




Process Mining in Amsterdam

Let it grow!

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XXX Program manager





I Amsterdam

- ❖ 850,000+ inhabitants,
- ❖ 1.5 million+ Inhabitants in Amsterdam Metropolitan Area
- ❖ 180 nationalities

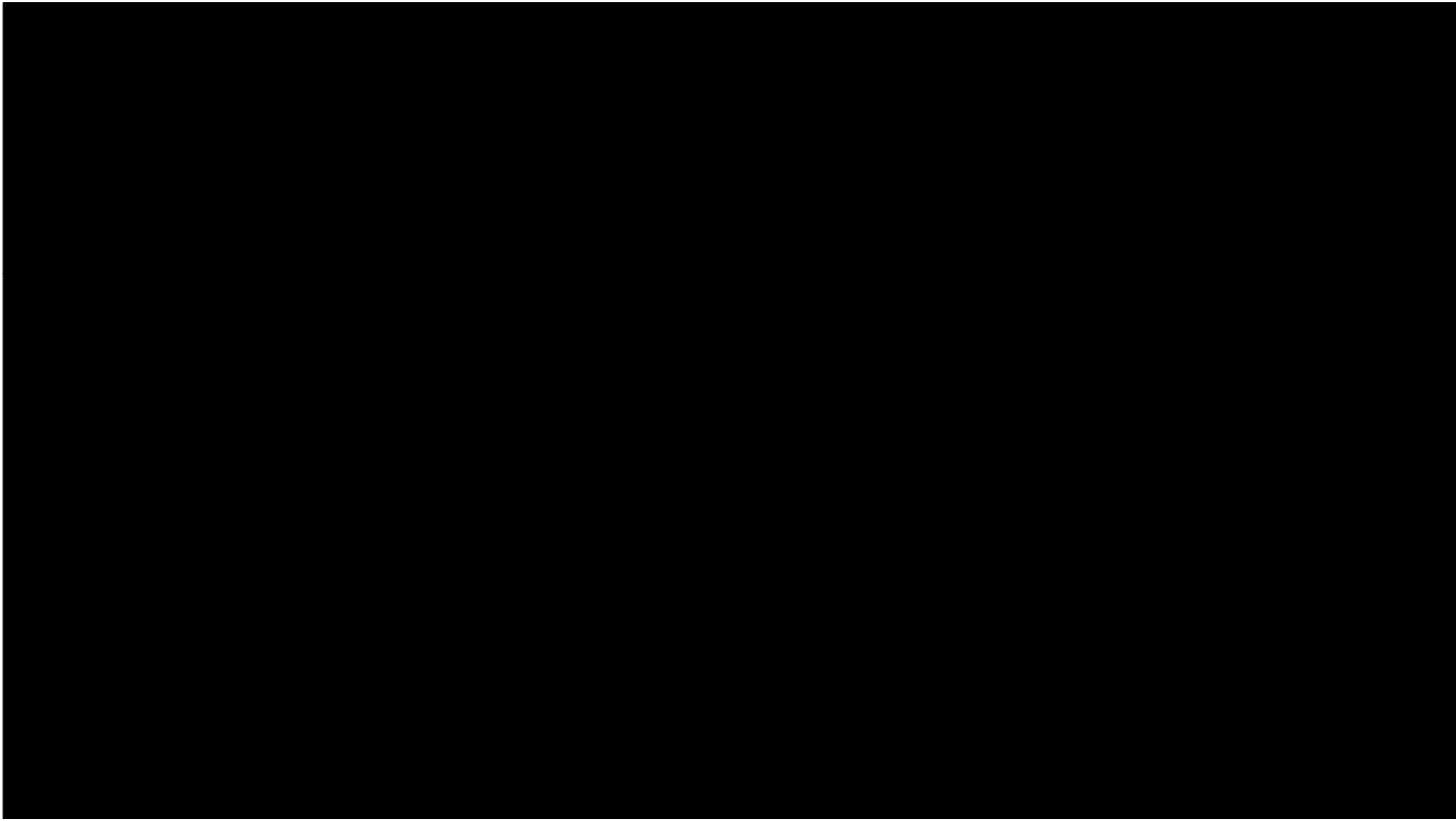
- > 17 million visitors
- 40 parks
- 213 trams
- > 880,000 bicycles
- 1,515 cafés and bars
- 1,325 restaurants
- 2 Universities
- 1 Schiphol
- 1 Harbor
- 1 Ajax

- 14,000+ employees
- Heterogeneous organization
- Budget nearly 6 billion

amsterdam
smart
city



XXX





In 2016: council financial questionnaire (investigation)

- Lack of attention and priority;
- Uncertainty about who is responsible for which tasks;
- Projects are not properly set up and executed;
- Preconditions for personnel policy and ICT are insufficiently filled in;
- Agreement is not always an agreement and we do not learn from mistakes;
- Processes are not properly recorded

On the basis of what we have examined, the Committee considers it plausible that millions of euros per year can be better spent if the financial function is in order.



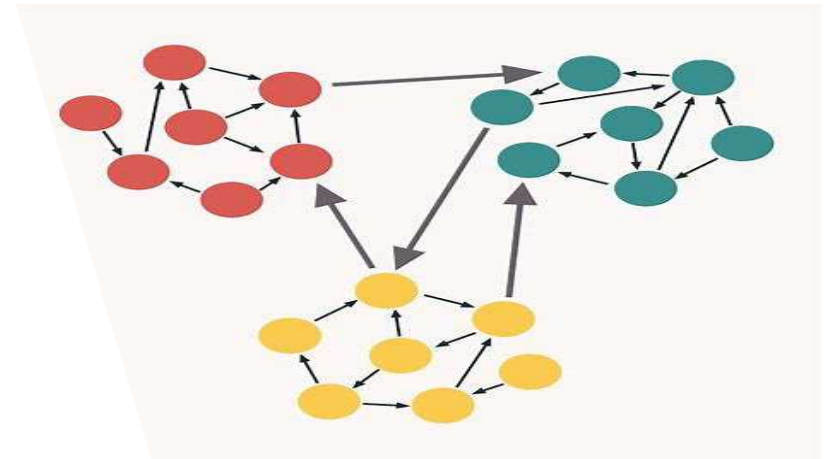


**Start a programm –
april 2016**

Objectives - create:

- Cohesion
- Transparency
- (Process-based) control

- Attention for (organizational) Change



"Together we achieve a strong financial function for Amsterdam"



Ambition: let the peace return





Today – june 2018



Results



- Set uniform strategy and goals
- 44 -> 1 financial system
- Reorganised financial department
- Start of new department: Internal audit
- Better P&C products (also using workflow system)
- Redesign - simplify (financial) processes
- Much attention for behaviour, learning and development
- ..



Realisation: the peace is returned





Examples for finance now and in the next years

	E-invoicing		Process Mining		Purchase site
	RPA		(chat)bots		E-declaration
	Blockchain		AI		Analysing tool
	App internal services		App financial and MR system		Realtime rapportage
	Automatic checks		VR/AR/MR		Prognose tool
	Automatic data-analysis		Invoicing by Digid		Self service
	Cloud		E-learning		IoT, Machine Learning ...

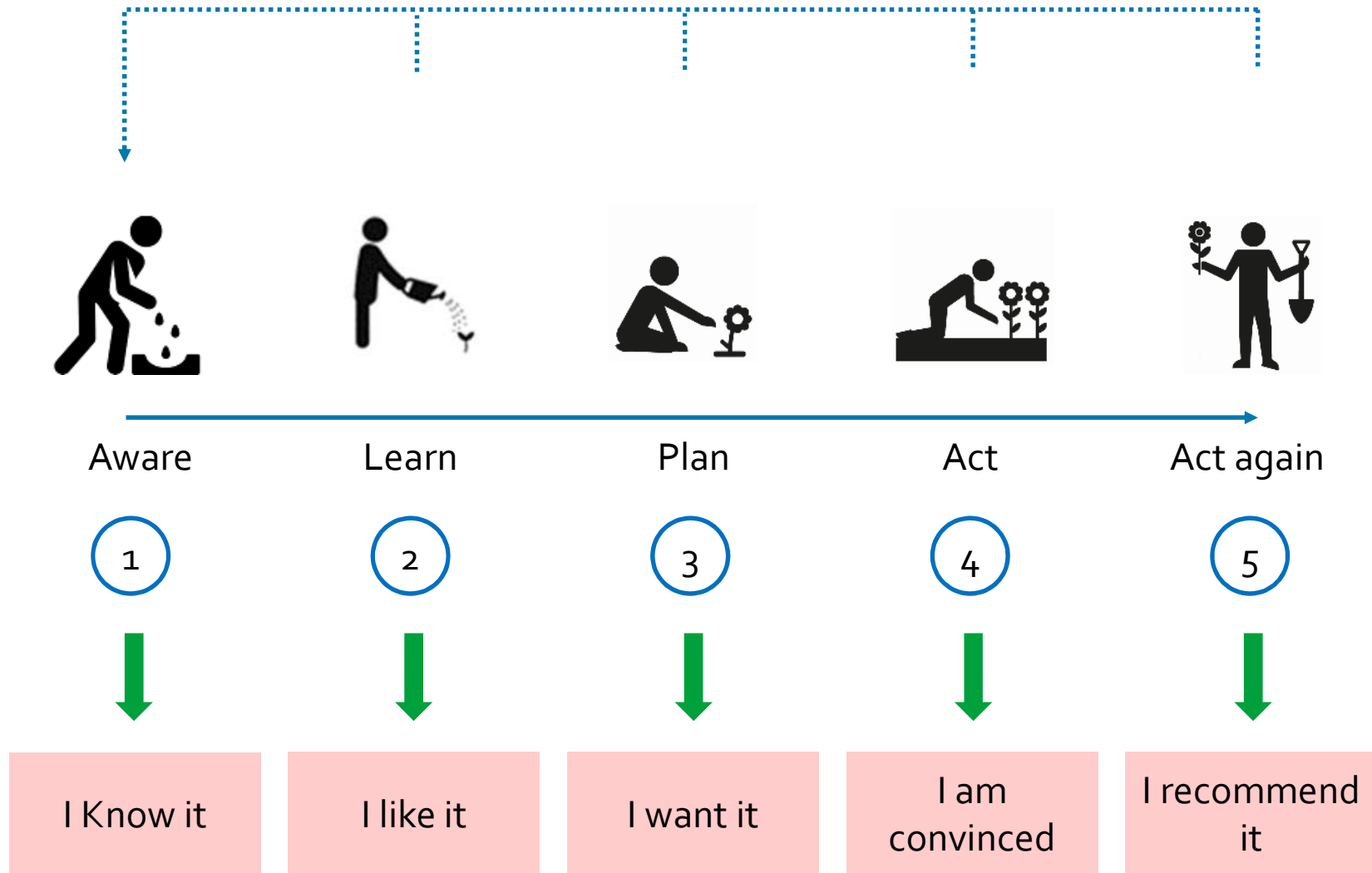


Introducing Process Mining in Amsterdam



Introducing process mining in Amsterdam

Evaluate and consolidate to g(r)o(w) faster





Step 1 - Aware

Fit to the context <-> Creating the context





Process mining?!?



Aware

- Process mining experts of **S**ifters gave us a presentation about process mining

- Attendees:
 - Managers financial department
 - Teamleaders of the financial department
 - Employees of the financial department
 - Employees of the Lean department



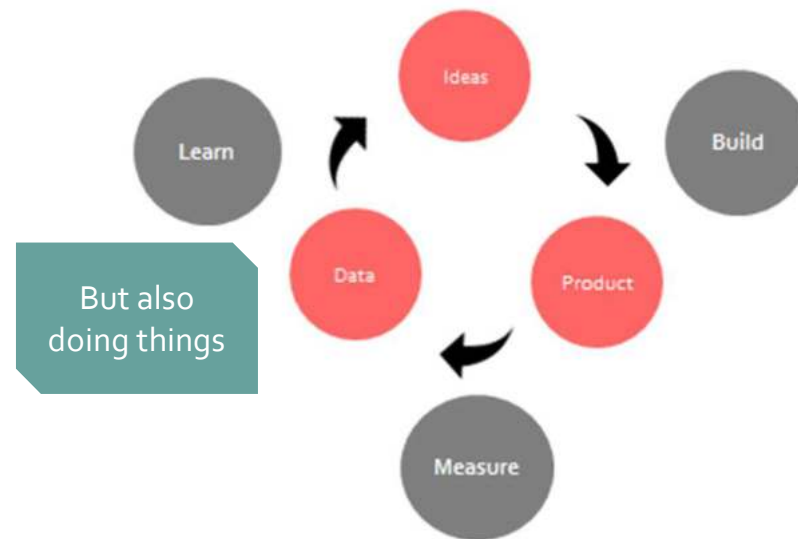
I Know it



Step 2 - Learn

Think <-> Try

Stop talking – just do it





Start a pilot



Learn

- In 1 department: financial services
- In 1 process: purchase to pay (PtP)
- In 4 teams - involved in the process PtP
- Involve (functional) IT from the beginning
- Involve information department



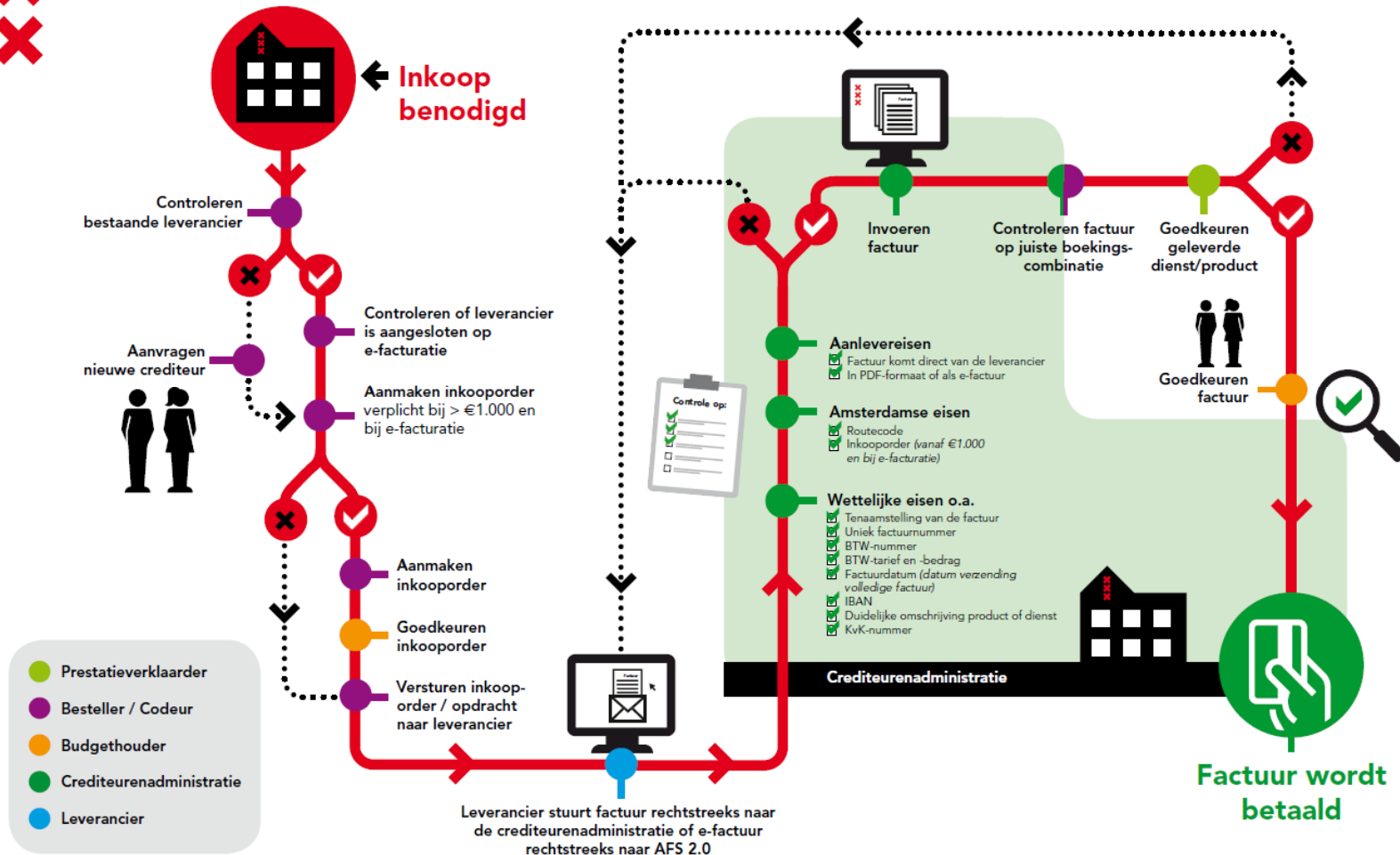
5 items in pilot

1. The intended and described process...

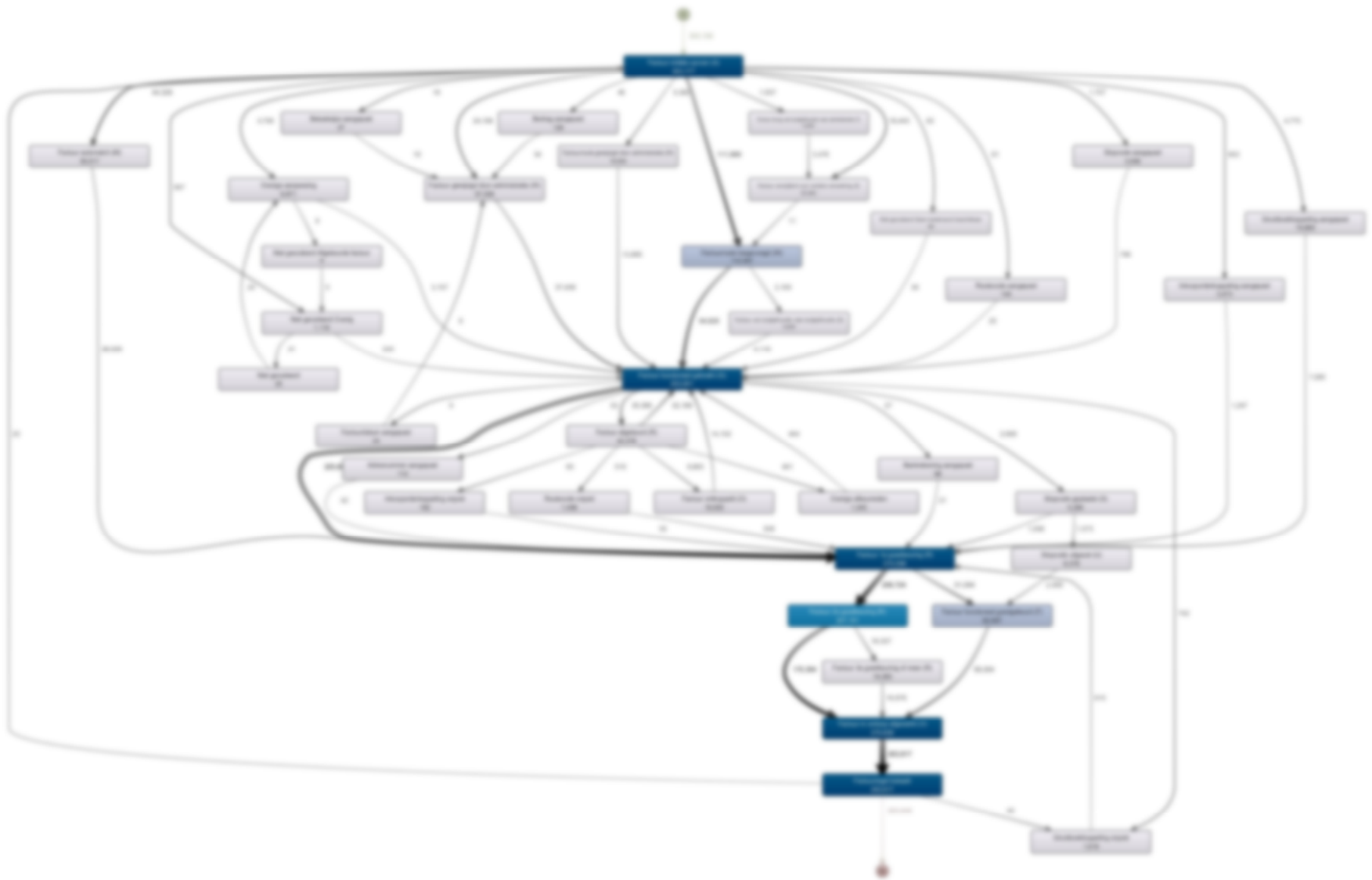


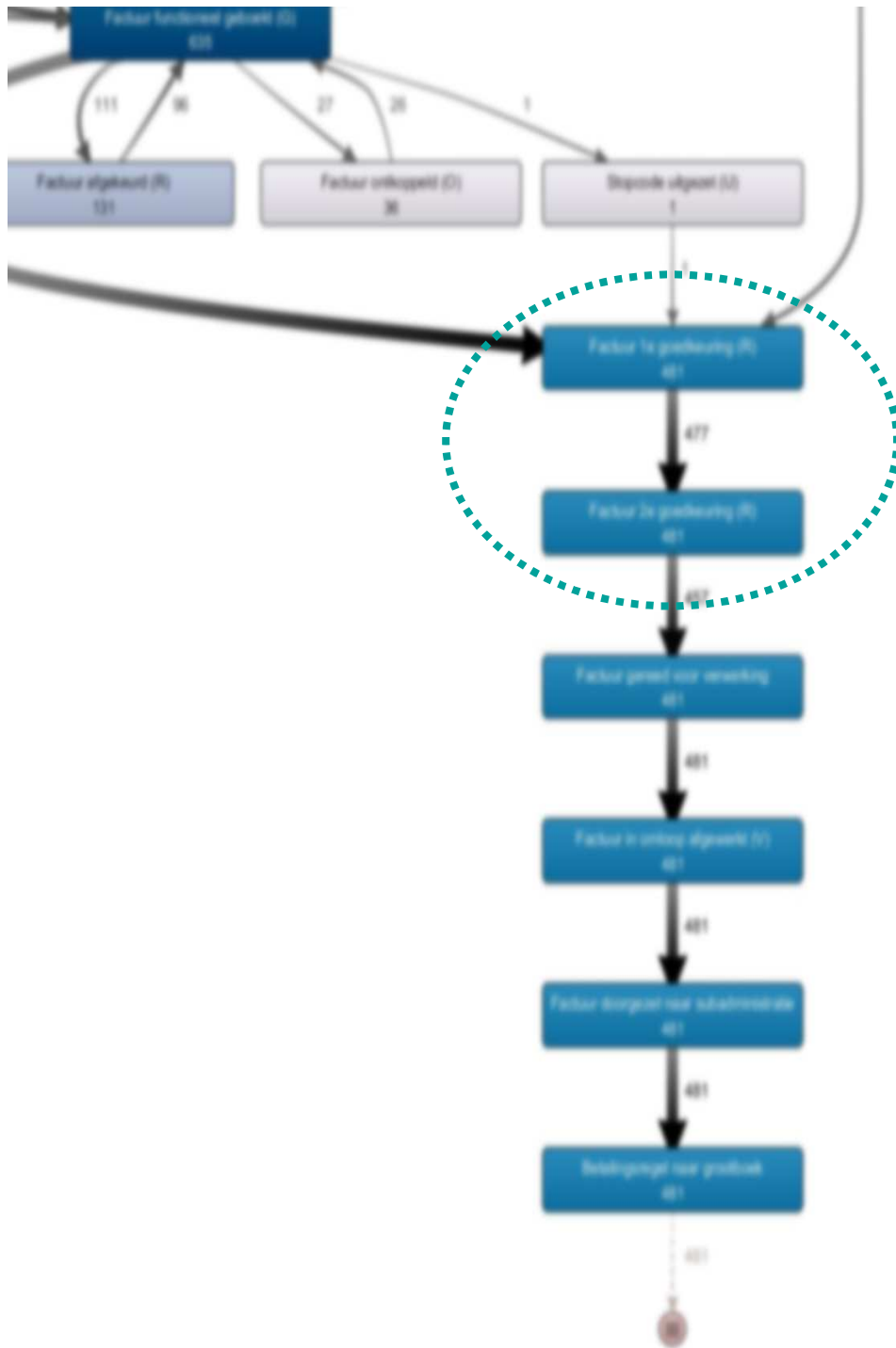
Gemeente Amsterdam

Bestellen & tijdig betalen



✘ ... is different than the process in practice.
✘
✘

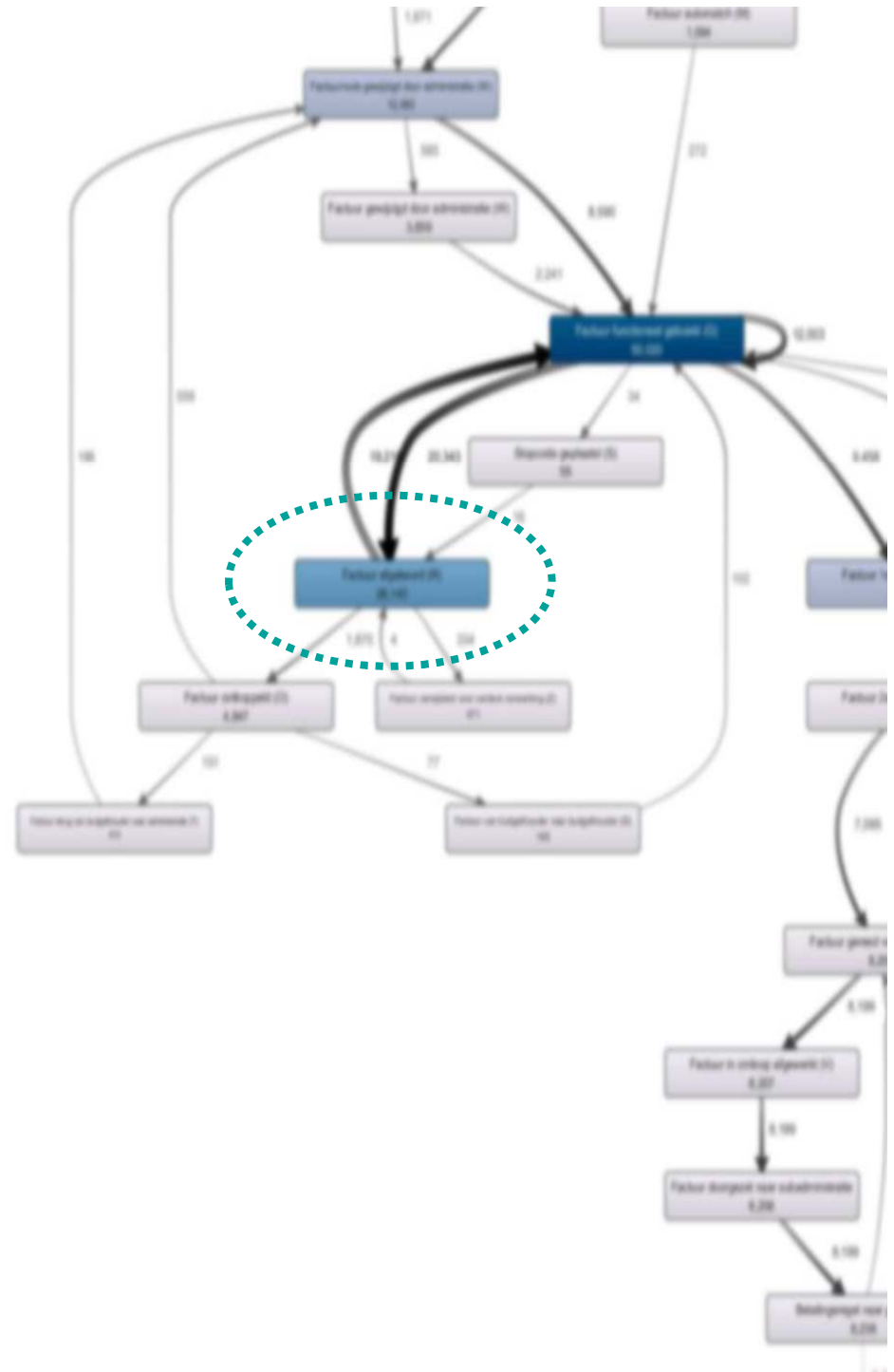




**4. 1st and 2nd approval
by the same employee**



5. Invoices rejected twice (or more often)





I Like it!



Step 3 - Plan





Leadership, set up a plan and go!



Plan

- Set up vision and goals
- Set up Business case
- First focus on financial department



Objectives by using process mining in Amsterdam

- **Discover** the actual process progress on the **basis of facts**;
- Have the ability to **analyze quickly**
- **Creating support** to agree on the core problems and **improvement** measures;
- Define more **sharply** defined **KPIs** based on the actual process sequence;
- **Monitoring** the process and **immediately adjusting** it where necessary

XXX Help to focus and connect

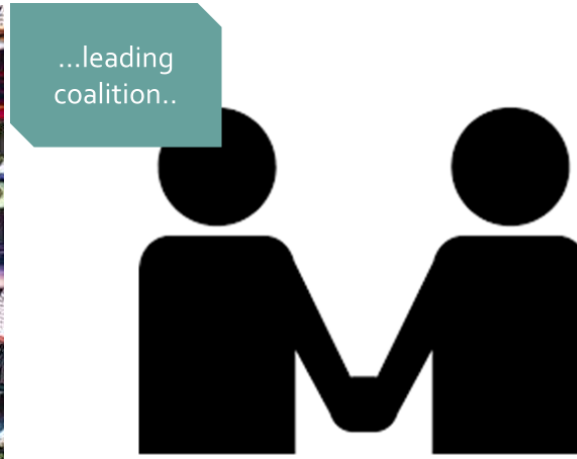




I want it!



Step 4 - Act








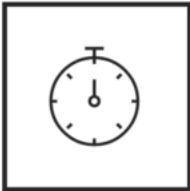

Deepen the pilot



Act

- The director of Finance instruct to deepen the pilot
- More trainingsessions with owners of the P2P process and with (internal) audit (16 people)
- Interactive sessions with other departments and projects of the Municipality of Amsterdam (> 75 people):
 - Project e-invoicing
 - Internal audit
 - Basic information
 - External services
 - Subdidies (grants)
 - Internal services
 - IT

XXX Characteristics of the Data

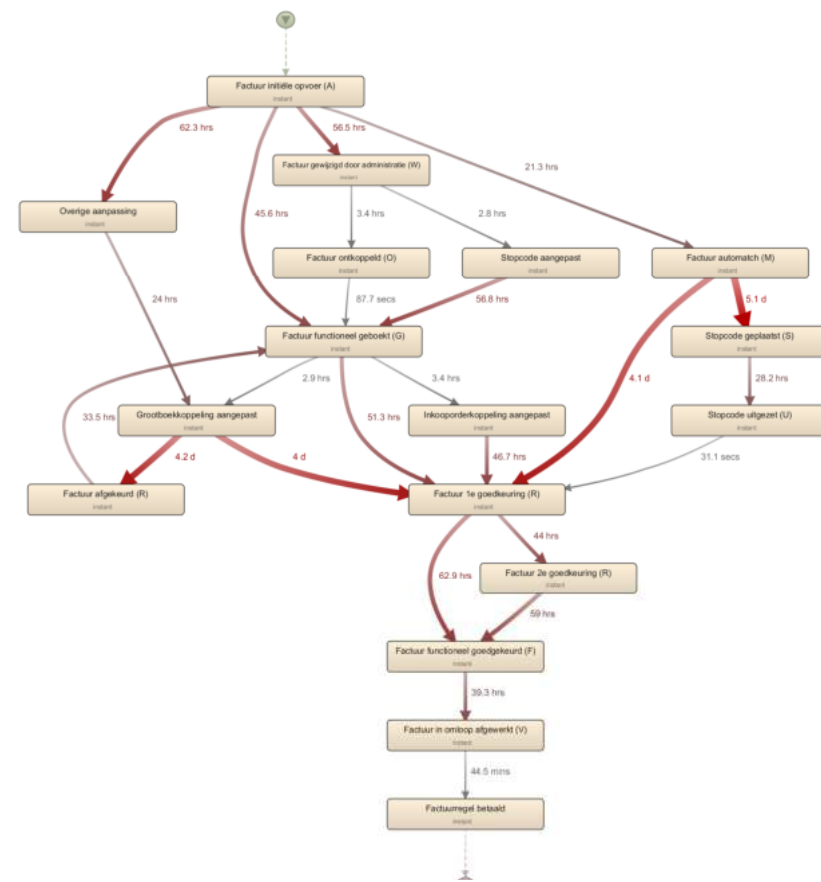
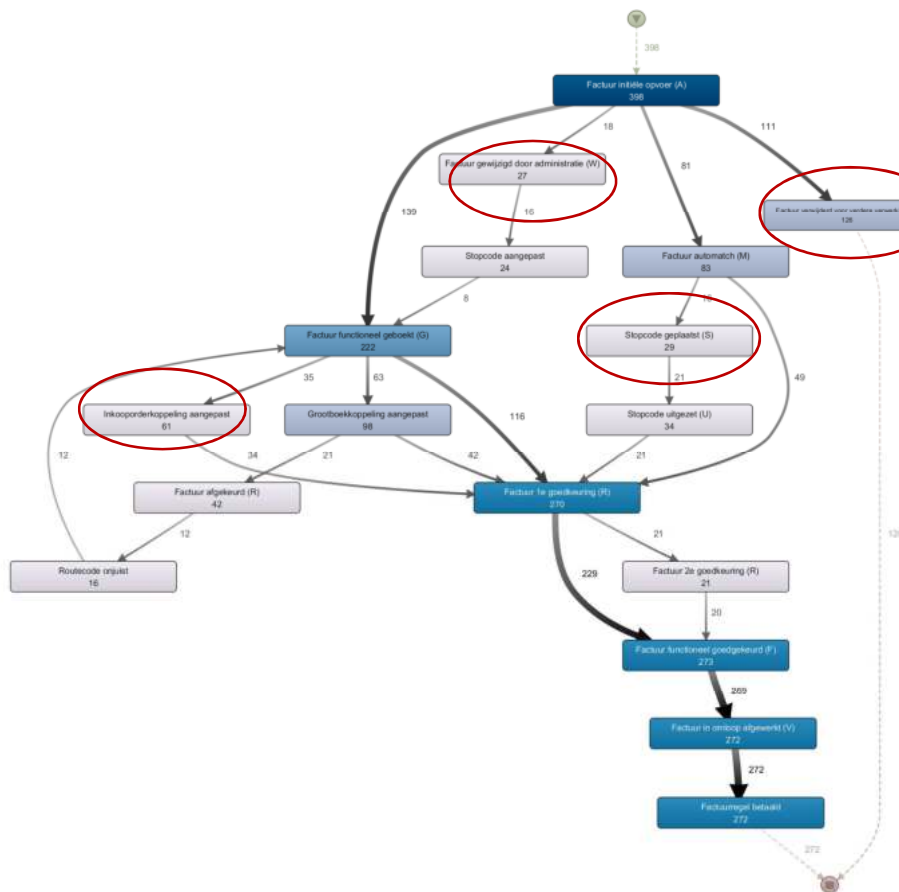
Registered process steps	Number of invoices	Different activities	Average lead time	Median
				
2,2 mln.	263.811	29	18,4	13,2
Geregistreerde processtappen	Betaalde inkoopfacturen	Verschillende procesactiviteiten	Gemiddelde doorlooptijd in dagen	Mediaan doorlooptijd in dagen

January 2017 – december 2017

✘ Analyse process by supplier...



- It is used to examine improvements that are possible and which agreements can be made for this, for example:
 - How can we prevent 126 invoices from being deleted after entry
 - Which is the reason that more than 30% is placed on stop code after automatch
 - What is the reason that the purchase link is adjusted for 61 invoices



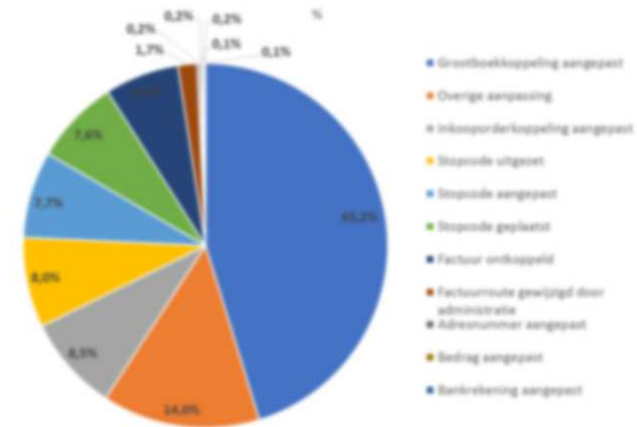


...analyse deleted invoices and changes in the internal process

Deleted invoices

- On average, it takes 4.7 days before an invoice is removed.
- Most invoices are removed immediately after initial production (64% of all invoices removed).
- ...

Changes



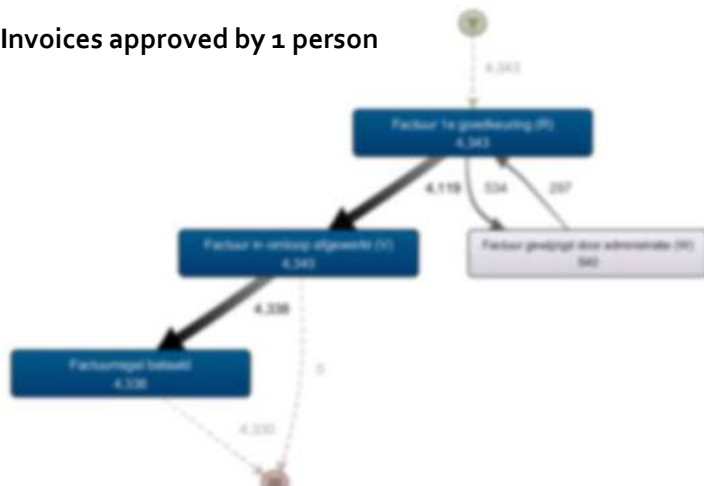
We get in touch with employees and suppliers to determine together whether and how the number of deleted invoices can be reduced and agree how to improve

✘ Investigate possibilities to use process mining for ✘ continuous monitoring

✘ In 2018 we will use process mining for "Continuous Monitoring", so that exceptions to the approved process can be quickly returned to relevant organizations and remedial actions can be carried out. Start by determining four times a year where process risks can occur and carry out an audit on this

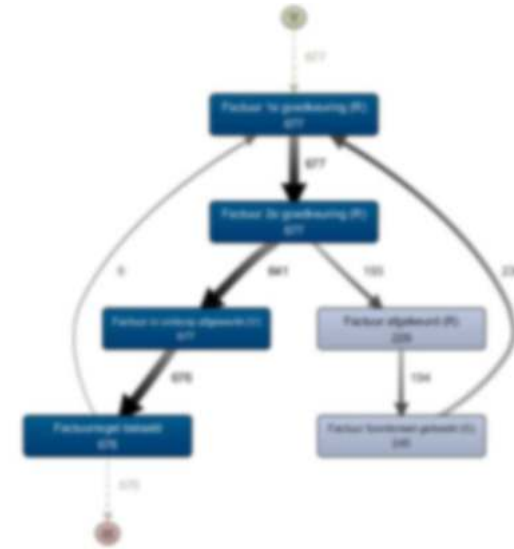


Invoices approved by 1 person

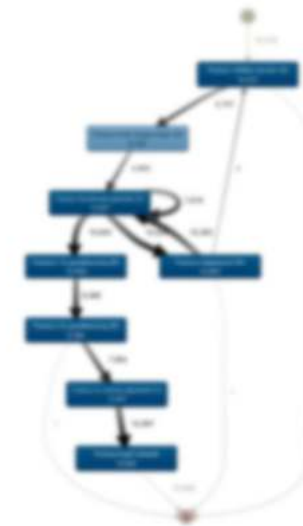


The risks are controlled!

1st and 2nd approval by the same employee



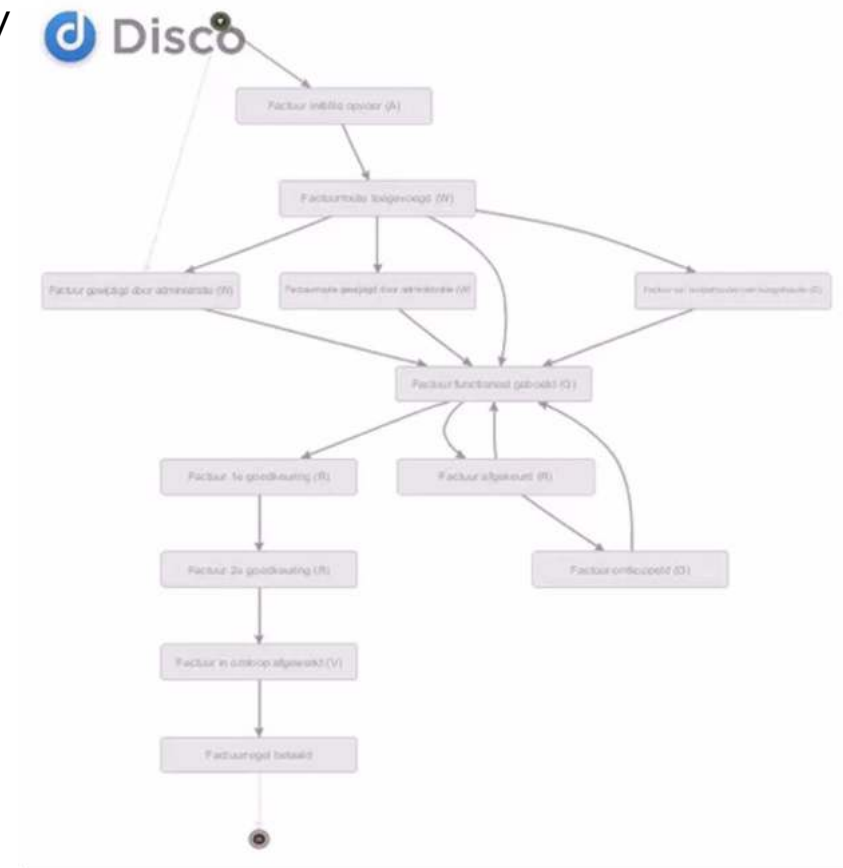
Invoices rejected twice (or more often)





Conclusions – results: total 2017 vs nov-dec 2017

- Lead time of invoices has decreased by 8 days
- Removed invoices reduced by >30%
- Changes in invoices reduced by >15%
- Number of invoices approved by 1 person reduced by >90%





I am convinced!



Step 5 – Act again

The garden is growing – consolidate and take next steps



Act again

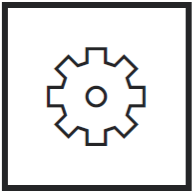
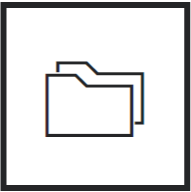
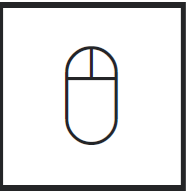
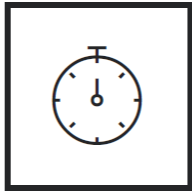
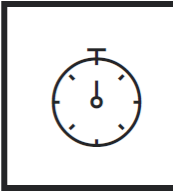
- We create a “regular” process mining team within the organisation
- External audit, internal audit and department for quality works together by using process mining: 3 audits in 2018
- We start with continuous monitoring
- We connect with other organisations

- Identification of other processes besides PtP
- More pilots started



Example of another pilot: service desk

- Helpdesk for internal customers
- Questions about the execution of financial tasks within the municipality

Registered process	notifications	Different activities	Average lead time	Median
				
167.337	15.446	57	2,3	1,1



This pilot gives information about

- Who is involved
- Where are the bottlenecks
- How can we redesign our process
- **How can we improve our services**



“We have gained insight into the partial transit times per team. Has **immediately been of value** in the proposal shortening lead times that will soon be discussed in MT-F. You also **saw a strong improvement at FB-F because they started to organize the work differently**”



“**Combi of brainstorming and analysis with data turned out to be of immediate value.** We found out that the tax data for new business units was an important reason for exceeding the standard. Were we not, or later, found out much later”.



I Recommend it!



That's it?

Give attention to the
People!



Balance between process, instruments and people

Knowing yourself and the other



1. Knowing yourself (and how other people see you)

Steven Seagal Emotion Chart			
			
Happy	Sad	Petulant	Lonely
			
Amused	Skeptical	Furious	Wistful
			
Confused	Bored	Sarcastic	Regretful
			
Aroused	Terrified	Proud	Mischievous

Process Mining helps us to reduce emotions in collaboration by talking about facts

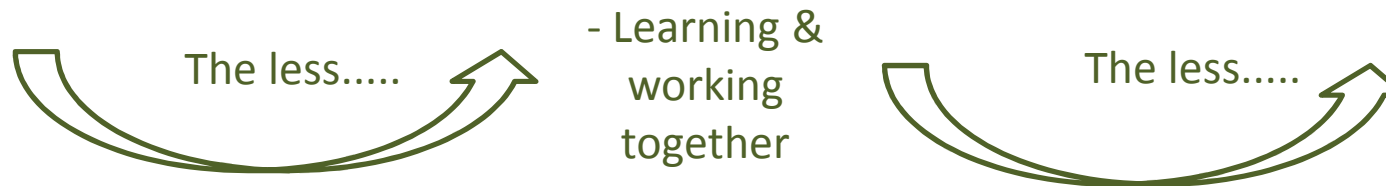
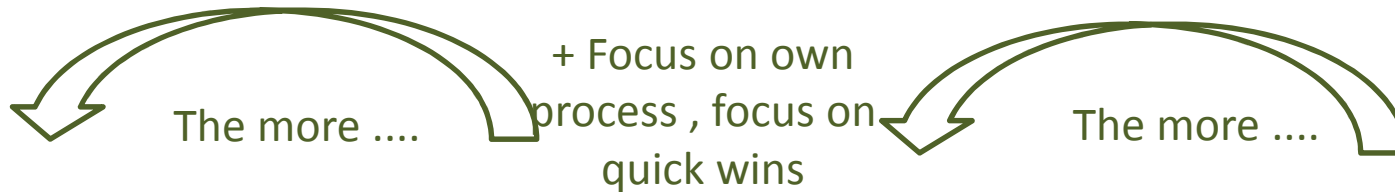


2. Create insight in circular patterns with others

Example - focus on own quick wins vs learning

+ The more we focus on own results
in the short term (quick wins)

+ The more we focus on our own process



...The less we learn from each other
and help each other

- the less we work together
- and see each other as people/ colleagues

Process Mining helps us to learn
from each other and work together



Example 2 - pressure vs results

+ The more pressure we feel to perform

+ the more pressure we put on others and point to others when things go wrong



+ Pressure



- results



...The more the delusion of the day is most important (and not structural improvements)

- the less we achieve results together for 1Amsterdam

Process Mining helps us to achieve results together



3. GET INSPIRED BY OTHERS

More is possible than you think



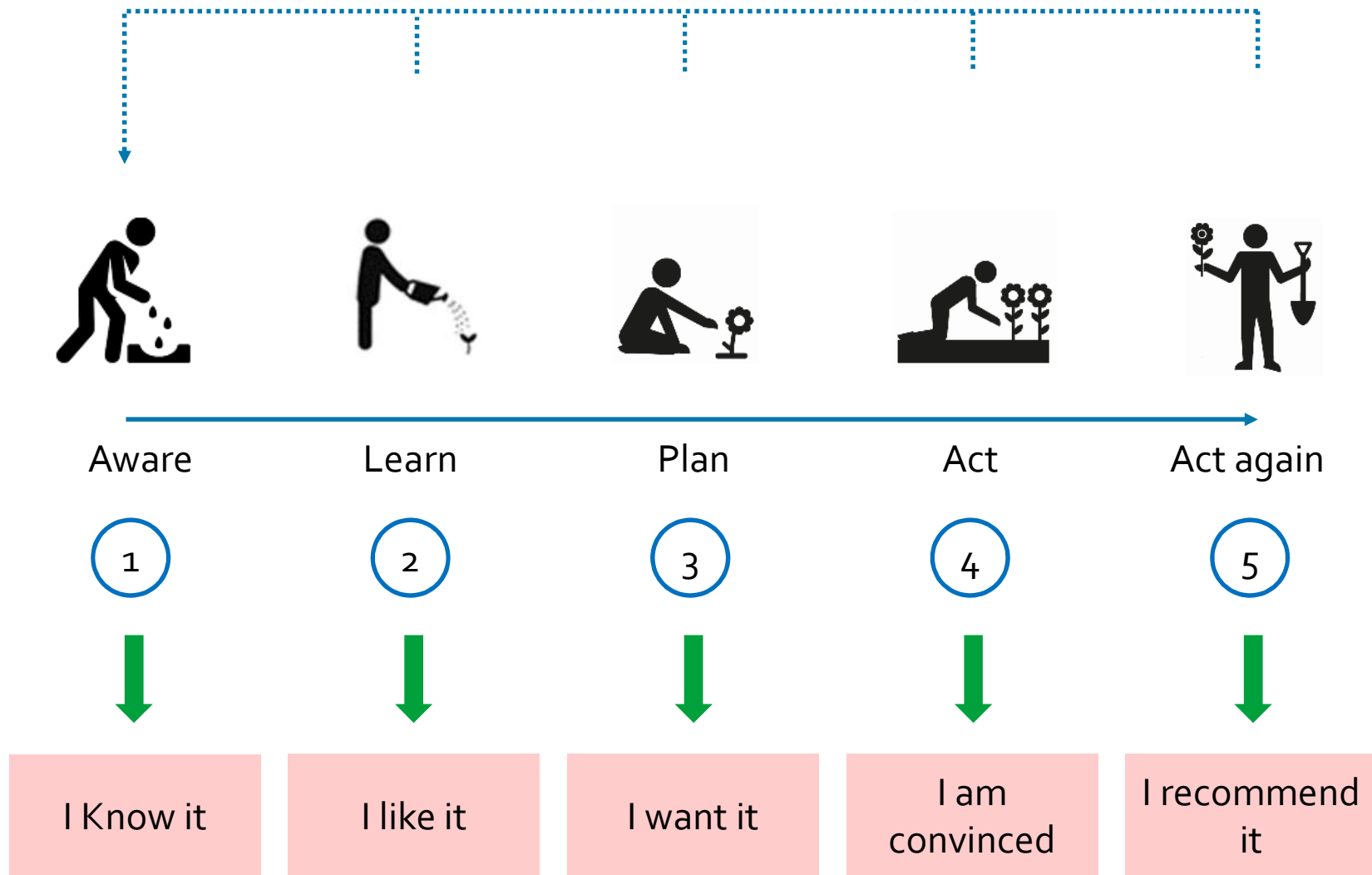


Wrap up



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Lessons

1. Fit to the context *and* create it (not too dry, not too wet)



2. Think *and* try



3. Create a vision, set goals and focus



4. Create ownership, a leading coalition and support



5. Balance between process, instruments *and* people



AND...



Hold on
Do what works!

(do something different too)





Let's connect!



XXX Question for you

Let it grow...

...and when it grows...

...please let it know by sharing it at
LinkedIn and/or sending us a picture!

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