

**Exploitation and exploration learning and the development of organisational capability:
A cross-case analysis of the Russian oil industry**

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Abstract

We use a cross-case analysis of four Russian oil majors to develop a framework for organisational learning and the development of organisational capability in transition economies. Our research points to the pivotal role of top management teams in organisational learning. A top-down approach is used in the first stage of transformation into an exploitation learning organisation, facilitating the development of operational capabilities required for survival in a market economy. In the second stage of transformation into an exploration learning organisation, a more democratic management style is appropriate for the development of the dynamic capabilities required for sustainable competitive advantage.

The pace of change, driven by upheaval in the external environment and the intervention of the top managers, enables key insights about how large, conservative and bureaucratic companies in the West, anchored in their administrative heritage, may achieve rapid change.

Keywords

Exploitation learning; exploration learning; organisational capability; organisational learning; organisational transformation; transition economies

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1. Introduction

The transformation of enterprises is a major managerial challenge, especially in firms with a rigid organisational culture and outdated resources and routines. Transformation requires upgrading of resources by acquisition of articulable and tacit knowledge (Lane and Lubatkin, 1998). Articulable knowledge can be codified and is thus more easily transferred. However tacit knowledge is often embedded in uncoded routines and in the firm's social context (Kogut and Zander, 1993; Teece, Pisano and Shuen, 1997). Hence transformation requires organisational learning (OL), involving the acquisition, internalisation and dissemination of both types of knowledge in the organisation (Dosi, Nelson and Winter, 1990; Staples, Greenaway and McKeen, 2001). These processes require related prior knowledge, such that new information can be interpreted and related to the context of the organisation. In other words, OL depends on the organisation's absorptive capacity - its ability to value, assimilate and apply new knowledge (Cohen and Levinthal, 1990).

OL can be studied particularly well in the context of transition economies, which provide a societal quasi-experiment for testing and developing theories by engaging them in an unusual and changing context (Meyer and Peng, 2005). The pace and extent of change provides opportunities for qualitative processual research investigating critical junctures in the evolution of business (Meyer and Gelbuda, 2006), such as the interaction of environmental change with OL.

In transition economies, absorptive capacity has typically been weak, in part because related managerial knowledge was not in place and existing routines became dysfunctional in the new context (Newman, 2000). Some firms have successfully transformed themselves, yet many privatised (formerly state-owned) enterprises have failed to change (Uhlenbruck, Meyer and Hitt, 2003). The biggest gap was experienced by Russian companies because seventy years in a planned economy have limited their exposure to competition and innovation. However, the organisational transformation in the Russian oil industry from the mid 1990s onwards has been rapid and significant, with the largest Russian oil companies beginning to compare themselves with the Western oil majors (Khartukov, 2001; Grace, 2005) and others continuing to operate virtually unchanged.

On the basis of qualitative longitudinal case studies of four privatised Russian oil companies we analyse how and why the process of OL and the development of organisational capability varies between firms in the same industry. Choosing a period of rapid change allowed us to conduct processual analysis of change (Pettigrew, 1997; Dawson, 2003) over a relatively short period of time.

We find that OL is highly relevant for explaining the process of development of organisational capability in transition economies. The combination of the concepts of breaking with administrative heritage, absorptive capacity and exploitation and exploration learning enhances our understanding of how organisations in transition economies can transform. Furthermore the pressure cooker effect of a heightened pace of change, driven by upheaval in the external environment and the intervention of top managers, enables key insights about how large, conservative and bureaucratic companies in the West, anchored in their own administrative heritage, may achieve rapid change. Our research points to a pivotal role of top management teams (TMT) in OL. We explain how the characteristics of the TMT critically influence OL at different stages of the process and we develop a conceptual framework for OL to help organisations to achieve fundamental change.

In the next section we review the challenges for OL identified in the literature on enterprise transformation in transition economies. On the basis of the literature and our grounded case studies we introduce our theoretical framework for organisational learning and the development of organisational capability. The methodology is explained and then the case study findings are used to elaborate the framework. The discussion develops key insights from the cross-case analysis and we conclude by considering the relevance of the framework for other change contexts and suggest some avenues for further research.

2. Organisational learning in transition economies

For an organisation to learn, it must have the ability to reconstruct and adapt its knowledge base, in so doing, having the ability to creatively destroy outmoded practices and attitudes (Pettigrew and Whipp, 1991). These basic abilities, also known as absorptive capacity, were not available in many firms in transition economies as a result of their administrative heritage. They were organised fundamentally differently and had to change even the inner logic from plan target fulfilment to profitability and efficiency (Meyer and Møller, 1998; Newman, 2000).

2.1 Absorptive capacity

OL analyses learning and adaptation at the organisational level (Shrivastava, 1983) and is necessary for organisations to adapt their capabilities (Dosi *et al.*, 2000; Eisenhardt and Martin, 2000; Pisano, 2000). What an organisation knows how to do today is a function of what was learned yesterday (Pisano 2000). Its ability to build new strategic capabilities depends on its administrative heritage: its existing organisational attributes, its configuration of assets and capabilities, its distribution of managerial responsibilities and influence, and its ongoing set of relationships (Bartlett and Ghoshal, 1989). Thus, OL is conditioned by the prior structure and culture of the organisation, in particular its ability to assimilate and apply new knowledge. This absorptive capacity is a function of prior learning and a set of learning skills provided by similar learning experiences (Cohen and Levinthal, 1990).

The general educational level in the transition economies is relatively high, suggesting that absorptive capacity might be high. However, complex organisational and technological skills, which would enable persons to apply their knowledge in a different context, are weak (Swaan, 1997). These capabilities involve tacit knowledge, which is often team-embedded and requires complex learning processes to be effective. New systems and procedures have to be adopted and the learner not only has to unlearn acquired routines and replace them with new ones, but also to reassess attitudes and value systems underlying behaviour under the old and new regimes (Lyles and Salk, 1996; Meyer and Møller, 1998; Lane, Salk and Lyles, 2001). Thus, the knowledge gap concerns skills that can only be partially transferred through active interaction between teacher and recipient and require intensive learning by doing.

Hitt, Dacin, Levitas, Arregle and Borza (2000) show that emerging market firms search for partners from whom they can learn managerial and technical capabilities. However, even in an equity alliance it is a major challenge to acquire tacit components of partners' capabilities (Lane and Lubatkin, 1998). Many firms in transition economies do not have learning experiences similar to those of potential partners operating in a market economy (Hitt *et al.*, 2000) and the cognitive ability of managers and employees to envisage major change and to identify and implement radically different routines is limited (Lyles and Salk, 1996; Newman,

2000; Lane *et al.*, 2001). Therefore, absorptive capacity is weak, even if firms closely cooperate with Western partners. The origins of this weakness are grounded in the administrative heritage of the firms.

2.2 Administrative heritage

The planned economy endowed firms with resources that were profoundly different from the requirements for effectiveness in a market economy (Newman, 2000; Peng, 2000; Meyer, 2001). For firms in transition economies, the administrative heritage is a liability because the inherited routines apply to an economic system that is no longer operational. The inertial nature of inherited resources is reinforced by cultural traits in Russian culture that inhibit change and knowledge sharing. Socialist societies discouraged experimentation, innovation and organisational change (Kornai, 1992; Kogut and Zander, 2000). In particular, Russian managers typically do not share knowledge but accumulate it as a source of individual power rather than treating it as a corporate resource (Vlachoutsicos and Lawrence, 1996). For instance, Husted and Michailova, (2002) find that knowledge transmission, even in Russian firms with foreign ownership, is constrained by lack of incentives for sharing knowledge, a departmental way of thinking and acting, and fear of mistakes. The Soviet legacy of fear of misinterpretation further constrains knowledge sharing. These problems are magnified by the geographic spread of some organisational networks over distant regions (Peng, 2000).

Organisational cultures that inhibit knowledge sharing would also inhibit OL, and cement existing routines. Thus the inherited resources, structures and cultures would reinforce each other, and weaken the organisation's absorptive capacity. This administrative heritage has to be overcome to initiate OL processes.

2.3 Exploitation and exploration learning

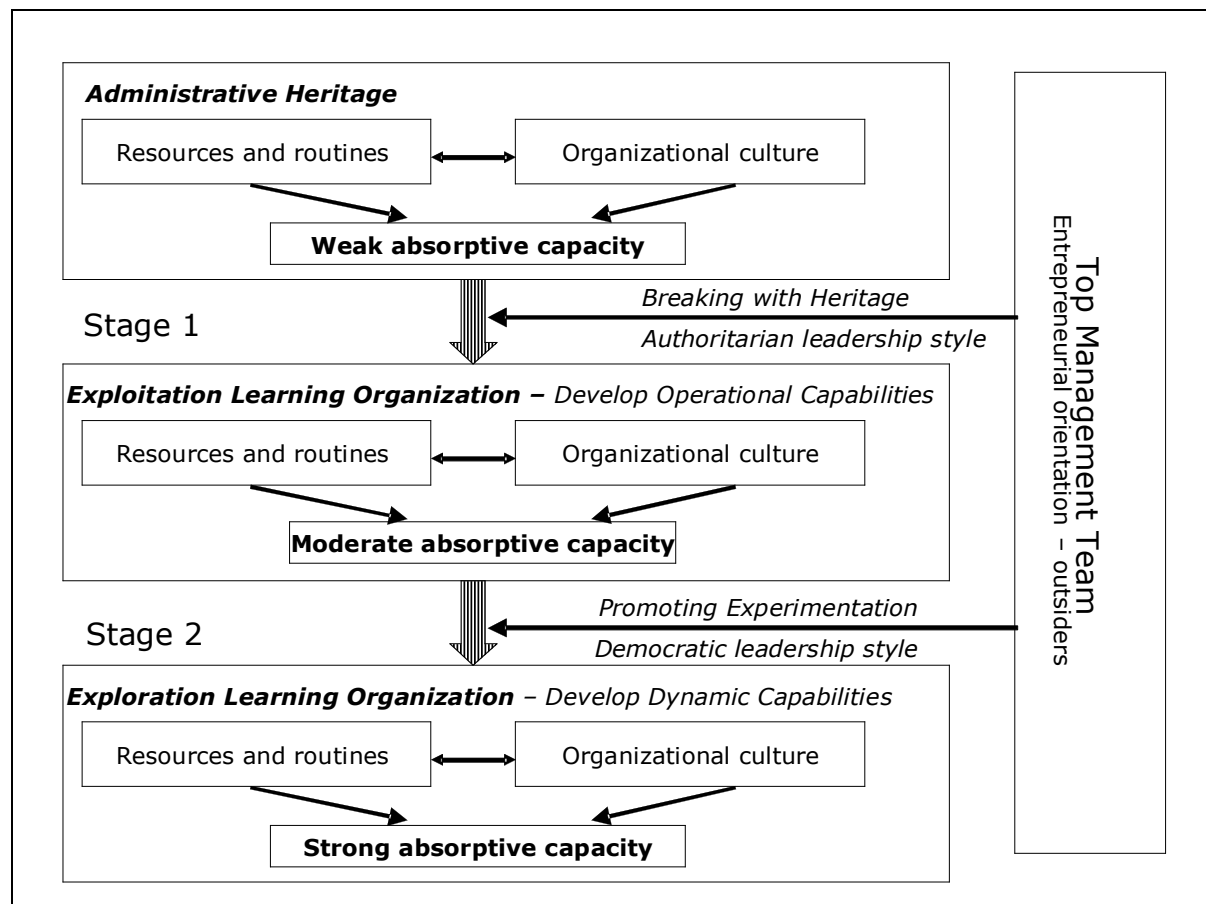
The OL literature distinguishes between exploitation and exploration learning (March, 1991). Exploitation comprises refinement, choice, production efficiency, selection implementation and execution, whilst exploration includes search, variation, risk taking, experimentation, play, flexibility discovery and innovation. Most organisational learning is exploitation learning (ie there is incremental change in routines within the existing schema) (Newman 2000). These concepts are similar to Senge's (1992) description of adaptive (survival) and generative learning. Adaptive learning is about coping (ie exploiting). Generative learning, on the other hand, enhances creativity and corresponds to exploration learning. Superior performance is achieved by an ambidextrous organisation that simultaneously pursues both incremental and discontinuous change (Tushman and O'Reilly 1996). Therefore, organisations need to achieve a balance between exploitation and exploration learning (He and Wong, 2004).

For companies in transition economies, the first emphasis has been on exploitation learning, since they need to acquire the operational capabilities which already exist in the West. However, companies also need to engage in exploration learning, typified by new and original thinking, because the challenges of emerging economies require new business models that add value in the specific context (London and Hart, 2004; Prahalad, 2004). Kogut and Zander (1996) emphasise learning through experimentation and internal development of new routines and capabilities adapted to the specific context, rather than the wholesale imposition of imported routines from alliance partners.

3. A framework for organisational learning in transition economies

On the basis of the literature and the grounded case studies presented below, we develop a new framework for OL in transition economies (see Figure 1). A crucial addition to the OL literature is the incorporation of the TMT and leadership style in the analysis of OL processes. Vera and Crossan (2004) identified the importance of Chief Executive Officer (CEO) and TMT leadership styles and practices for OL and empirical evidence in Russia suggests that transformational leadership is directly and positively related to organisational performance (Elenkov, 2002). Various authors point to entrepreneurs or TMTs as crucial in influencing transformation processes in transition economies (Fey, Adaeva and Vitkovskaia, 2001; Uhlenbruck *et al.*, 2003; Clark and Soulsby, 2005). Yet exactly how TMTs influence OL in companies in transition economies is not well understood. Our case studies provide some novel insights on this issue.

Figure 1. A framework for organisational learning in transition economies

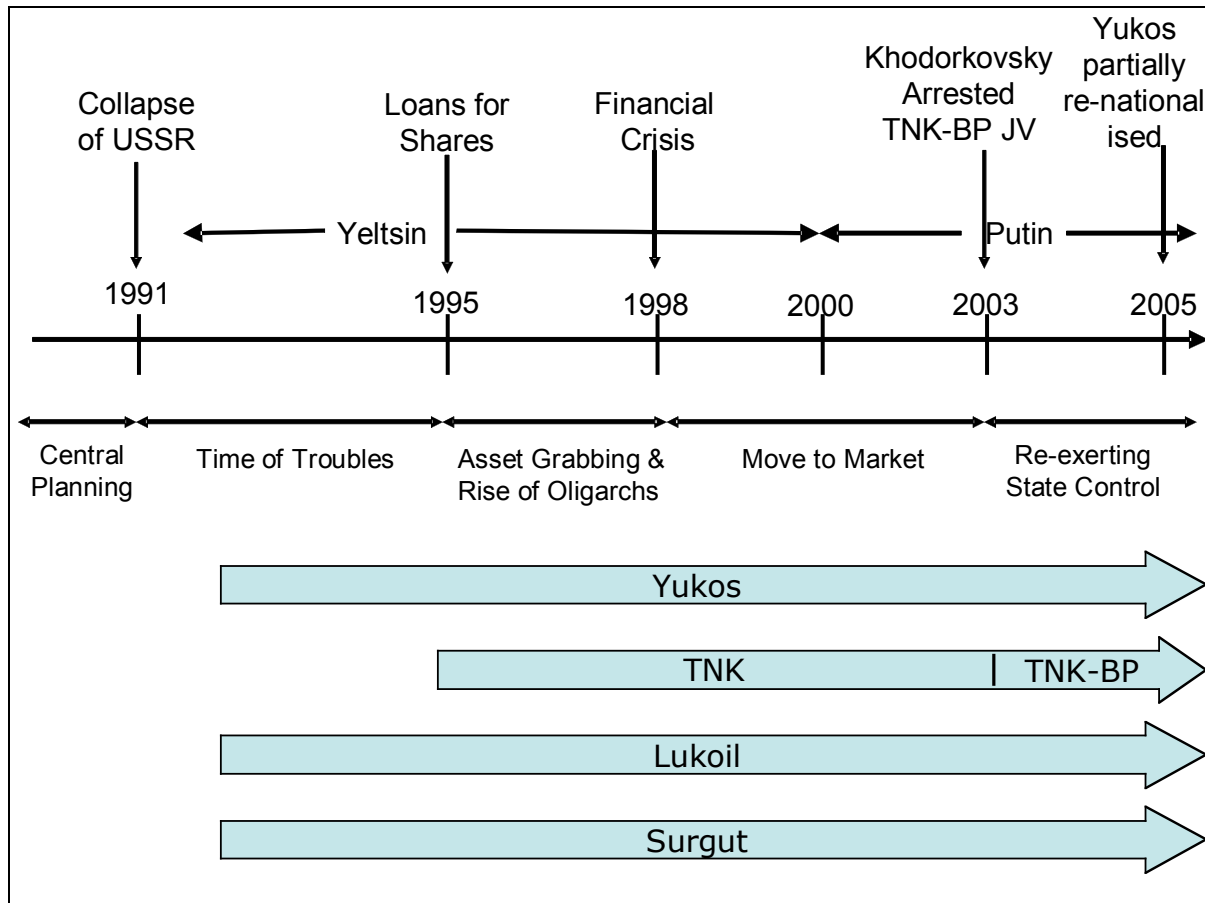


The proposed framework depicts the pivotal role of the TMT in OL processes. This role varies at different stages of enterprise transformation. In the first stage of transformation into an exploitation learning organisation, a top down approach would force a break with the administrative heritage. Exploitation learning leads to the development of the basic operational capabilities for survival in a market economy. In the second stage of transformation into an exploration learning organisation a more democratic leadership style would foster experimentation and risk taking. Exploration learning promotes the development of dynamic capabilities required for sustained competitive advantage.

4. Research setting

From the data we identified four stages of development in the fifteen year period from the collapse of the Soviet Union in 1991 (see Figure 2).

Figure 2. External context since the collapse of the USSR



The ‘time of troubles’ was the chaotic period immediately after the collapse of the Soviet Union during which the privatisation process started. This was followed by asset-grabbing and the rise of the oligarchs, who have been described as men with both wealth and power (Hoffman, 2002). The 1998 financial crisis in Russia was the impetus for the oil companies to think about cost efficiencies. This heralded the move to the market. At this stage many of the operational capabilities of the companies were developed. The final stage was the re-exertion of state influence. The imprisonment of Mikhail Khodorkovsky (CEO of Yukos) in 2003 and the confiscation of Yukos’ assets was the first sign of a return to the power of the state over the oil industry.

These macro-environmental stages of development formed the backdrop to the process of OL in four of the Russian oil majors: Yukos, TNK (TNK-BP), Lukoil and Surgutneftegaz. For simplicity we use the term ‘Soviet style’ for Surgutneftegaz and Lukoil and ‘Western style’ for Yukos and TNK/TNK-BP. They represent the two types of companies which emerged after the privatisation. All respondents across the case studies identified a clear distinction between the former (which have retained much of their Soviet heritage) and the latter (which have transformed towards a Western model).

5. Methodology

5.1 Research design

The study is based on longitudinal and cross-sectional case studies (Yin, 2003) of four Russian oil companies conducted over a five-year period from 2001 to 2005. Respondents were asked to talk about the time after privatisation (from 1995 onwards) covering a period of ten years. A longitudinal and qualitative approach is one most often used for research into organisational change (Pettigrew, Woodman and Cameron, 2001; Dawson, 2003). The novelty and complexity of the processes in a transition economy suggested the use of an interpretive approach, which is appropriate where the phenomena to be investigated are complex and not well understood (Ritchie, 2003). The objective was to explain the process of OL and its influence on the development of organisational capability and to identify how and why the process differed between the companies. Two companies, Yukos and TNK (later TNK/BP), were selected on the basis that they seemed to be changing most rapidly towards a Western model. This permitted literal replication between the two cases (where similar results are predicted) (Yin, 2003). The other two companies, Lukoil and Surgutneftegaz, were demonstrating a slower pace of change and would thus permit theoretical replication, where different results are obtained but for predictable reasons.

5.2 Data gathering

Semi-structured interviews were conducted as it was essential to gain an in-depth knowledge and understanding of the organisation and its processes (Rouse and Daellenbach, 1999). Triangulation of source data was achieved by interviewing different management levels (top, senior and middle managers), representing different functions (eg strategy, public relations (PR), human resources (HR), finance, manufacturing and production) at two types of location (head office and regional subsidiaries). External experts with knowledge and experience of the case companies were also interviewed to gain a triangulated view of the general context of the industry. A total of 71 interviews were conducted in which 74 respondents were involved. Eight respondents had worked in two of the companies. In 2003, while the research was still being conducted, two important events happened: TNK merged with BP to form a 50:50 international joint venture (JV); and the CEO of Yukos, Mikhail Khodorkovsky, was jailed for alleged tax crimes. The subsequent partial dismantling of Yukos meant that several employees transferred from Yukos to the new TNK-BP JV providing a good source of comparative data.

The interviews were conducted in Russian or English, according to respondent wishes, and lasted around one hour. They took place mainly in Moscow but also in the regions (for example Siberia for oil production and European Russia for oil refining). Respondents were encouraged to talk freely about organisational change. The interviews were taped and transcribed.

5.3 Data analysis

The data analysis process broadly followed the recommendations of Miles and Huberman (1994) for data display and Strauss and Corbin (1990) for coding and was facilitated by computer aided qualitative data analysis (CAQDAS)–Atlas-ti. The interviews were imported into Atlas-ti in the original (Russian or English), but the coding was done in English. This

had the advantage of retaining the original nuance and enabling a mental recreation of the scene. Extensive use was made of Atlas-ti facilities to theorise about codes and their relationships, to conceptualise the data and to develop a more integrated understanding of events, processes and interactions in the case.

6. Findings

6.1 The process of organisational learning in Russian oil companies

Following the model in Figure 1 the process of OL is described in three sections: the TMT and break with administrative heritage; exploitation learning and the development of operational capabilities; and exploration learning and the development of dynamic capabilities. Table 1 provides a cross-case comparison of the four companies in the form of a data display table.

6.2 TMT and break with administrative heritage

The characteristics of the TMTs of the Western style and Soviet style companies are quite distinct. The former are characterised by an entrepreneurial orientation, a predominance of outsiders and heterogeneity. The latter are largely homogenous, insiders and experienced only in the Soviet oil industry. The characteristics of the Western style companies correspond most closely to those associated with organisational change (Lawrence 1997; Clark and Soulsby, 2005).

The managers of the Western style companies could see the need for the introduction of Western management techniques: ‘These people [TNK TMT]...realised that they needed to be thinking...West’ (*Middle Manager, TNK-BP, Russian, 2004*). On the other hand the Soviet style companies had less interest in acquiring Western capabilities: ‘[Surgutneftegaz and Lukoil] Simply people had always done things that way, and they were not used to doing things in a new way’ (*Senior Manager, Russian Oil Company, Russian, 2001, trans*). The TMTs of the Western style companies had a broader set of experiences on which to draw to recognise, interpret and internalise new knowledge, creating a higher absorptive capacity. The role of an enlightened top management was key to overcoming the lack of experience and knowledge of operating in a market economy. The absorptive capacity of the TMTs was high, facilitating the emergence of a new dominant logic within the organisation – the market-oriented logic: ‘[TNK] have no history...They have no traditions...they view problems with a fresh approach’ (*Middle Manager, TNK-BP, Russian, 2004, trans*).

The role of these TMTs was therefore akin to the one described by Cohen and Levinthal (1990) for conditions of rapid and uncertain change, where absorptive capacity is a function of the individual standing at the interface of the firm and the external environment. By mediating the influences of the external environment the TMTs were thus able to circumvent the constraints of history, existing structure, power and politics within their organisations (Pettigrew, 1987; Pettigrew *et al.*, 2001). Past experience became irrelevant and the capability of people to think, analyse and make decisions was fostered.

Table 1. Cross-case comparison of organisational learning and the development of organisational capability

	Yukos	TNK (TNK-BP)	Lukoil	Surgutneftegaz
TMT	Heterogeneous, outsiders, young, inexperienced, entrepreneurial, Russians/Westerners	TNK heterogeneous, outsiders, young, inexperienced, entrepreneurial, Russian/Westerners. BP conservatism & experience	Homogeneous, insiders, older, oil industry experience, macho, Russian	Homogeneous (one man), insiders, oil industry experience, regional conservative, Russian
CEO/Director	Khodorkovsky – charismatic & entrepreneurial	Khan/Vekselberg – TNK, financial mgrs Dudley – ex Amoco/BP, Western	Alekperov – oilman/ex Ministry	Bogdanov – oilman. Surgut career.
Break Admin Heritage	Replace blockers; new managers with CEO support; strategic alliances; training; quick successes; learn by mistakes; project teams; Incentives	TNK: Replace blockers; new managers; centralised management. TNK-BP: Open communications; incentives; move to empowerment; working groups; lead by example.	Attempts slowed down by fiefdoms; decentralised organisation and bureaucracy	None
Absorptive Capacity	Stage 1: TMT drive; top-down management; promote innovation versus experience; early successes; crisis stabilisation Stage 2: move to democratic leadership; empower; encourage innovation.	Stage 1 (TNK): TMT drive with fresh approach; top-down management; early successes; crisis stabilisation Stage 2 (TNK-BP): Train to think out of the box; empower; encourage innovation	Little; constrained by tradition, oil background and pride. Few Western employees	None; constrained by tradition, oil background and pride; Soviet style management with little knowledge of value creation; no Western employees
Exploitation Learning	Western expertise (technology and management) via alliances; expatriates; Russians with Western experience; visit Western companies; 100% training in Russia and abroad; learn by doing, job rotation, project teams, break down silos	TNK: Western expertise (technology and management) via alliances; expatriates; Russians with Western experience; training TNK-BP: Many expatriates; access to BP knowledge; training; mutual secondees; rotating regional master-classes; learn by doing, job rotation, project teams, working groups	Acquire foreign assets; few Western employees (none on TMT); Western consultants; management training; rotating regional meetings; cross-functional working groups; BUT silos and resistance to info sharing.	No Western employees; technical training in West; copy Western technology; no alliances; no acquisition of Western management techniques
Operational Capabilities	HR; finance; technology; production; marketing; corporate governance; PR & investor relations; planning; systematic business processes	TNK: Finance; technology; production; PR; marketing. TNK-BP: HR; control systems/empowerment; knowledge mgt.; project mgt.; HSE; corporate governance; systematic business processes	In process of implementation: Finance; planning; project evaluation; business processes. Limited HR. Poor knowledge mgt and ICT	No Western functional capabilities; technology based; Soviet style social support
Exploration Learning	Learn by mistakes; encourage innovation; begin to delegate decision-making	TNK-BP - learn by doing; project teams; job rotation; learning by mistakes; working groups; change agents; encourage participation and innovation	Not applicable	Not applicable
Dynamic Capabilities	Evidence of innovation in oil production	In process of development – focus still on operational capability.	Not applicable	Not applicable

The approach of the Western style companies was to break with the administrative heritage by using a top-down management style: ‘The buy-in in TNK was an executive order. That’s the Russian style, more a military style, and very much TNK style’ (*Senior Manager, TNK-BP, ex Lukoil, Russian/Western, 2004*). Managers whose views were not aligned with the objectives of the new TMT were replaced. (*Top Manager, TNK, Western, 2001*)

In the Soviet style companies the managers were themselves a part of the administrative heritage of the oil companies. They were unable to foster the absorptive capacity of the organisation: ‘If that’s the type of profile you have at the top [oilmen], instilling ...change is very difficult because even realising that ... change is needed will take a lot of effort’ (*Headhunter, Western, 2004*). The managers of these companies had been successful under the old system and saw no need to change. Thus, the tendency of the Soviet style companies was to promote traditional Soviet ways, and only introduce new Western management concepts very slowly.

6.3 Exploitation learning and the development of operational capabilities

For the Western style organisations, developing the absorptive capacity of the organisation by breaking with the administrative heritage prepared the ground for the first stage of OL: exploitation learning. This involved knowledge acquisition, internalisation and dissemination (*Staples et al., 2001*).

Knowledge acquisition focused on Western expertise to increase production and improve efficiency. The new owners had no knowledge of the oil industry and recognised the need to bring in expertise: ‘They just happened to have bought a goose that lays a lot of golden eggs. So they brought in some proper goose keepers if you want to call it that’ (*Other Consultancy, Western, 2004*). Yukos developed a strategic alliance with Schlumberger, an oilfield services company, which brought them competences in oil production, finance and HR. Basic Western petroleum engineering principles enabled them to ‘catch a lot of low hanging fruit’ in terms of rapid increase in oil production (*Senior Manager, TNK-BP, ex Yukos, Western, 2004*).

Both TNK and Yukos hired Russians with experience of working for Western companies. The CEO of TNK, Simon Kukes, had experience of the US oil industry and was a former Soviet citizen. In 2001 the feeling was expressed that an even stronger infusion of management skills was required, which could come only from Western equity participation (*Senior Manager, TNK, Western, 2001*). This was to occur when in 2003 the TNK/BP joint venture was created. The availability of secondees from BP in TNK-BP and the possibility to second Russian managers to BP was a major competitive advantage.

Training was important in both Western styles companies: ‘Right from the beginning, Khodorkovsky [CEO of Yukos] set the target – 100% training’ (*Middle Manager, TNK-BP, ex Yukos, Russian, 2005, trans.*). Khodorkovsky did everything to encourage employees to exploit Western management practices: ‘When we looked at all the Western methods we selected the best, and also the ones which could be implemented in the company’ (*Middle Manager, TNK-BP, ex Yukos, Russian, 2004, trans.*). Yukos maintained relationships with leading Western business schools. A leadership program was developed in alliance with IMD, a Swiss business school. There were technical training programs for hundreds of specialists in the regions. A Masters program in petroleum engineering co-organised by Heriot Watt

University was set up in Tomsk, Siberia. The young specialists graduating from this course, the so-called 'Heriot Watters', completed their training in the Yukos technical centre in Moscow and were then sent out to the regions in senior positions. On the collapse of Yukos many of these young managers were recruited by TNK-BP: 'We've hired a lot of the graduates from Yukos now because from that program they're good' (*Top Manager, TNK-BP, Western, 2004*).

In TNK-BP there was less training than in Yukos (*Middle Manager, TNK-BP, ex Yukos, Russian, 2004, trans.*). Training programs, for example in project management, were commissioned from Western companies, utilising BP expertise. Detailed training programs were developed for high fliers in the regions and formalised in a dual language booklet.

Surgutneftegaz had little interest in learning about Western management techniques. They employed no expatriates and did not utilise Western oil service companies. However, they did send their specialists to the US to learn about technology, then developed a 'me too' version themselves.

Lukoil engaged in both the acquisition of technology and of Western management techniques. Of all the Russian oil companies Lukoil was the most active internationally and 20% of their assets were located abroad. In 2001 they acquired the Getty Oil gasoline stations in the USA in order to gain experience of business in the West. However they did not perceive the need to employ expatriates: 'To be honest I just don't understand what they are doing in Yukos and TNK, when the top managers are foreigners... I do not approve of this' (*Senior Manager, Lukoil, Russian, 2004, trans.*).

However, it was recognised that some of the Russian managers were too fixed in their ways to change and needed to be replaced: 'It is not always easy to move them onto the track of market thinking. It is necessary to gradually replace them with new managers' (*Senior Manager, Lukoil, Russian, 2001, trans.*).

In the early days of post privatisation Lukoil had used a large number of Western consultants and, like Yukos, had visited the Western oil companies seeking advice. Training in Western management techniques was encouraged and links were also established with Russian business schools. With the sale of 7.5% of Lukoil to Conoco-Phillips in 2004 it had been agreed that an exchange program would be set up for 20-25 senior managers from each side (*Senior Manager, Lukoil, Russian, 2004, trans.*). Some concern was voiced about the extent to which any newly trained managers would be accepted back into suitable positions in the organisation. However a manager from head office was of the view that 'all bright individuals who work well...all progress, they are in demand, regardless of their rank' (*Middle Manager, Lukoil, Russian, 2004, trans.*). The reality was probably that parts of the organisation (eg head office) were much more amenable to young managers with Western training than others (eg the regions).

The Soviet style oil companies differed in their approach to learning. Lukoil was more open to Western management skills than Surgutneftegaz, but still lagged far behind the Western style companies. Particularly in the case of Surgutneftegaz, and to a lesser extent in Lukoil, there was unlikely to be any unlearning of existing routines to enable learning to take place since the TMT was unable to envisage major change or to identify and implement radically different routines.

Knowledge internalisation in both Yukos and TNK-BP was largely a function of learning by doing, for instance by applying the new concepts in business projects. In the Yukos oilfields the expatriate expert would demonstrate calculations to the engineers and convince them that they were correct, so they could no longer justify defending their way of doing things: 'And in the end they had to give in, they had to accept that he was right' (*Senior Manager, TNK, ex Yukos, Western, 2004*).

TNK-BP tried to involve employees in a discussion about the correct approach. For instance, when a new system of strategic planning was implemented, the issue was discussed, the broad outline taken from the BP approach and then it was 'learn as you go': 'Various people got involved and they try to understand what exactly they were supposed to be doing in their section of work' (*Senior Manager, TNK-BP, Russian, 2004*).

In Yukos there was also a policy of job rotation so that managers could gain experience in different environments. Demonstrable success from the application of Western techniques was another key way for specialists to internalise knowledge: 'If I'm doing it one way and you can't demonstrate to me how ... you're proposing it's going to be better, why should I change' (*Top Manager, TNK-BP, Regional, Western, 2005*).

The different methods of knowledge internalisation in the Western style companies helped employees to overcome the lack of organisational and technical skills which would enable them to apply their knowledge in the different context of the market economy (Swaan, 1997). In particular, learning by doing was a way of acquiring some of the tacit knowledge associated with these capabilities (Meyer and Møller, 1998).

The regions presented problems for *knowledge dissemination* for all companies due to geographic spread and multiple entities. Yukos employed 100,000 people who were spread over a large geographical area from European Russia and the Baltics to Eastern Siberia. The difficulties associated with geographical spread were magnified by the existence of organisational silos: 'One of the features of Yukos is in every function, in every department people have a rather narrow perspective' (*Top Manager, Yukos, Western, 2004*). One way of breaking down these barriers and transferring knowledge was to encourage a culture where communication and open discussion became a part of life: 'If you have a set of common goals ... and the culture of discussing things, then I think it works towards just trying to work out mutual acceptable solutions' (*Middle Manager, Yukos, Russian, 2004*).

In Yukos there was a policy of rotating the directors' meetings around the different sites. And in TNK-BP so-called 'master classes' were organised whereby a group of people could visit a centre of excellence in one of the regions and people could learn from each other, 'but it is not direct training, but indirect learning, more like professional networking, linked with the implementation of innovations' (*Middle Manager, TNK-BP, Russian, 2004, trans.*). Change agents, such as the 'Heriot Watters' in Yukos, were also used to disseminate new ideas in the regions.

In TNK-BP six technology working groups were set up based on specific technical projects. The Corrosion working group made a case for, and received, \$1 billion over five years for a corrosion management project (*Top Manager, TNK-BP, Western, 2004*). Similar working groups were used in functions such as HR and planning.

Knowledge dissemination in Yukos and TNK-BP was thus a function of changing cultural attitudes to sharing information, breaking down organisational silos, and developing communication systems and shared values.

In Lukoil there were various ways of disseminating best practice. Professional skills competitions were held in different locations. Around 30 people at a time had the opportunity to exchange experiences. Senior management meetings were held every quarter, visiting factories, discussing problems, etc., across the different business divisions (*Senior Manager, Lukoil, Russian, 2004, trans.*). Knowledge was also shared via cross functional working groups (*Middle Manager, Lukoil, Russian, 2004, trans.*). However, corporate silos were a strong break on knowledge sharing across the company (*Middle Manager, Lukoil, Russian, 2004*). The powerful regional companies – the ‘fiefdoms’ - resisted sharing information. The process of knowledge dissemination was therefore likely to be slow and painful.

In Surgutneftegaz there was no evidence of knowledge dissemination apart from the development and utilisation of the technical knowledge brought back from the USA.

The OL in the Western style companies was exploitation learning (March 1991) since it involved refinement, choice, production efficiency, selection, implementation and execution in relation to business techniques and processes which were already in existence in Western companies. The Russian oil companies were merely catching up with their Western counterparts, developing the threshold operational capabilities for a market economy.

The effect of exploitation learning on the Western style organisations was a significant improvement in their operational capabilities. Yukos, in particular, developed many of the basic operational capabilities required for success in a market economy, for instance, HR systems, financial controls, PR and investor relations. They made significant advances in production, reducing costs and increasing volume of oil production. Russian competitors readily acknowledged that Yukos were ahead of their peers in developing Western capabilities: ‘Everyone agrees that they [Yukos] made a significant breakthrough from the point of view of establishing a normal ...corporation by Western standards’ (*Top Manager, TNK-BP, Russian, 2004, trans.*). TNK had also made significant strides in production capability, helped by Western expertise. Two major technological breakthroughs were made which substantially increased oil production at very low cost (*Middle Manager, TNK-BP, ex Yukos, Regional, Russian, 2005, trans.*). PR and marketing skills were a key capability that TNK developed using the experience of Western educated managers, in particular the CEO, Simon Kukes. A strong retail brand was developed and Western style petrol stations began to appear.

The Soviet style companies had made significantly less progress in developing operational capabilities, which was consistent with the reduced level of exploitation learning in these companies. The technical skills of Surgutneftegaz were respected by the Western community but there was no evidence of the introduction of any Western processes relating to HR, finance, marketing, PR or HSE. Lukoil had started to make improvements in many of the functional areas, particularly in finance and business planning. However there was little evidence of progress in HR and technically they were making slower progress than Yukos. Thus in terms of operational capabilities both Surgutneftegaz and Lukoil were laggards compared to Yukos and TNK-BP.

6.4 Exploration learning and the development of dynamic capabilities

In the Western style companies the increasing experience of the organisations in Western systems and processes and the adoption of Western routines further expanded the absorptive capability of the organisations. The arrival of BP in the new TNK-BP JV in 2003 brought a new phase in the development of the absorptive capacity of the old TNK organisation. The large numbers of expatriates and Russian with Western experience contributed to a critical mass of knowledge and experience within the organisation.

Having the threshold capabilities for survival in the market economy would not equip the companies for sustainable competitive advantage. For this they would need to develop dynamic capabilities, the ability to adapt to changing environments (Teece *et al.*, 1997). Exploration learning, characterised by experimentation and innovation, was needed to supplement the exploitation learning.

One significant contribution of BP in terms of organisational processes and systems was the idea that a looser system of control could be more effective than a strict top down system. Establishing boundary conditions and then allowing people the freedom to innovate within those conditions was important for exploration learning. In Yukos, too, there was an environment which encouraged innovation: 'Management put absolutely no break, absolutely none, on any innovations (*Middle Manager, TNK-BP, ex Yukos, Russian, 2004, trans.*). Employees were encouraged to come up with new ideas and projects. Even mistakes were allowable if some learning derived from them. This was very different to the blame culture of the Soviet system where knowledge sharing was discouraged (Vlachoutsicos and Lawrence, 1996).

An example of successful innovation in the field in Yukos was the establishment of a new data base which could prioritise wells for maintenance. This innovation was a contributing factor to the dramatic growth in oil production. One expatriate in the organisation was, however, rather scathing about the innovation capacity of the organisations: 'There weren't many ideas coming up - creativity and innovation has been killed by the former system (*Top Manager, Yukos, Western, 2004*). Although Yukos fostered innovation, there was some doubt about how successful they were at encouraging people to come up with break-through ideas: 'That really does just happen at the top' (*Investment Bank, Western, 2001*).

Yukos' predominantly top-down management style imposed restrictions on the ability of the organisation to develop dynamic capabilities. There was, however, some evidence that Yukos was moving towards greater empowerment. Some employees were trusted and supported: 'I was given total and absolute support' (*Middle Manager, TNK-BP, ex Yukos, Russian, 2004, trans.*).

Since TNK had lagged Yukos in the development of operational capabilities the main focus of TNK-BP was on bringing the company up to Western operating standards. However several respondents recognised the considerable innovative potential of Russian managers. This was of vital importance given the instability of the environment: 'People have experience of change and they have learnt how to work in times of change' (*Middle Manager, TNK-BP, Russian, 2005, trans.*). Additionally BP had experience of operating in many different countries, adapting to political and social changes. They were also used to delegate authority down through the organisation, enabling decision making at all levels. With the arrival of the

knowledge and experience of BP it seemed that exploration learning would be encouraged and dynamic capabilities would be developed. Competitive advantage would be a function of the degree to which BP continued to push through changes in terms of empowering the organisation and encouraging flexibility: 'I've got try to create capability where they think for themselves...A sustainable future is only from trying to unlock that natural capability' (*Top Manager, TNK-BP, Western, 2004*)

The Western style companies were both at an early stage of exploration learning, but the change from the command-and-control management style which had originally prevailed in Yukos and TNK was likely to encourage innovation and experimentation throughout the organisations. Yukos, though, was already disintegrating in 2004. It seemed likely that TNK-BP would take over its position of pre-eminence amongst the Russian oil companies.

7. Discussion

The cross-case analysis of what we term the Western style companies (Yukos and TNK/BP) have shown that TMTs play a pivotal role in OL processes, and this role varies at different stages of enterprise transformation. Top managers who came from outside the organisation were able to break the administrative heritage, which was characterised on the one hand by rigid hierarchy, lack of innovation, and a blame culture, and on the other by an antipathy to Western business methods and lack of focus on profitability. Top managers located outside this heritage thus were able to overcome the path dependency and the 'stickiness' of the historical and administrative heritage. The entrepreneurial approach and diversity of the TMTs in the Western style companies meant they had a lower level of investment in the prevailing strategy and a lower likelihood of cognitive inertia, thus enabling them to break with the administrative heritage.

In the first stage of organisational transformation the TMTs in the Western companies largely used a top-down approach to overcome the dominant logic of the organisation. Acceptance of the changes was assisted by the fact that the general characteristic of managers in the Soviet planned economy was one of 'servility and a heads-down mentality' (Kornai, 1992, p. 121).

This break with the administrative heritage provided the necessary conditions to initiate OL. Without the impetus from a management with radically differing skills and mindsets from the dominant logic of the organisation, the organisation would not be capable of absorbing and utilising knowledge, simply because that knowledge would not be seen as relevant. In the case of Yukos and TNK, with 'outsider' managers, the 'strategic competence' (Hodgkinson and Sparrow, 2002) of the TMT meant that they were aware of the need to adapt to a changing environment and they were able to diffuse that understanding down through the organisation. This confirms the proposition by Filatotchev, Wright, Uhlenbruck, Tihanyi and Hoskisson (2003) that organisations privatised through sale to strategic investors ('outsiders') are more likely to have higher learning and absorptive capacity.

In the first stage of OL the emphasis was on exploitation learning or adaptive (survival) learning. This was required to cope with the new conditions of a market economy. Operational capabilities already in existence in Western companies were adopted. Both Western style companies had developed operational capabilities such as marketing, finance and production, although Yukos was more advanced than TNK/TNK-BP. This was not the case for the Soviet style companies. Surgutneftegaz had developed only technical

capabilities, rather than business capabilities. There was some evidence of exploitation learning and the development of operational capabilities in Lukoil, but the process was constrained by the characteristics of the TMT and the predominance of the Soviet administrative heritage.

In the second stage of OL there were signs in both Western style organisations of a move towards exploration learning. This was facilitated by a change in the management style of the TMT. In Yukos, the TMT was beginning to mature towards a more democratic style of leadership, encouraging innovation, risk-taking and decision-making and fostering a climate for exploration learning. In TNK the process of development of operational capabilities was not so far advanced, therefore the focus for the time being remained on bringing the organisation up to Western standards. There was no evidence of exploration learning and the development of dynamic capabilities, but many respondents saw rich potential for this as the organisation moved into the second stage. BP brought a more democratic influence to the TMT, and BP managers were receptive towards innovation and risk-taking.

Thus, the Western style companies were progressing from exploitation learning to exploration learning. Growing experience in Western management techniques acquired via exploitation learning had further increased the absorptive capacity of the organisations. They were beginning to allow experimentation and development of entirely new capabilities that would generate competitive advantage and secure long term survival. Whilst they had not yet achieved the balance between exploitation and learning suggested by He and Wong (2004), nevertheless prospects had seemed good for this occur. The clash between Yukos and the state, with the subsequent partial re-nationalisation of the company brought a sad end to the spectacular rise of this company, leaving TNK-BP in the vanguard of change.

8. Conclusions

We have found that the concept of OL is highly relevant for explaining the process of development of organisational capability in transition economies. We also believe that the pressure cooker effect of accelerated change due to dramatic changes in the external environment and the powerful intervention of the top managers, enables us to derive key insights about how large, conservative and bureaucratic companies in the West, anchored in their own administrative heritage, could apply exploitation and exploration learning to achieve change more rapidly.

This study could usefully be extended by investigating the process of OL in different industry sectors in Russia or other countries of the former Soviet Union, which are affected by a similar administrative heritage. Additionally a large-scale survey of privatised companies within Russia and the former Soviet Union would provide an interesting quantitative angle to the research and contribute to its generalisability.

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