.1.7) dedicated to "cultural bricolage" (Baker & Nelson, 2002; Lèvi Strauss, 1966) and "culture as a tool kit" (Swidler, 1986; Bourdieu, 1990; Weber, 2005; Ravasi, Dalpiaz & Rindova, 2011). However, respect to the temporality conception of Gioia, Shultz and Corley (2000) who sustained that the durability of identity is contained in the stability of the labels but not in the meaning associated with them, in the study presented, temporality is achieved through a revaluation of the current cultural and technical repertoires, and a recombination of the key selected elements from the past with new element to develop in the future, in the attempt to create a solid link with the company tradition in which organizational members can recognize their previous company, and a bridge into the future to trigger the change.

In the end, as a final theoretical contribution, it is interesting to notice that in all the two successful cases of organizational transition presented in chapter 6 (Fujifilm and Konica) and in Nikon's case

mentioned in chapter 7, the organizational identity realignment was also accompanied by the creation and the communication of a new vision. While in Polaroid, Kodak, GoPro this did not happen. Albeit secondary, such an observation underline the strengthening power of a consistent vision on organizational identity and remarks the consideration of O'Reilly and Tushman (2013), who sustained the necessity to create a common vision and a set of values reflected in an organizational identity to control the tensions rising from exploitative and explorative activities.

### **8.1.2 Implications for Framing Literature**

In this research project, the study of organizational identity management was connected to the concept of framing, a stream of literature that is gaining raising interest in organizational studies. In the investigation presented, we have outlined an explanatory process that illustrates how TMT's cognitive (Eggers & Kaplan, 2013; Benner & Tripsas, 2012; Kaplan & Tripsas, 2008) and emotional framings (Gioia, 2015; 2015) affects the promotion of new interpretative schemas across the company, and the adoption of a new organizational identity to foster the accomplishment of a competence enhancing or competence destroying transition.

In accordance with Cornelissen & Werner's (2014) classification, the study focused on the meso-level of framing, it assumed an internal company's investigation perspective (Dan & Hang, 2008) and selected as units of analysis incumbent organizations and their TMT (Cheney, 1991). The decisions to focus on established companies is justified by the difficulties experienced by these companies to accomplish a successful competence enhancing or destroying transition, in response to disruptive innovation. Transitions of this type usually challenge TMT's mental schemas (Tripsas, 2009) because as Eggers and Kaplan (2013; p.317) observed, top manager's frames are "*stuck in an old understanding of the environment*". Moreover, established companies' legacy strategies generate strong inertial forces that contract the TMT's cognitive framing associated with the transition, or the innovation to undertake (Raffaelli et al., 2019). This condition is particularly strong in companies that dominate a prior technological order (Fuentelsaz, Garrido & Maicas, 2015), because the inertial forces of the previous business domain tend to push TMT toward a capability's consistency orientation (Smith & Tushman, 2005).

As suggested by Raffaelli et al. (2019), the study was set to investigate shifts in frames in a specific industry (Photo Film), in different periods (digital photography shifts and Smartphone revolution), countries with opposite managerial cultures (Japan and the U.S) through a case study methodology. However, respect to the work of Raffaelli et al. (2019), the focus of framing was not the adoption of a

non-incremental innovation but the adoption of a competence enhancing or competence destroying transition.

As a first contribution to the framing literature, this research discovered that organizational members (especially TMT and middle managers), when facing a competence enhancing or destroying transition, value concurrently the social and the technical legitimacy of the change that the company is trying to undertake. This finding corroborates the study of Kennedy and Fiss (2009) who demonstrated that Social Legitimacy and Technical efficacy are not mutually exclusive frames like the traditional model of adoption motivations declared. So Social Legitimacy and Technical efficacy can be also seen as Equivalency Frames (Cornelissen & Werner, 2014; Kennedy & Fiss, 2009).

For Social Legitimacy is intended the degree of affinity and factualness that a given transition has respect to the cultural repertoire of a company. Social legitimacy is a motivational force that links the transition to the organizational culture of the company, to its emotional and traditional side. Moreover, it is the key consistency driver between organizational culture and the Ideological Identity facet.

For Technical Legitimacy is intended the degree of affinity and factualness that a given transition has respect to the technical repertoire of a company. Technical Legitimacy is a motivational force, that links the transition to the core capabilities of the company. Moreover, it is the key consistency driver between organizational capabilities and the Utilitarian identity facet.

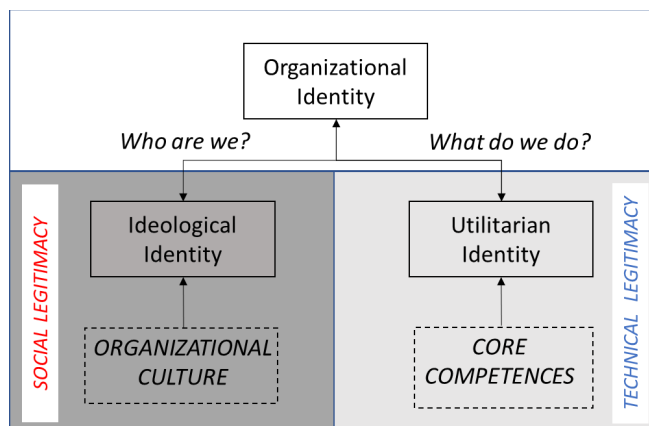


Figure 8.2: Social Legitimacy and Technical Legitimacy as key drivers between Organizational Culture and Ideological Identity facet, and between Core competences and Utilitarian Identity facet.

The qualitative data collected during the study show how the combination of these two critical motivational forces, or interpretative frames, if correctly triggered by the framing activity of the TMT can create, across the organization, a driving consensus towards the realization of the transition selected.

As a second contribution, the study found that TMT makes sense of competence enhancing or competence destroying transitions through three distinct cognitive filters: Core Capabilities, Organizational Culture, and Business Domain. This finding supports Ryan Raffaelli's et al. (2019) proposal only for what concerns the "*Capability Development filter*". The two remaining ones (Organizational Culture and Business Domain) represent an original contribution and extension of the framing flexibility theory. However, this misalignment is due to the different subject of framing assumed: Raffaelli et al. (2019) focused on the adoption of non-incremental innovations, while this research considered the realization of a given organizational transition (enhancing or destroying).

The flexible application of these three cognitive filters enabled top managers to pursue an expansion of the cultural and technical repertoires of their organizations in the direction of the transition they decided to undertake. However, from the qualitative data collected, we noticed that successful transitions verified only when all the three cognitive filters were flexibly activated, and above all, resulted reciprocally consistent. This consistency's property is fundamental to make organizational members perceive coherence in the new direction undertaken. In addition, as a consequence of the technical and the cultural repertoires' expansion, triggered by the flexible activation of the filters, the two connected identity facets (Ideological and Utilitarian Identity) stretch (Tripsas 2009), giving the possibility to incorporate new different attributes within the organizational identity and the company's architecture. This view is consistent with the conception of identity's elasticity presented by Raffaelli et al. (2019), Ansari et al. (2016) and Tripsas (2009).

Moving on, going to discuss more in-depth the theory of framing flexibility proposed by Raffaelli et al. (2019), this research generated several other confirmatory and contradictory contributions regarding this theory.

The first further consideration is about flexible framing. Framing has been always theorized as a substantial static notion (Benner & Tripsas, 2012) trapped in the managerial cognition (Tripsas & Gavetti, 2000). However, social movement studies (Benford & Snow, 2000) and Raffaelli et al. (2019), rejected this view and sustained the framing's adaptability. In specific, in the work of Raffaelli et al. (2019), the authors sustain that the flexibility of framing is generated by an expansion or a contraction of the TMT's strategic categorization of the subject to frame (non-incremental innovation), influenced by the cognitive filters utilized. Compared to what was claimed, in this research, evidence of this mechanism of "intermediate" object categorization was not supported by data. But the flexibility of framing, thanks to the influence played by the expansion of the cognitive filters previously described,



was produced by the TMT's cognitive willingness to conjugate affine elements of the organizational past with new necessary elements to develop in the future in order to sustain the transition selected.

Secondly, in accordance with the conceptualization of Raffaelli et al. (2019), the study confirms that the likelihood of a successful transition, accommodated by the promotion of a new organizational identity, increases when new expanded cognitive frames emotionally resonate across the organization, especially within the top and the middle management levels (Vuori & Huy, 2016). In fact, only in the successful cases presented (Fujifilm, Konica Minolta, Nikon), top managers correctly activated both processes of cognitive and emotional framing. While in Polaroid, Kodak, and GoPro cases one of the two processes of framing was not properly adopted.

One of the two mechanisms utilized by the top management to make resonate the change was the insertion of the proposal of organizational identity realignment in a narrative of opportunity. It was found to positively affect the will to change of the organization, confirming the study of Rindova, Dalpiaz, and Ravasi (2011). However, the presentation of the change as an opportunity seems to be a necessary but not sufficient condition to make the transition happen. As a matter of fact, Kodak's TMT, even if tried to present the new digital imaging output service business as an opportunity to organizational members, claiming a new organizational identity for the company, it was not able to successfully change the business portfolio of the organization and its identity.

A second critical mechanism, put in place by the TMT to increase the likelihood of a successful transition, was the utilization of an organizational narrative capable to reevaluate the connection with elements of the past, selected as previously explained from the current business domain and the cultural and technical organizational repertoires, congruently to the transition to undertake. We noticed that this process helped members to take pride of the organizational history, to make sense of the change and to create a sense of togetherness, transforming feelings of indifference into active engagement as demonstrated also by Rindova, Dalpiaz, Ravasi (2011); Kaplan and Tripsas (2008) and Ravasi and Shultz (2006). Furthermore, we noted that the inclusion of a fairly ambiguous future image in the identity claims, congruent with the new transition and the new organizational elements to be necessarily developed, emotionally triggered the aspiration to change in the members of the organization, increasing the probability of transition adoption (Giorgi 2017; Voronov and Weber 2016; Gioia & Chittipeddi, 1991; Porac & Thomas, 1990). This finding is perfectly in line with the mechanism of "Familiarity" expressed by Giorgi (2017) to describe the process that brings a cognitive frame to emotional resonate, in order to overcome the audience's scepticism or indifference.

Moreover, it confirms that a certain degree of ambiguity in the identity claim was necessary to embrace a larger set of opportunity (Gioia & Chittipeddi, 1991; Porac & Thomas, 1990).

As a further contribution, the study answers to the call of Raffaelli et al. (2019) regarding the necessity of additional studies to understand if cognitive and emotional framings are always activated in the same orders or if it depends on proactive or reactive innovation adoption's approaches. Considering the four case studies analysed in chapter 6, all the organizations considered reacted to disruptive innovation with a competence enhancing or destroying transition. From the collected empirical evidence, emotional framing always followed the cognitive one. This finding refuses the insight of Galati et al. (2016) who proposed that in case of reaction to a crisis, established companies activate emotional framing before the cognitive one. However, further investigation is required because for example, when Kodak created the first digital camera, the invention was not immediately encouraged by Kodak's TMT because it potentially threatened Kodak main business. In this case, managers seem to have activated emotional framing before the cognitive one.

To conclude, as a final contribution, we discuss some further reinforcement and resonance expedients, that managers can put in place, to make the change of identity and direction effective. First of all, following Cornelissen, Holt & Zundel (2012), we noticed that in all successful cases, the use of slogans, mottos, stories, new visions can positively influence collective sensemaking and accommodate the interpretations of organizational members towards new frames, getting their support for the adoption of the change. Secondly, the communication of a sense of urgency to change, across the organizational levels, is essential to the create a united '*guiding coalition*' as *confirmed by the study of Kotter (2007) and Corley and Gioia (2004)*. To make resonate this sense of urgency for change and to make sense of the transition undertaken, as we previously discussed, the role played by emotional framing is fundamental. Taking a more operative perspective, in the case studies analysed, it was reached through, open discussion meetings between top management and middle management, creation of ad hoc committee aimed at discussing the organizational identity re-alignment and the new company's direction, CEO's official presentations to organizational members in many regions around the world, one-to-one or small groups meetings between the CEO and managers, or between managers and employees, surveys and letters to employees from the CEO.

### **8.1.3 Implications for Disruptive Innovation Theory and Organizational Ambidexterity**

As previously stated in chapter 2, the Disruptive Innovation Theory and the Organizational Ambidexterity have been two streams of literature of support for this research project. They have been

fundamental to set the boundaries for the investigation and to help the interpretation of the phenomena under analysis. However, even if the research was not centred on these two streams of literature, some theoretical implications and considerations emerged during the study:

### **Disruptive Innovation Theory's theoretical implications**

Carefully setting the concepts of innovations utilized in the research is fundamental, because as Markides (2006) underlined: different kinds of innovations have different competitive effects and produce different kinds of markets and managerial implications. For this reason, the study investigated incumbents' identity management in response to two well-defined disruptive innovation waves: the shift from film to digital photography, and the advent of the Smartphone Revolution. According to the classification of Christensen (2006) and Govindarajan and Kopalle (2006), digital photography was considered a high-end disruption for the photographic film industry. While the proposition of the smartphone revolution as a new-market disruption represents the first original contribution of this paper to the disruptive innovation theory.

As a second implication, starting from Anderson's and Tushman's (1986) reflection about competence enhancing and destroying discontinuities, the study proposed a new interesting corner of investigation about companies' reactions to disruptive innovation, based on the concept of transition rather than on technological discontinuity adoption (see Kammerlander et al., 2018). In fact, according to the perspective undertaken in the research, technology (or disruptive innovation) was not considered as a force capable by itself to enhance or destroy the competences of the firms of a given industry. But we assumed that the top managers of the firms under analysis, by their will, could decide to enhance or destroy their competences toward a given direction, as a reaction to a disruptive innovation wave that put the company's long term survival at risk. Therefore, the incumbent film manufacturers object of study, have been considered as free subjects that could intentionally decide whether to face the change with a competence enhancing or destroying transition. The term transition is not casual because wants to represent the dynamic process of change, faced by the companies studied, on a given horizon of time.

Third, in the study was noted a certain affinity between the way successful top managers handled the promotion of a new organizational identity to accommodate a competence enhancing or destroying transition and some of the principles to handle disruptive innovations shown by Christensen and Raynor (2003) in the "Innovator's solution". In specific, in our case studies, successful companies:

1. Defined the goal of the business correctly. Their top managers understood what competencies to master today and, in the future, to excel in the trajectories of improvements that would have been relevant for costumers.
2. Aligned corporate resources, processes, and organizational values to the transition. Especially organizational values. The entire organization prepared for the change, unlearning conflicting & deeply rooted values, substituting them with new ones.
3. CEOs and TMT were intimately involved in the process of change and sensed flexibly the new market.
4. Created an ambidextrous organization, with a separated resource allocation process and, dedicated personnel having different expertise and values respect to the current business.

Especially point 2, regarding the management of cultural values, resulted particularly relevant in explaining the reasons for success or failure of the transitions taken into analysis. This key aspect finds further confirmation in the work of Tripsas and Gavetti (2000), in which the authors underline that dealing with new technologies needs not only the development of new capabilities but also the adoption and the construction of new cognitive schemas. Also, Tellis (2006) affirms that the difference between successful and unsuccessful incumbents resides in the organizational cultural values and the rooted corporate beliefs. Only established companies, not prisoners of their heritage, and capable to put in place a visionary leadership and the willingness to execute it, can effectively undertake the change.

To conclude, it is interesting reporting the study of Chesbrough (1999) which shows that disruption in the U.S did not happen in Japan because the regulation and the business culture of the Asian country do not foster entrepreneurship and the financing system to start-ups is inefficient. This consideration, for sure, can partially explain why the Japanese companies -in this study- succeeded in the transition, unlike the American ones. Consequently, the results of this research project may be influenced by cultural differences between the Eastern and the Western managerial culture. However, this aspect will be detailed in paragraph (8.4) dedicated to the research limitations.

### **Organizational Ambidexterity's theoretical implications**

In the literature review's paragraph dedicated to organizational ambidexterity, it was explicated the importance and the great resonance that this study generated in organizational studies. Consequently, numerous streams of literature regarding ambidexterity raised, creating confusion among scholars (Raish & Birkinshaw, 2008). To be precise, in this research project, the focus was on Innovation

Ambidexterity (that is part of the technological innovation research) and on Organizational Design. For this reason, the discussion will be limited only to these two branches of the ambidexterity literature.

Besides, before discussing theoretical implications, a clarification is required. In the case studies presented, incumbent companies have had to face disruptive innovations or, as shown in the external generalization (chapter 7), events that put their long-term survival at risk. All the analysed organizations decided to react with a competence destroying or a competence enhancing transition (Tushman & Anderson, 1986). But this does not mean they undertook a sudden change of business. The realization of one of these transitions presupposes, in any case, that the company continues to *exploit* its traditional business, at least for a certain period, and in parallel starts to explore a new or different market, developing a competence destroying technology or enhancing its competences. Hence the importance of organizational ambidexterity in this study.

The first implication of this study is a confirmation and an extension of the findings of Tushman and Anderson (1986). Competence destroying transitions, if compared to enhancing ones, are associated with a stronger level of paradoxical tensions between the exploitative and the explorative initiatives undertaken by the company. In fact, as emerged from paragraph 6.7, competence destroying transitions tends to activate inertial forces mainly coming from past organizational beliefs and cultural values. The substantial incongruence between it and the current cultural repertoire of the company triggers a protective reaction in favour of the traditional business, generating in turns more repulsive forces against the explorative activity undertaken. Consequently, managing ambidexterity under these conditions is more complex for organizational leaders.

On the other side, competence enhancing transitions usually are in line with the company organizational values, beliefs, business and competences. For this reason, as confirmed by the qualitative data collected, there is a lower degree of tension among different divisions or business units. However, it is easier to fail this type of transition because it does not generate direct inertial forces. In fact, the main problems experienced with this transition are related to the development of complementary core competencies, which can be an underestimated organizational aspect.

Moving on, considering the link between organizational identity and ambidexterity, scholars, such as O'Reilly and Tushman (2013) have already claimed the importance of organizational identity as a key antecedent to realize ambidextrous organizations. In specific, they sustained the necessity to create a common vision and a set of values reflected in an organizational identity, capable to embrace both the

explorative and exploitative initiatives. This was confirmed by the findings of this research, presented in chapter 6, and already discussed in section 8.1.1 dedicated to organizational identity. However, no studies demonstrated what is the influence played by the adoption of a given ambidextrous organizational design on the process of organizational identity realignment, to make sense of a transition. From the qualitative data collected, in all the four case studies presented (Chapter 6), both successful and unsuccessful companies adopted forms of structural ambidextrous design (O'Reilly & Tushman, 1996, 2004, 2016). Hence, we cannot confirm that the adoption of an ambidextrous configuration is neither a necessary nor a sufficient condition for the successful promotion of a new organization identity in line with the transition undertaken.

A similar consideration can be done on the relationship between framing and ambidextrous organizational design. Raffaelli et al. (2019) asked to further investigate the relationship between framing flexibility and different form of organizational structures. They supposed a different behaviour for their framing flexibility theory in case application within structural (O'Reilly & Tushman, 1996, 2004) or contextual (Birkinshaw & Gibson, 2004) ambidexterity designs. Unfortunately, all the companies analysed assumed structural ambidexterity. Hence a comparison between these two ambidextrous structures was not possible, moreover, it cannot be confirmed that the adoption of an ambidextrous organizational design is neither a necessary nor a sufficient condition to enable a correct framing flexibility process within the TMT.

To conclude, as a final contribution, this research project proposes identity management as a strategic dynamic capability. The process-model identified supports the definition of Teece (2012) because it reflects the speed and the degree to which firms are able to realign resources and competences in order to match the opportunities and the requirements of their new business context of reference. Identity management is a capability that cannot be bought and seems to be embedded in organizational routines and in the abilities, the knowledge, and the leadership skills of human resources, especially of TMT's members. It can be considered as a "*higher-order capability*" that facilitate operational but also long-term strategic decisions and it is a critical source of organizational success (O'Reilly & Tushman, 2008). Moreover, it involves, at the same time, all three categories of dynamic capabilities outlined by Teece (2012): sensing (the comprehension of the new competitive domain tackled with the transition and its difference with the traditional company business), seizing (the revaluation and expansion of cultural and technical repertoires to sustain the transition) and transforming (the promotion of an organizational identity realignment that accommodate the transition undertaken). On the other hand, the data collected are not enough to confirm that its intentional iterative application can trigger executives' organizational learning.

## 8.2 Managerial Implications

For business practitioners, this research takes major steps forward in the understanding of the broad problem of incumbents' organizational change in case of disruptive innovation.

Previous studies (O'Reilly & Tushman, 2013; 2011; Mochari, 2016; Ormerod, 2005; Hannah, 1997) demonstrated how in the Western managerial culture, especially in the U.S. market, business continuity is an issue. Many incumbent companies, market leaders in the business they invented, such as Blockbuster, EMI, Motorola, Nokia, Kodak, and others, failed to react to disruptive innovation and change. If we look at statistics, over 10% of American companies disappear every single year (Ormerod, 2005) and only a tiny fraction of firms founded in the U.S. are likely to make it to age 40 (O'Reilly & Tushman, 2011). In 1965, the average tenure of companies on the S&P 500 was 33 years. By 1990, it was 20 years. Today, it is forecasted to shrink to 14 years by 2026 (Mochari, 2016). On the other hand, if we look at the Eastern side of the world, especially at Japan, there are about 20,000 companies that are more than 100 years old, with some business activities that even reach more than 1,000 years old, according to the credit rating agency Tokyo Shoko Research.

The proposed study, starting from a comparison between these two antithetical managerial cultures, tackles pragmatically the problem regarding established companies' long-term survival and organizational change in case of disruptive innovation, claiming *Organizational Identity Management* as part of the solution.

We sustain that the careful management of organizational identity, in moments in which the long-term survival of the company is put at risk, is crucial because identity represents a lens through which organizational members make sense of change (Albert & Whetten, 1985). For this reason, managers need to understand how to handle organizational identity, promoting re-alignments, or changes that can accommodate organizational transitions, and consequently increase their chances of successful realization, driving the consensus for change among employees.

In specific, this research proposes a process model describing how managers of established companies can promote organizational identity change, to accommodate a competence enhancing or competence destroying transition, in the event of a disruptive wave of innovation, or of a risky event that shocks and reframes the traditional competitive boundaries of the company.

Entering more in-depth in the discussion of the managerial implication of the findings, this study provides the following insights for decision-makers:

First of all, managers have to be aware that the organizational identity of a company is composed of two souls, the Utilitarian and the Ideological facets. The flexible activation of these two identity's sides, it is a key factor for a successful realignment of the organizational identity. When one of the two identity facets, or both, remain anchored to the past, the realignment proved to be ineffective leading the identity transition towards failure.

The Ideological and the Utilitarian sides, respectively refer and make sense of the technical and the cultural repertoires of the company. Therefore, the harmonic reevaluation and expansion of these two organizational repertoires in the direction of the desired business transition, allow top managers to activate both identity's facets flexibly.

*But operatively, what should practitioners consider doing?*

First, the TMT have to identify which past or current core capabilities, organizational beliefs, and business features are central to support the transition and the new business domain undertaken, and which instead results unnecessary. After that, top managers have to outline which new core capabilities, organizational beliefs, and business features the organization needs to develop, in order to successfully sustain the transition and be competitive in the new selected domain. The identification of past and future organizational elements allows the re-evaluation and the expansion of the technical and cultural repertoires of the company and consequently, it triggers the flexible activation of the two mentioned identity's sides. As a final step, the TMT have to synthesize all the relevant past and future elements identified, within a new proposal of organizational identity, and have to make it emotionally resonate across the organization, in particular across medium and basic managerial levels.

As a second contribution, the study highlights the effectiveness of specific mechanisms to favourite the emotional resonance of the organizational identity realignment and consequently the accommodation of the target transition.

The communication of the future organizational direction within an identity narrative of opportunity, which draws coherence with the organizational past and establishes the way for the future, on the base of the organizational elements previously identified by the TMT in point one of the discussion, was proved to be particularly persuasive to drive consensus toward change. Moreover, also the creation of a new consistent corporate vision revealed to be particularly useful to help organizational members to make sense of the transition. Finally, the straightforward communication of a sense of urgency at the basis of the change, through institutional claims, individual or collective meetings and messages to



employees, turned out to be particularly influential to gain readiness for change among organizational members and for breaking up the status quo.

A third implication emerged from the analysis of the model presented is relative to the gap between the past and the new needed core competences, cultural believes, and business domain's features. The width of the gap, or the distance between the past and the future, determines the degree of difficulty to adopt the new identity and, therefore, to make the transition. The greater the gap, the greater the investments needed in financial and human resources, time, and TMT's effort in coordination. For this reason, before proceeding, top managers should consider the feasibility of the step to undertake and the most suitable strategic method to close the technical, cultural, and business gaps identified. If too wide, partnerships, alliances, acquisitions & merger, or, in extreme cases, the abandonment of the transition can be valid and logical alternatives respect to inhouse solutions.

Moving on, as a fourth managerial contribution, we claim the importance to engage middle managers in the process of identity realignment. The TMT of established companies has not to underestimate the role of middle management members because they transform and translate the top management's strategy into operations. The lack of their engagement in the identity realignment process, operatively, can create an irremediable fracture of thought between the TMT and the rest of the organization, reducing the possibility of a successful transition. For this reason, top managers should always consider lower managerial levels in the process of identity change, motivating the identity shift to each employee and making it emotionally resound across the organization. The communication and the justification of the transition as a natural step in continuity with the past organizational core competencies and cultural values, and as an unmissable opportunity for the future prosperity of the company, results particularly crucial to get their consensus.

A further managerial insight concerns, in specific, the management of competence destroying transitions. When managers opt for this solution, the most critical issue is overcoming the past cultural believes and cultural resistances rooted in the organizational culture of the company, especially in the mind of long present top and middle managers. Organizational leaders that decide to face this kind of organizational change should direct their main efforts to create the right level of social legitimacy around the transition, rather than focusing only on the development of new capabilities, as happened in the Polaroid case. This transition is particularly painful and complex because it imposes the company to put aside its traditional technical heritage, and to start again a business from scratch, in a market context only apparently similar to the previous one.

In the new business domain, past core competencies become quickly obsolete so the company would no longer have an interest in using them. For this reason, the renewal and the expansion of the technical repertoire becomes an obliged choice. But on the other hand, the necessity to change does not emerge for what concerns organizational and managerial beliefs. The problem, in fact, raises from the temptation to use the old managerial and cultural principles to handle the transition and the new business, jeopardizing the successful outcome.

To conclude, the last managerial insight concerns the criticalities discovered in approaching a competence enhancing transition. The most critical issue is to adequately assess the company's organizational core capabilities, without overestimating actual organizational core competences, and at the same time without undervaluing the need to develop new further complementary skills to compete in the new business space. The lack of experience in the new targeted competitive domain and a certain managerial arrogance in evaluating actual core capabilities as central, even if they aren't, can bring the company to underestimate problems or to take decisions not appropriate for the new business scenario. Therefore, managers should direct their main efforts to create the right level of technical legitimacy around the competence enhancing transition. The capabilities selected to open a new business must be truly central and not secondary to the transition undertaken. Moreover, managers have to focus on developing those complementary skills required to effectively sustain the change

This transition is not particularly painful from the organizational culture perspective because, respect to the competence destroying one, the technical heritage does not become completely obsolete, but it is re-evaluated and applied in a new business domain. This implies that there is not a degree of cultural resistance comparable to that presented in Fujifilm and Polaroid. Consequently, obtaining approval for this form of diversification, it is easier than attempting a competence destroying transition. So, the critical issue remains the honest and correct evaluation of the actual and new necessary organizational capabilities. Besides, companies should also consider that this easiness to get approval for diversification, sometimes can also mistakenly lead to unconsciously apply past organizational beliefs, increasing the possibility to fail the transition.

### 8.3 Research Limitations

Despite the breadth of this study and the author's attempt to provide the most complete and consistent picture of the subject investigated, this research is not exempt from limitations.

First of all, as discussed in chapter 5 (section 5.3), the study has utilized a qualitative multiple case studies methodology, based exclusively on secondary sources. However, for this kind of research, interviews normally are the primary data sources (Eisenhardt & Graebner, 2007). The initial idea for this project was to take advantage of the exchange program in Japan of the author to realize face to face interviews with Fujifilm's and Konica Minolta's managers and then complete the project with other secondary sources. But the language barriers and the pandemics prevented the realization of this plan. So, in accordance with the supervisor, the study was built only on authoritative scientific papers, specialized magazines and web sites, CEO's biographies, historical books and annual reports.

In light of it, the first remarkable limitation is represented by the impossibility to realize interviews and, consequently, to have at disposition primary qualitative data. Therefore, this explorative research has been based only on data previously filtered by other authors' mental schemas. For this reason, the risk to produce a biased theory was high and it could jeopardize the validity of the entire project. However, the use of a wide triangulation of data deriving from different sources, and the utilization of only highly qualified documentation, strongly mitigated the risk.

Continuing, another research's constraint was the impossibility to access to a large body of secondary sources, related to Fujifilm, Konica and Nikon, because written only in Japanese. So the entire dissertation was based on sources written in English, and lack of a possible contribution coming from these interesting and characteristic documentations.

Moving on, due to time limits, the author decided to propose only four case studies. However, the implementation of a higher number of cases could have brought even more consistency to the research findings. In addition, the extension of the investigation to more contemporary companies operating in sectors radically different from the photo-film industry, such as financial institutions or insurance companies, could have increased the generalizability of the emerging theory and its normative power.

However, a small step toward this direction was done in chapter 7, applying the emerging theory on the additional cases of GoPro and Nikon. This further application of the study on different organizations, in different periods, industries, markets of reference, and situations, demonstrates the reproducibility of the research and the utilization of the model in other contexts, extending the

normative value of the emerging theory. Moreover, during this dissertation, each step of the investigation has been justified and transparently shown to allow other scholars to check the process from which the findings emerged and to replicate it in future studies.

Another limitation regarding the theoretical sampling is about the decision to compare extreme cases of successful Japanese film manufacturers with unsuccessful American ones. The inclusion of European companies in the study would have brought to a better corroboration of the findings and a reduction of the cultural bias of the results. Unfortunately, only AGFA Gevaert, a Belgian-German film manufacturer, had the characteristics to be compared to the other selected companies. But a substantial lack of secondary sources prevented its integration in the research project.

Besides, connected to this topic, one of the greatest limitations is that the research findings can be partially biased by different managerial styles, country's cultural principles and socio-economical conditions. For instance, the topic of social security in Japan is stronger than the U.S. and for that, companies are more supported by the government in times of transitions and crisis. However cultural influences will be furtherly deepened in section 8.4.

Another critical aspect concerns the extension of this research document which can be perceived as quite dispersive. However, it should be considered that qualitative exploratory studies of this kind, which tend to analyse a phenomenon from the perspective of four distinct streams of literature, require a greater extension to provide a detailed and accurate explanation.

Finally, for what concerns the degree of completeness of the answers to the research questions. This study does not have the ambition to find an ultimate solution to the topics of investigations proposed, but it wants to provide a meaningful interpretation of the reality for the problems of identity management and organizational change. However, if the first research question seems almost exhausted (see chapter 3), for the second one: "*How can companies and their managers take advantage of corporate history even as they move to different futures?*", the study shed light only on few mechanisms to accomplish this task. But there is still a large space for investigation (see par. 8.5), especially if we continue to study this query in connection to organizational identity dynamics.

To conclude, we remember that the final scope of this research was theory building and not theory testing. It will be the task of future researchers to verify the validity of the new theoretical constructs proposed.

## 8.4 Western vs Eastern managerial culture.

As explained in the research limitation’s paragraph, it is not possible thinking that the only reason why Japanese companies survive longer than American ones and are more successful in organizational change is simply due to the better management of their organizational identity. But behind this phenomenon, there are various deeply rooted countries’ cultural reasons and differences in the managerial styles and in the socio-economic conditions between Eastern and Western civilizations. We cannot, therefore, ignore that the findings presented may have been influenced by these factors. Aware of this, during the creation of the case studies, the most impactful cultural factors were identified and finally synthesized in table 8.1. Then, they were triangulated with the scientific publications of Doetzer (2020); Webster and White (2010); Eisenberg (1999); Chesbrough (1999) Song et al. (1997); Ralston et al. (1995); for further confirmation and then organized into four homogeneous clusters.

Table 8.1: Cultural differences in managing companies in Japan and the United States. Western vs Eastern corporate cultures.

	<b>Western</b>	<b>Eastern</b>
Corporate Management Style	Short term investments - Shareholders Perspective - Immediate profitability	Long term investments - Stakeholder Perspective - Business continuity
	Be always the market leader. Be always a step ahead.	Be the market leader is not always possible. Business sustainability and social impact are the most important factors.
	“Home Run” culture - Invest only in ideas and business opportunity of 1 Billion \$, in which low competition is forecasted	“Kaizen” culture - Invest in many fields in which profitability is possible and improve the product or the service step by step, beating the competition.
	Strategies to grow: M&A and Alliances	Strategies to grow: Avoid Merger & Acquisition with Western Companies. Grow by yourself or by partnerships
	One man Show Philosophy. CEO; CFO; and TMT members make alone all the most important decisions.	Harmony Predilection. Low and Middle Management’s opinion is always taken under consideration by the TMT
Corporate Culture	Flatter organizations – More homogeneous distribution of Responsibility - Independence from superiors.	Responsibility is concentrated at the top - Strong Hierarchy – Strong obedience to superiors
	Individualistic culture – (Entrepreneurial spirit)	Team working culture - (Social spirit)
	Failure is accepted	Failure is a dishonor
Innovation Management	Innovation process: Top Down	Innovation process: Bottom Up
	R&D strategies: Outsourcing – Open Innovation	R&D strategies: Technology, Innovation, and hard skills in-house development
Regulation and context conditions	When things are getting worse, the first managerial action is to try to create innovation, or new markets, reallocating employees. Long-life employment system. Japanese companies cannot fire	When things are getting worse, the first managerial action is cutting cost through firing people. Dynamic employment system.
	Social Security: High – Strong government support	Social Security: low – Weak governmental support
	Financing system to start-ups is inefficient	Financing system to start-ups is very efficient

## 8.5 Future research agenda

Given the consistent managerial and theoretical contributions, but also the limitations of the project, further research is required to confirm, corroborate, and extend the implications of the study. This paragraph highlights the possibilities of future investigations opened by this research. For a reason of clarity, they have been divided according to the literature of reference:

### **Organizational Identity:**

First of all, paragraph (8.3), dedicated to the research limitations, underlines that the project has been built only on secondary sources of information. So the author invites future scholars to replicate the investigation, collecting data from primary sources of information. Therefore, it is suggested the utilization of interviews and data collections' techniques on the field.

Second, the project focused on the photo-film industry, and then extended the findings to the action camera and the DSLR camera markets, reporting the cases of GoPro and Nikon. So, despite a first step towards the external generalization of the model was undertaken, the business domains selected to verify the findings were affine. So, the replication of the study on companies operating in diametrically different industries would have great significance in the generalization of the framework proposed. Moreover, the study focused only on Japanese and American incumbent firms. Longitudinal studies on European firms would better corroborate the findings and would better underline the cultural differences among three different managerial styles, in identity management. In addition, would be interesting to understand if the model proposed works also for young companies and in cases in which managers want simply to grow and expand their business.

Continuing, quantitative studies are necessary to confirm the validity of the model and of the theoretical implications behind the model. In specific, the quantitative confirmation of the influence played by the Utilitarian and the Ideological identities on the definition of the organizational identity, and their link with the technical and the cultural repertoires would be a great step ahead for the comprehension of identity as a phenomenological, multifaceted construct. Jointly to this topic, would be interesting verify by quantitative research, the symmetrical pattern in the management of identity facets in case of a competence-destroying or a competence-enhancing transition. In detail, in the case of a competence-destroying transition, the flexible activation of the Ideological face is more critical, while in case of a competence enhancing transition it's harder the activation of the Utilitarian one.

In addition, as reported in the discussion 8.1.1, one of the most insightful contributions of the study is the proposition of core competences as a key variable to explain dynamic in identity change. Starting from the contributions of Gioia, Shultz & Corley (2000) and Hatch & Shultz (2002), who respectively theorized organizational image and, organizational culture as critical factors to explain organizational identity realignments, in figure 8.3, a more complete model of identity dynamics is proposed:

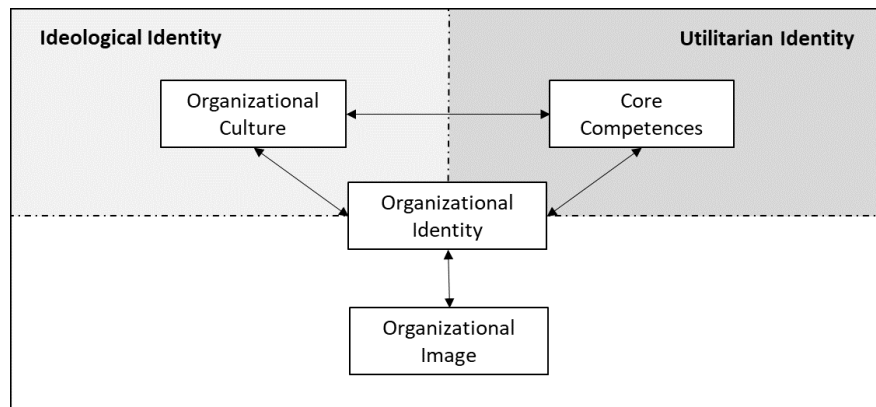


Figure 8.3: A new model of Identity dynamics

Future qualitative and quantitative research should confirm, deny, or extend the relationship among these variables.

Finally, the research revealed the strengthening power of a new corporate vision on promoting a new organizational identity. For this reason, understanding which further mechanisms can support and reinforce the affirmation of a new organizational identity could be a new useful research trajectory, mainly for business practitioners.

### **Framing theory:**

Assuming the framing theory perspective, the research demonstrated the importance of Technical and Social Legitimacy as equivalency frames, to create the right consensus and engagement towards organizational change. In light of it, would be interesting to understand how the perceptions of these two frames vary among different company departments and different teams. Specifically, breaking down the overall organizational consensus, is it possible that these equivalency frames become frames of emphasis for some departments? Moreover, can Technical and Social Legitimacy be applied as equivalency frames in other situations, such as in the implementation of a radical innovation, the introduction of a new product feature, the modification of a routine or a process? The feeling is that the more people are involved, the greater the need for equivalency frames.

Moving on, the study illustrated that managers make sense of competence transitions through three cognitive filters: (Core Capabilities, Organizational Belief, Business Domain). Further research trajectories can be understanding if, in other contexts of organizational change, managers activate other filters, if and how they change over time, and what other mechanisms can flex or stiffen them.

Finally, this study, as discussed in section 8.1.2, refuses the insight of Galati et al. (2016) who suggested that in case of reaction to a crisis, established companies activate emotional framing before the cognitive one. However, would be helpful further research to understand in what conditions, emotional framing is activated before cognitive framing in the decision-making process, and what are the effects generated on the managerial cognitive filters.

### **Disruptive Innovation theory and organizational ambidexterity:**

Considering the Disruptive Innovation theory, the research proposed an interesting new angle of investigation to study organizational reactions to disruptive innovation, based on the concept of competence enhancing and destroying transition rather than on the construct of technological discontinuity adoption. Future research can adopt this perspective to visualize the dynamic process by which companies react to market disruption, rather than dwelling on a static definition of innovation's adoption.

On the other hand, according to the Organizational Ambidexterity literature, identity management, in paragraph 8.1.3, has been conceptualized as a top management's dynamic capability. However, this study does not prove that managers learn to manage it better, accumulating experience over time, which is a key feature to define a capability: "dynamic". Future research will have to shed light on this aspect. Moreover, taking as a unit of analysis the single organizational leader, and not a small circle of decision-makers (TMT), can bring to discover further insightful implication to corroborate the model presented.

To conclude, no studies have debated the influence played by the adoption of a given ambidextrous organizational design on the process of organizational identity realignment. Unfortunately, in all the cases presented in the research, the companies assumed a structural ambidextrous configuration. It would be interesting comparing the effects generated by a sequential or a contextual ambidextrous design on the identity's realignment process.



## 9 Conclusions

This study examined the way through which established companies and their leaders can promote new organizational identities that effectively accommodate a competence enhancing or competence destroying transition, in the occurrence of market disruption. In addition, it explored how they can take advantage of their organizational history even as they move to different futures. The decision of pursuing this study was dictated by several empirical and theoretical reasons.

From the empirical perspective, in the Western managerial world, business continuity is problematic, especially in times of disruptive innovations. Considering the broad problem of organizational adaptation, identity management represents a not yet well-investigated issue, with an enormous potential to support managers in accommodating business transitions. More in detail, organizational identity is the lens through which employees make sense of what happens within the company (Albert & Whetten, 1985), including the changes promoted by their leaders (Ravasi & Shultz, 2006). Consequently, understanding how to handle it and how to pursue re-alignments that can accommodate organizational transitions, driving the consensus towards change across managerial levels, represents a key issue for modern organizations and business practitioners.

From the theoretical point of view, instead, the broad exploratory character of these research proposals allowed to investigate Identity management from the perspective of four different literature's streams: Organizational Identity, Framing, Disruptive Innovation Theory, and Organizational Ambidexterity. The mixture of these streams led to deepening the identity multifaceted view (Gustafson & Reger, 1995), a perspective quite uncharted by scholars, which has an enormous potential to clarify how contemporary organizations manage their identities (Cheney, 1991), especially in times of disruptive innovations (Kammerlander et al., 2018). In addition, the research took the opportunity to explore the role of core competences in organizational identity's dynamics. In fact, how the interaction of core capabilities and identity affects incumbent responses to disruptive innovations, according to Kammerlander et al. (2018) remains quite unexplored. Finally, considering the framing flexibility theory (Raffaelli et al., 2019), which recently opened new scenarios to comprehend the way top managers takes decisions in the context of radical changes, this project allowed to provide empirical evidence to support and extend this promising field of research.

To respond to these research proposals and theoretical gaps, the study performed a qualitative explorative investigation based on multiple case studies methodology. In detail, it proposed four narratives, in which four photo-film manufacturers leaders (Fujifilm, Konica, Polaroid and Kodak)

reacted to one of the following disruptive innovation's waves: the shift from film to digital photography and the advent of the Smartphone Revolution, putting in place a competence enhancing or a competence destroying transition. From the within and the cross-case analysis of the empirical data collected, an explanatory model was outlined (figure 6.17).

This framework illustrates how incumbents' leaders can foster an organizational identity change, to accommodate a competence enhancing or destroying transition, in the occurrence of a disruptive wave of innovation that shocks the competitive domain. In particular, it shows that this mission can be achieved by a flexible activation of both Utilitarian and Ideological identity's facets and by a two-step process, that combines cognitive and emotional framing in sequence. Moreover, it explains how top managers should use organizational elements from the past and how they should develop skills, values and business features for the future, to pursue a consistent organizational identity realignment in harmony with the new business direction selected.

As discussed in chapter 8, the theoretical and the managerial contributions, deriving from the model and the research are several. For reasons of clarity and synthesis, the most relevant have been summarized and organized into three distinct sections: managerial, organizational identity literature's and framing theory's implications.

### **Main managerial contributions**

The first critical managerial contribution regards the possibility to handle organizational identity as a strategic tool, planning proactively changes to support organizational shifts. Consequently, managers, following the conceptual map outlined in the framework, can model organizational identity to support their decisions, reducing possible organizational inertial forces. In light of it, the research proposes identity management as a key managerial dynamic capability.

Second, the distinction of the organizational identity into the Utilitarian and the Ideological sides results critical because, from the data collected, only when both facets of identity have been flexibly activated by managers, the identity realignment revealed to be successful. While, when one or both sides have remained rigidly prisoners of the past, companies' transitions failed. So managers have to learn how to manage both sides of identity.

The third point regards a rather symmetrical pattern in the management of identity facets in case of a competence-destroying or a competence-enhancing transition. When managers opt for a competence destroying shift, the most critical obstacle is overcoming the cultural resistances rooted in the mind of

long present top and middle managers. Consequently, the flexible activation of the Ideological identity results more critical than the activation of Utilitarian one. While, when managers opt for a competence enhancing transition, the most critical issue is the correct assessment of the company's organizational core capabilities. It is crucial not to overestimate actual core competences, and at the same time to not undervalue the need to develop further complementary ones. Consequently, the flexible activation of the Utilitarian side results more critical than the activation of the Utilitarian one.

Finally, the last managerial contribution regards the importance to make resonate across the company the new desired transition within a narrative of opportunity and to engage the middle management in the identity realignment process. Middle management's engagement was found to be particularly decisive because their role is to implement operatively TMT's strategies. The lack of their engagement can create an irremediable fracture of thought between the top management and the rest of the organization, leading to a dangerous stalemate, and reducing the possibility for a successful transition.

### **Main Organizational Identity literature's contributions**

As the main contribution to the literature of Organizational Identity, the study supports the theorization of a new multifaceted view, based on two facets of identity: The Ideological and the Utilitarian identities. These two sides directly refer to the cultural and technical organizational repertoires of a company. Qualitative evidence shows how the harmonic revaluation and expansion of organizational beliefs (constituents of cultural repertoire) and core competencies (constituents of technical repertoire) in the direction of the change undertaken, can respectively pursue consistent realignments in the Ideological and the Utilitarian identities, producing shifts in the overall Organizational identity.

As a consequence of the previous point, this study sheds light on the importance of the organizational core competencies as a key variable for explaining identity dynamics. This is a second very relevant contribution because it means that organizational identity can be shaped acting not only on intangible variables such as organizational images (Gioia, Shultz & Corley, 2000) and organizational culture (Hatch & Shultz, 2002) but also leveraging on something much more actionable by managers.

### **Main Framing Theory's Contributions**

Finally, considering the framing literature, this research demonstrates that organizational members, when facing a competence enhancing or destroying transition, value concurrently the social and the technical legitimacy of the change proposed by the company and its leaders. The combination of these

two interpretative frames if correctly triggered by the TMT can create, across the organization, a driving consensus towards the realization of the transition selected.

Second, this study demonstrates that TMT makes sense of competence enhancing or destroying transitions through three distinct cognitive filters: Core Capabilities, Organizational Culture, and Business Domain. Their flexible application enables top managers to pursue a reevaluation and an expansion of the cultural and technical repertoires in the direction of the transition undertaken. However, only when all of them are flexibly activated, the possibility to be successful in the transition increases.

However, in contrast with Raffaelli et al. (2019), cognitive filters' flexibility is not triggered by the mechanism of "*intermediate*" object categorization. But it depends on the TMT's cognitive willingness to conjugate useful elements of the organizational past (past core capabilities, organizational beliefs, and business features) with new necessary elements to develop for the future (new core capabilities, organizational beliefs, and business features) in order to consistently sustain the transition over time. This process, helps TMT to take pride of the organizational history, make sense of the change and lay the foundations to trigger a sense of solidarity towards the transition across the company, transforming feelings of indifference into active engagement.

### **External Generalizability, Limitations, and Future research**

All the points just discussed, and the framework proposed demonstrated their subsistence in two further cases (GoPro and Nikon), treated in chapter 7, dedicated to the external generalization of the findings. In specific, the model was confirmed to work also for companies operating in different periods, in slightly different industries, and when the change is not driven by disruptive innovation but only by tough competition. Furthermore, in the Nikon case, it was also used to predict the successful implementation of the transition. If this happens, the model would also have a potential predictive value.

Finally, despite the attempt to provide solid and insightful contributions for theory and practice, the study is not exempt from limitations (see paragraph 8.3). Above all, the only use of secondary sources of information and the potential influence of cultural factors are aspects that can mitigate the findings of this research. Future qualitative works will have to replicate the study by limiting the influence of these factors, while quantitative studies are desirable to test the model and the numerous theoretical constructs proposed (see paragraph 8.1). Furthermore, ex-post and ex-ante applications of the model to other sectors will help to extend its normative and predictive value.



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