

Datum: 10 juni 2016
Lucy Brand-Wesselink



Process Mining at ALFAM Consumer Credit



CREDIVANCE



- **Lucy Brand-Wesselink**
- **Process Manager**
- **ALFAM Consumer Credit**



Hello, I am Lucy Brand-Wesselink, I am the process manager at ALFAM. I am pleased to be asked to tell you something about the company I work for and what we have achieved with Process Mining. I am enthusiastic about process mining, and I would like to take you on my journey for what we have learnt so far.

I work at ALFAM for about 5 years. I am responsible for a smooth, efficient process in our Mid Office called Track. My other colleague focuses on the Back Office.

I use Lean Six Sigma to improve processes.

Where do I work?



But first about the company I work for. ALFAM is the largest credit company in the Netherlands.

Where do I work?



We have 4 labels for 4 different markets ...

Where do I work?



... under which we provide loans to consumers and also some financial lease on cars to small companies.



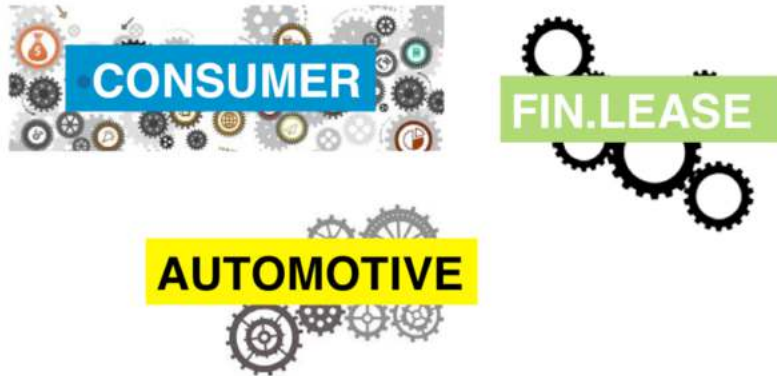
We are an independent daughter of ABN AMRO.

Where do I work?

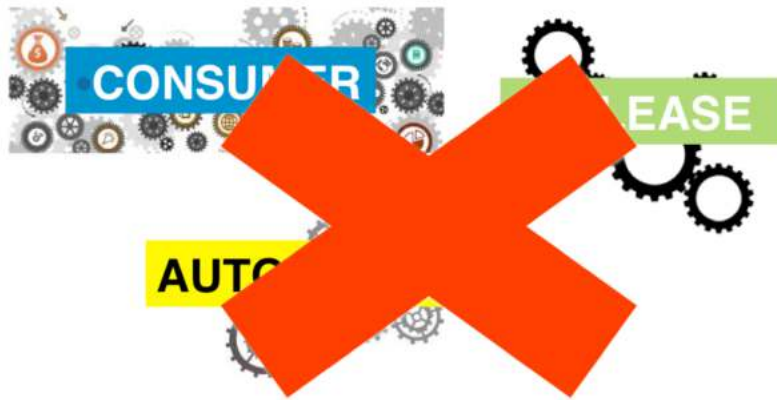


We are with 130 employees and we are self-providing, so we do everything in-house. From Sales to Cash. From Development to Collections. We have our own IT department but also marketing. We do have a large company pride in our office. We are like a family.

How it started



We have existed for about 35 years and when we started we started with one label and grow. When we grew, we developed a new label for each new market. Also, we built a separate Mid Office for each label. At that time, it seemed the best way. In 2011, we had three different Mid Offices. That means 3 times costs, maintenance and improvements. Everything in 3.



But the IT also reached its end of life and we needed to build a completely new Mid Office. And we needed more efficiency.



I started with the employees to design a completely new, improved process. We used the lean six sigma method to come to a first draft of the process. We discovered that the process was not so different for the different labels, and we wanted to have a unified process for all labels together.

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QUOTATION

Bad
 Poor
 Good
 Excellent

RETURN TO SENDER

ALFAM CHALLENGE

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Here is how the process looks like: The first part of the process is the quotation phase. We receive a request from a client, we register the request in our Mid Office. We do some legal checks and enrich the request with this information. For example: Does the client have loans elsewhere, and how are they running, are there payment problems? The next step is that we automatically judge the request, the request either leads to a quotation or it is rejected and we give our feedback about the request to the client.



This should be an automatic process, but of course there is fall-out, where employees are needed for judging the request.



After sending the quotation, the Contract phase of the process starts. We expect to receive a contract with the attachments we asked for. The process looks similar to the quotation, but the rating of the contract is a by far more manual process, and mostly this process leads to a paid contract.

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CONTRACT

Responsibly fulfill dreams



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Our motto is: Making dreams come true by responsibly borrowing money.

Back to our Mid Office Track:

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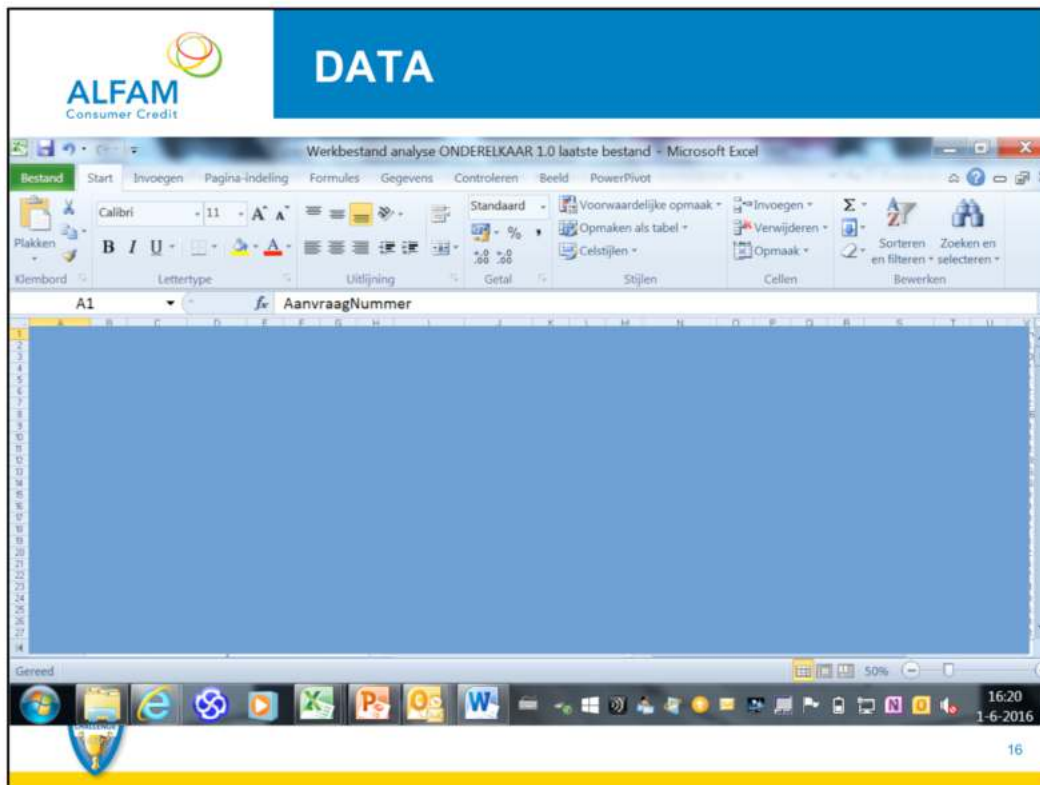
DATA

Aanmaaktijdstip: 11-1-2016 16:45:11
 Taaktype: **Uitbetalen**
 Taak afgehandeld door: **Tracktester15**
 Afrondtijdstip: 11-1-2016 16:45:36

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As a Process Manager it is important to have detailed information about your process. We wanted information about the tasks in the process. A task arises every time when there is a fall-out of the system, because we programmed that this was the step where an employee had to take a decision about how to go further with the quotation or contract.

That's why we asked the builders of our Mid Office system that every step in the Mid Office is recorded with date and time of start and ending, the kind of task and information about the employee who performed the task.



We have now worked for 2 years with the new system TRACK. With Lean Six Sigma we improved the process little by little, but we never knew how the process really worked.

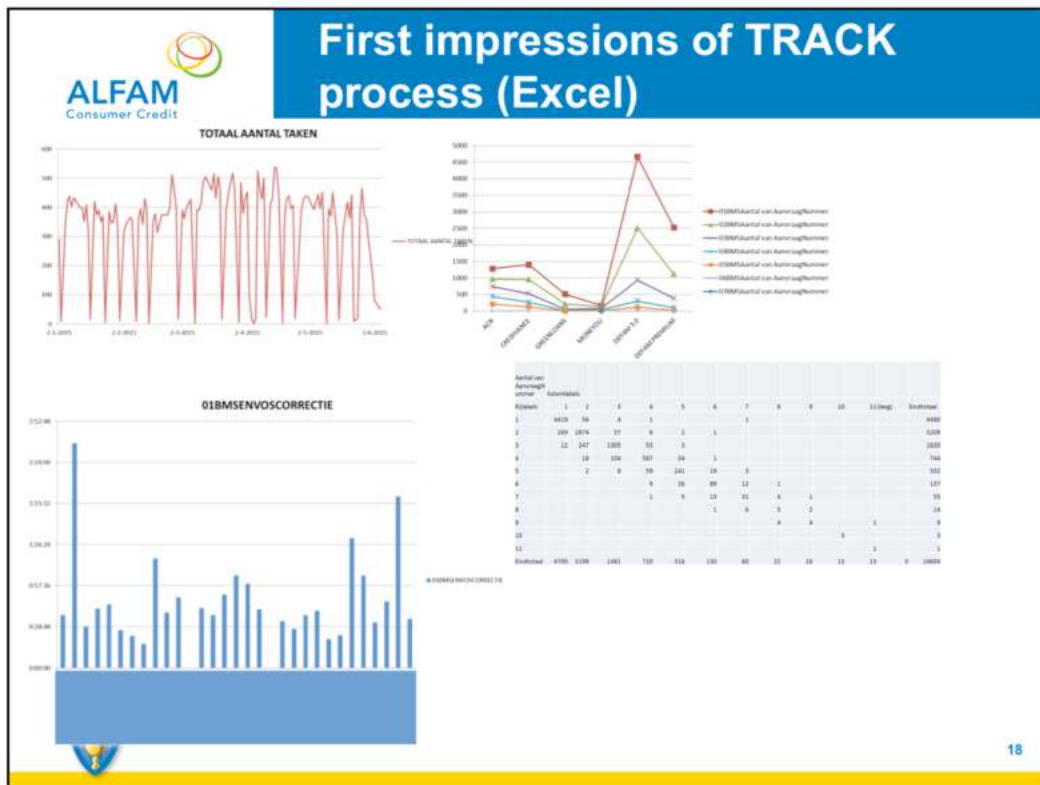
I tried to find out by asking batches of data out of the system and with EXCEL I made the first comparisons between employees doing the same work.

QUOTATION

CorrigeerDistributiePartner
CorrigeerWoonAdressen
SelecteerBkrPersonen
Aangemaakt automatisch
BeoordeelAanvraagHandmatig
FiatteerHandmatigeBeoordeling

VerwerkOntvangenStukken
BeoordeelAanvraagMetStukken
FiatteerBeoordelenMetStukken
FiatteerUitbetaling
SamenstellenWelkomspakket
SamenstellenWelkomspakketMetCorrecties

CONTRACT



I was happy we had all this information. I used excel to produce the first data-analyses. But after the first results with excel, I knew I had to find a way I could really see how the process flow looks like.

It is difficult to understand the process if you just can not see it. That's when I was introduced to Process Mining and Disco. Disco looked like the program I needed to show my manager how the process really flows.

I had already experience with Excel and could use this data.



Like in the commercial for washing powder: Just put it into the machine

...



17 June 2016

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... and the laundry comes out perfectly white ...

The screenshot displays the Disco software interface. At the top left is the ALFAM Consumer Credit logo. A blue header bar contains the text "Road to Disco". The main window shows a process flow diagram with various nodes and connecting lines. On the right side, there is a "Detail" panel with two vertical sliders labeled "Active" and "False", both set to 100%. Below these is a "Frequency" section with a "Show" dropdown set to "Absolute frequency". A bar chart shows five bars with values: 68,418, 31,313, 24,228, 17,104, and 9,280. The rightmost bar has a value of 31,040. Below the chart is a button labeled "Add secondary metrics". At the bottom of the interface, there is a system tray with a clock showing 16:33 on 1-6-2016. In the bottom left corner of the slide, there is an "ALFAM CHALLENGE" logo and the date "17 June 2016". The number "21" is in the bottom right corner of the slide.

... Disco did his work and there is the clear process. This was the first draft of the process, and I was happy. But when I looked further into the details, I saw mistakes and I was also missing data and information.



I had to put some effort in the data.

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Road to Disco

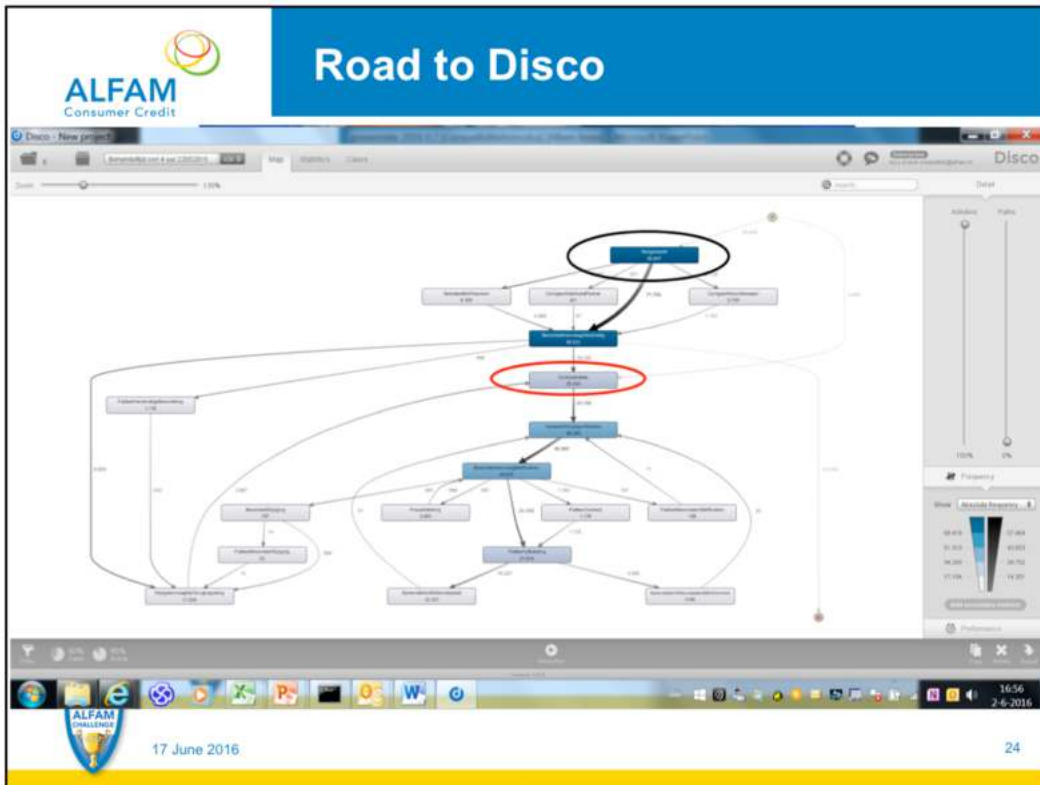
Disco - New project

Disco

17 June 2016

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First important issue: I needed a starting point of the process in the data, because that was the reference point for measuring SLA's. Not the first task was the starting point.



After the quotation, I also needed a starting point for the contract.

The screenshot displays the Disco software interface. At the top left is the ALFAM Consumer Credit logo. A blue header bar contains the text "Road to Disco". The main workspace shows a complex dependency graph with various nodes and connecting arrows. Three nodes are highlighted with colored circles: a black circle at the top, a green circle in the middle, and a red circle at the bottom. The right side of the interface includes a search bar, a zoom slider, and a "Frequency" control. The Windows taskbar at the bottom shows the date "17 June 2016" and the time "17:01".

And I missed the quotation information about the requests that were judged automatically. I got new data and made another starting point in the quotation. Now I have 3 starting points: 2 in quotation and 1 in contract.



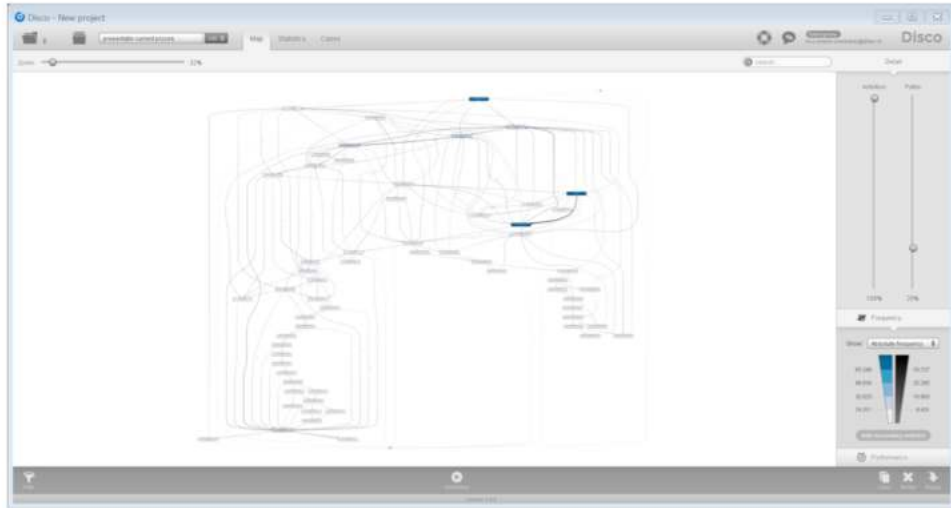
I had to check my data on mistakes. Sometimes information was damaged or just impossible.

Every time I changed the data I put it into Disco to see if the process was corresponding with to process I saw in the Mid Office.

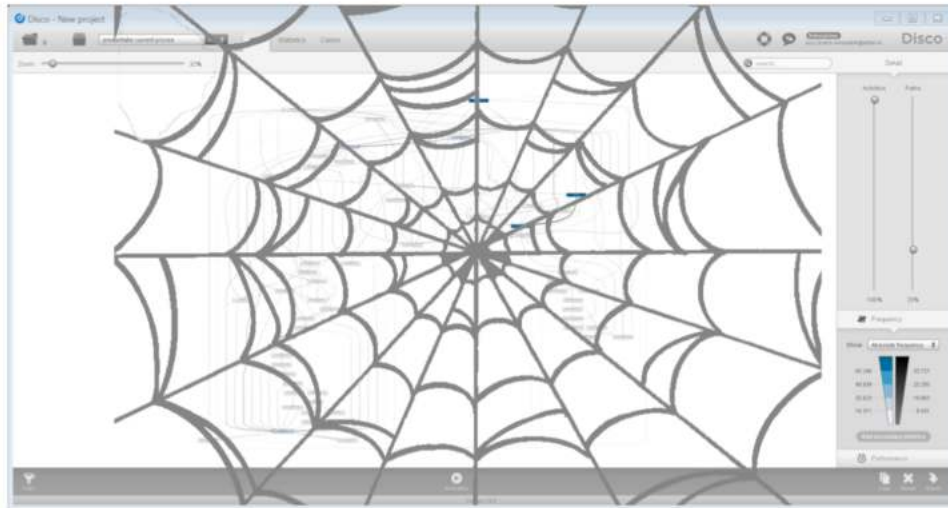
I learned that when you put effort in your data (cleaning) your results get better. It took some time, about 10 days.



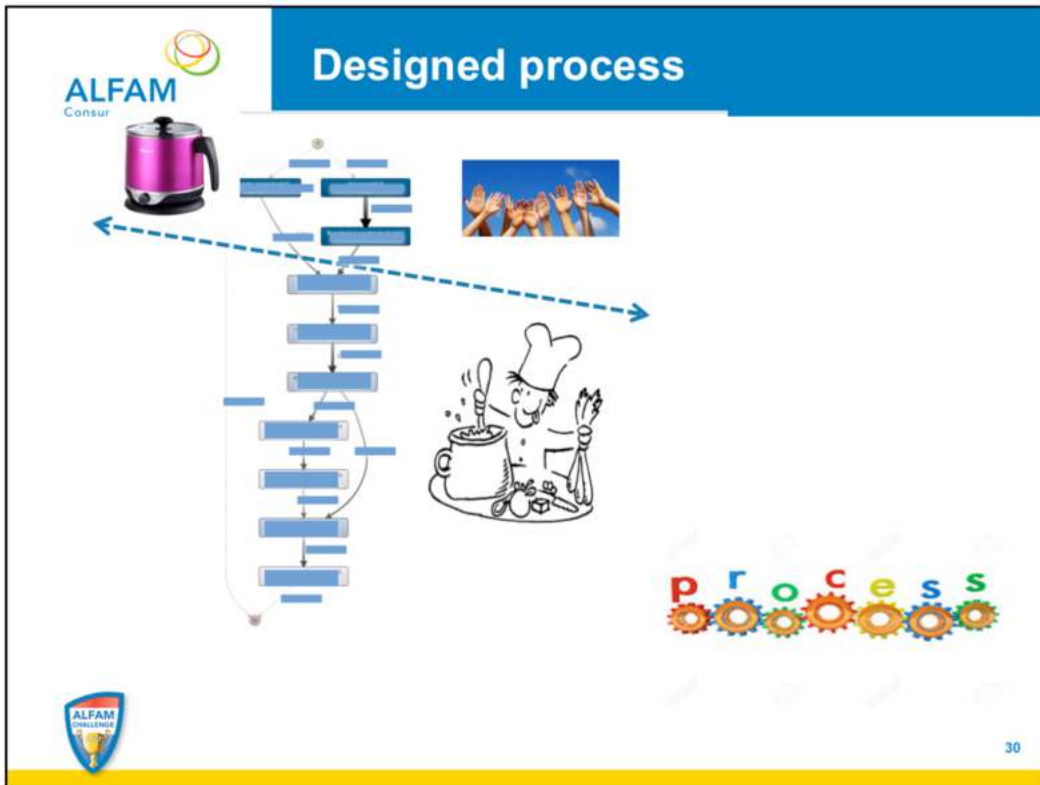
At last I now had the first picture of our process.



I was really surprised by this picture of our process.




I never expected we got a spider web. I thought there were maybe 20 ways that the request/contract goes to the process, but there were actually for the total process three thousand ways.




This is the process which we designed:


For 80% the process is automated in the request phase, and sometimes there is a manual task by an employee.

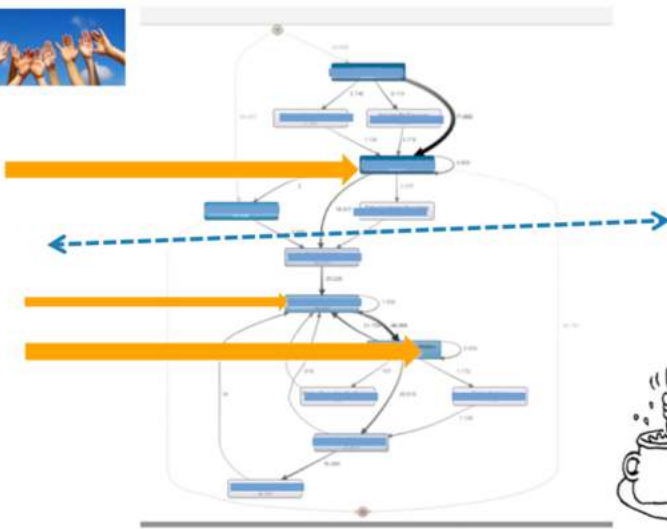
And there is a straight through process in the contract phase.





Expected process









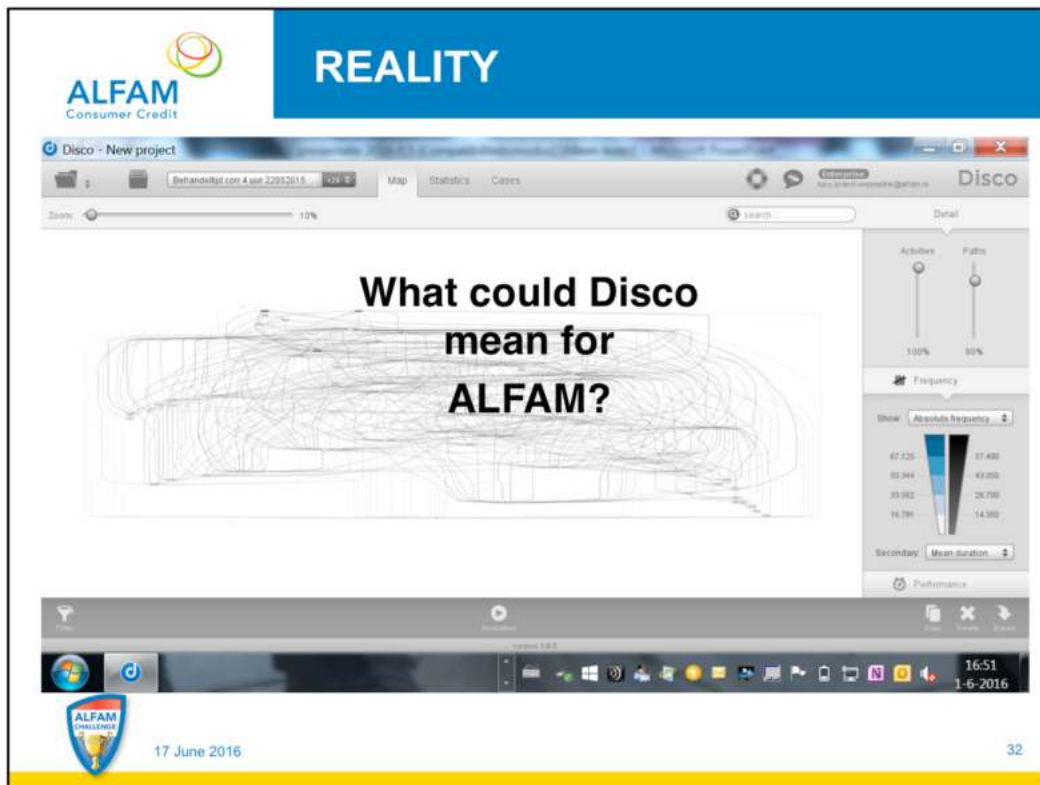


17 June 2016

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We, already, knew by the findings of excel that this was beyond reality, and we were expecting a process like this:

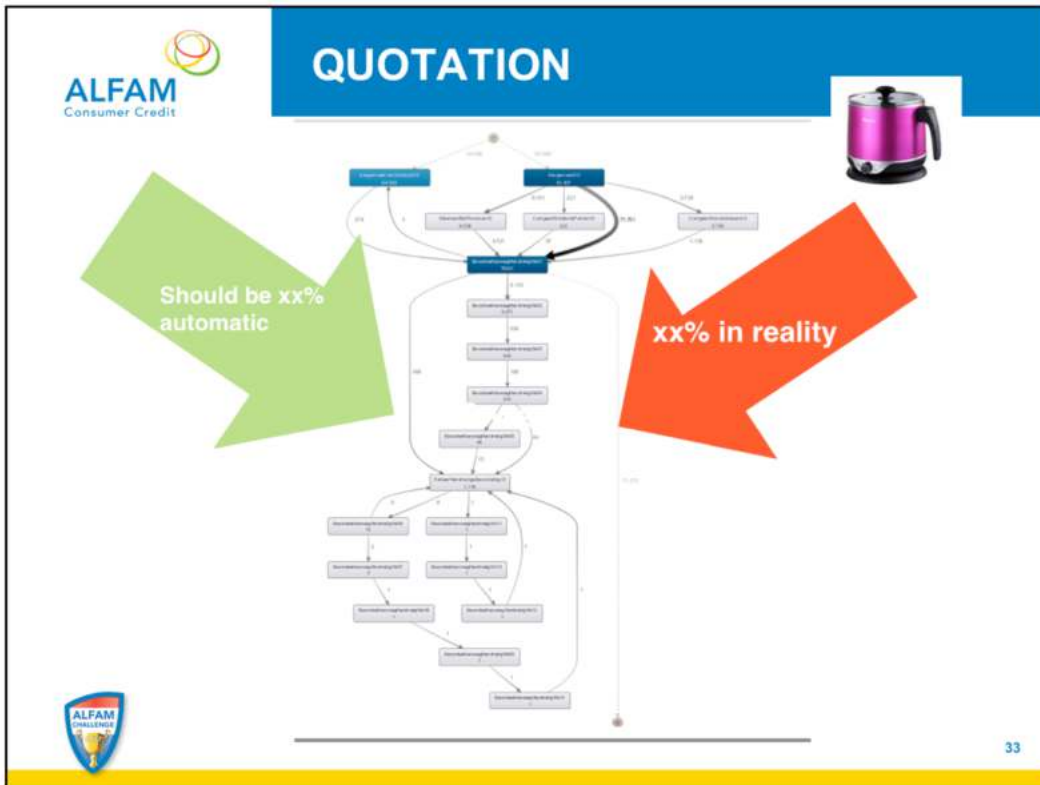
A process straight true, and sometimes we have to go back for more information about the client and do some rework in judging the request or contract.



But this was actually the process we have:

When I saw the true process in Disco, I took it as THE opportunity to introduce DISCO to my colleagues. I was able to show them the process flow, without words.

It was impressive and also shocking, but a good start for discussing. It this really the process? I first asked them what they expected from the process flow. How many ways there should be to go through our Mid Office process.



The first part of our process should be xx% automatic, but the reality was that only xx% was automatic. In xx% of the cases there was an employee involved to judge the quotation. Sometimes a quotation came back 2 till 13 times.

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QUOTATION

Should be xx% automatic

109 ways

xx% in reality

ALFAM CHALLENGE

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And there were 109 ways to go through this process. We are now looking into how to increase automatic rating.

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CONTRACT

xx% First time right

xx% Three or more

1.600 ways

ALFAM CHALLENGE

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And for the contract there were 1.600 ways to go through the process. xx% of the contracts were first time right. xx% took 3 times or even more.

And now we know how the process in reality looks like. How to go further? We do have a good process, but we don't act good. How can we improve?

Do we have to improve? Is this just how it goes? No, we really had to improve. Just in this time we were looking at the model of calculation for the rate of our loans.

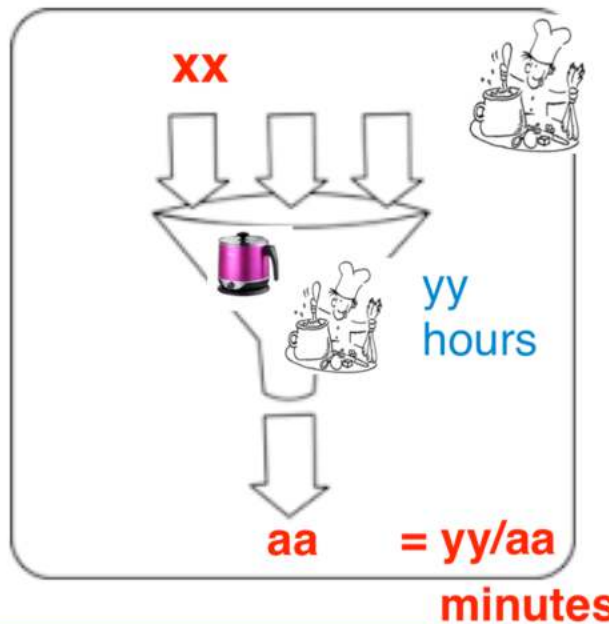
First finding: How much time do we spend?

 **zz**
min.

 **vv**
min.



17 June 2016



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We earn only money on the contracts we pay out. We receive about **xx** request and we close **aa** contracts. The average time in quotation that we calculate with Disco is **zz** minutes and for the contract **vv** minutes.

In Disco we saw we actually need **yy** hours of work in the whole process. This means that the rate we have to discount is **yy/aa** minutes instead of **zz+vv** minutes. A big difference. All this information was easy to get out of Disco.

First finding: How much time do we spend?

- Berekening P_b

$$€120.150 \times \left(\frac{D_{62}^{man}}{D_{42}} + \frac{D_{62}^{vrouw}}{D_{42}} - \frac{D_{62,62}}{D_{42,42}} \right) + €400 = 0,985 \times P_b \times \frac{N_{42,42} - N_{52,52}}{D_{42,42}}$$

$$€120.150 \times \left(\frac{14.286}{28.204} + \frac{14.764}{28.435} - \frac{131.830}{277.540} \right) + €400 = 0,985 \times P_b \times \frac{5.725.349 - 3.321.584}{277.540}$$

$$P_b = €7.804$$

- Berekening V_b

$${}_3V_b = €120.150 \times \left(\frac{D_{62}^{man}}{D_{45}} + \frac{D_{62}^{vrouw}}{D_{45}} - \frac{D_{62,62}}{D_{45,45}} \right) - 0,985 \times €7.804 \times \frac{N_{45,45} - N_{52,52}}{D_{45,45}}$$

$${}_3V_b = €120.150 \times \left(\frac{14.286}{25.693} + \frac{14.764}{25.925} - \frac{131.830}{251.895} \right) - 0,985 \times €7.804 \times \frac{4.918.769 - 3.321.584}{251.895}$$

$${}_3V_b = €23.609$$

These results were the input for the new calculation program.

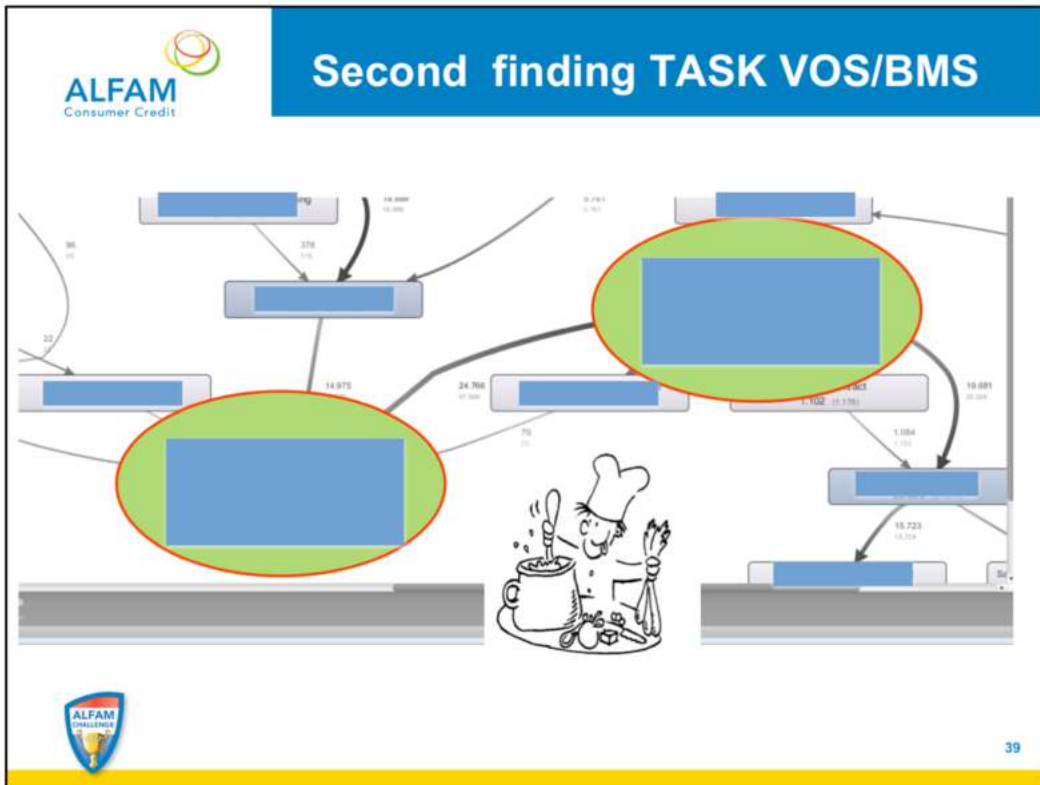
First finding: How much time do we spend?



But the results were also input for research for increasing the amount of quotations to contracts. At this moment 60% of the request gets a quotation. bb% of the quotations becomes a contract.

Why? Was the time between asking and receiving a quotation too long? Are there other reasons?

This was the start of my journey in process mining. I further explored our process with Disco. I started with just looking for strange things. Were there issues I didn't expect? And so I discovered the following finding.



In the contract phase an employee judges the information. This is done in the two green tasks. We expected to do this one time for 80% of our contracts.

But as you can see, on xx contracts we did this task really almost yy times. This was not concrete enough, because I saw just one task. But I wanted to know what the flow of just this task was by revealing all its repetitions.

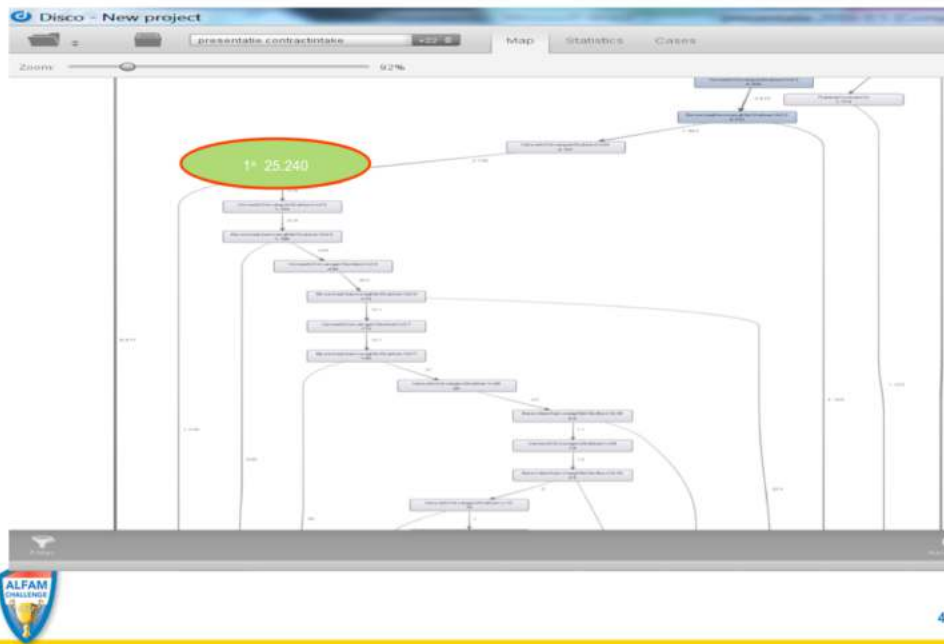
Second finding TASK VOS/BMS

	A	B	Y
1	dossier	taaktype	xosybn - vo
113	10160504	VerwerkOntvangenStukken	v01
117	10160505	VerwerkOntvangenStukken	v01
128	10160509	VerwerkOntvangenStukken	v01
130	10160509	VerwerkOntvangenStukken	v02
132	10160509	VerwerkOntvangenStukken	v03
137	10160511	VerwerkOntvangenStukken	v01
144	10160512	VerwerkOntvangenStukken	v01
146	10160512	VerwerkOntvangenStukken	v02
156	10160516	VerwerkOntvangenStukken	v01
158	10160516	VerwerkOntvangenStukken	v02
162	10160517	VerwerkOntvangenStukken	v01
164	10160517	VerwerkOntvangenStukken	v02
166	10160517	VerwerkOntvangenStukken	v03
168	10160517	VerwerkOntvangenStukken	v04
180	10160521	VerwerkOntvangenStukken	v01
182	10160521	VerwerkOntvangenStukken	v02
204	10160530	VerwerkOntvangenStukken	v01
211	10160532	VerwerkOntvangenStukken	v01
218	10160533	VerwerkOntvangenStukken	v01
220	10160533	VerwerkOntvangenStukken	v02
222	10160533	VerwerkOntvangenStukken	v03
223	10160533	VerwerkOntvangenStukken	v04
225	10160533	VerwerkOntvangenStukken	v05
234	10160536	VerwerkOntvangenStukken	v01
236	10160536	VerwerkOntvangenStukken	v02
245	10160538	VerwerkOntvangenStukken	v01
247	10160538	VerwerkOntvangenStukken	v02
263	10160543	VerwerkOntvangenStukken	v01
265	10160543	VerwerkOntvangenStukken	v02
278	10160548	VerwerkOntvangenStukken	v01

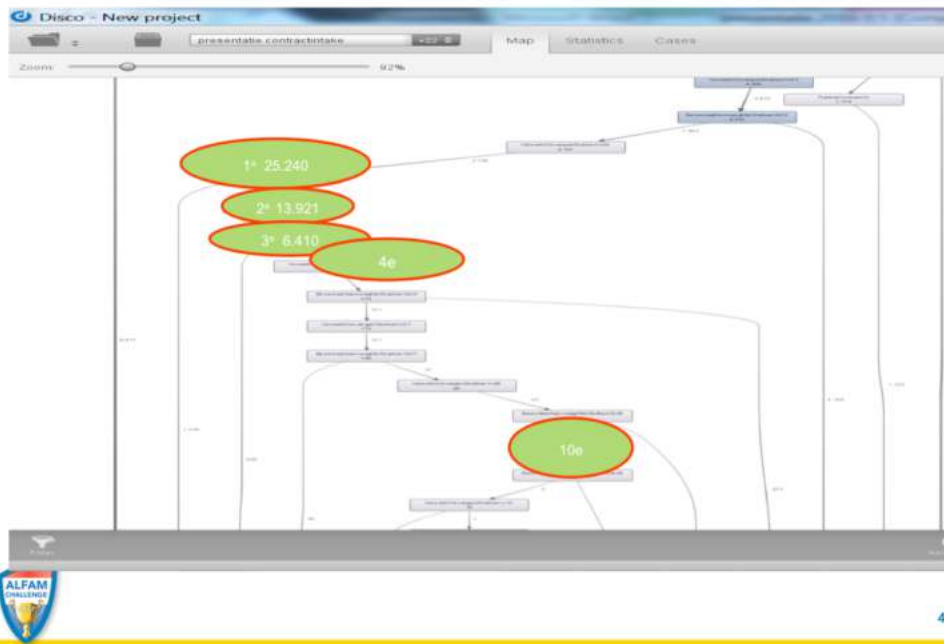


So, what I did was to first add an additional column that indicated for each task whether it was the first, second, third etcetera iteration.

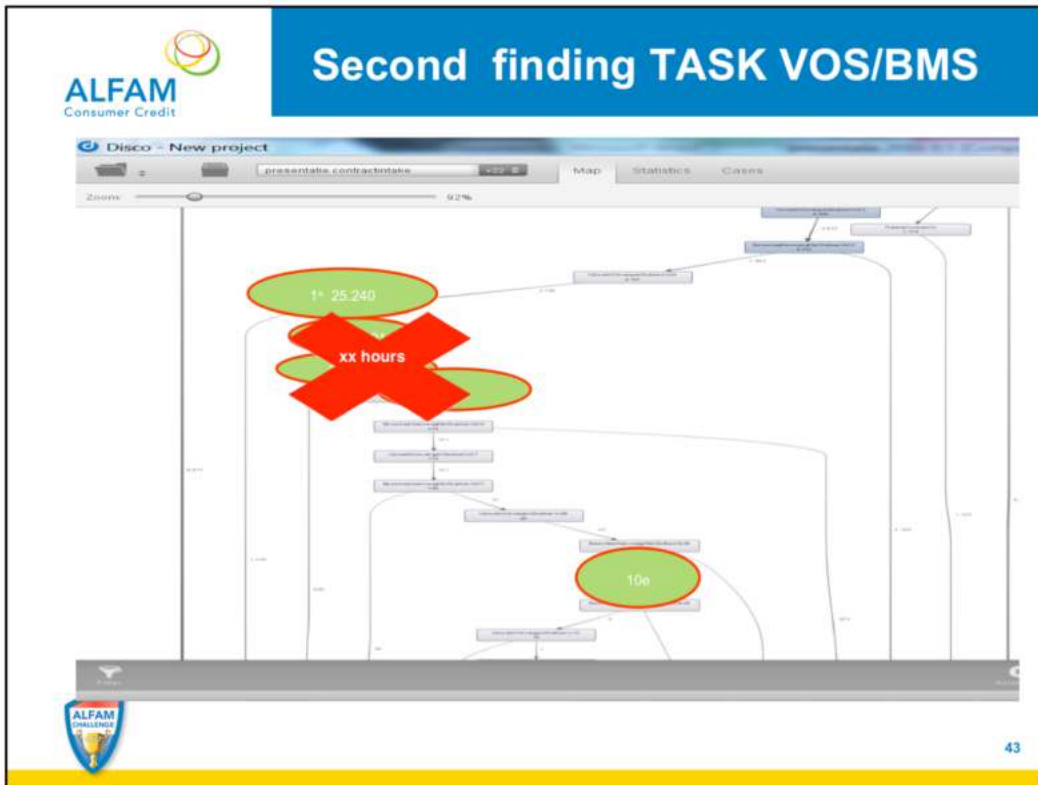
By combining these two data columns into the activity name, it resulted in an unfolding of this tasks based on whether it happened the first, the second, etc. time. I could now see the flow of just this task in much more detail.



We saw that many contracts were not right the first time.



Too often the process had to be done two till twelve times.



We are now looking for reasons why the process had to be done two or three times. Is it because not all the documents were sent to us or are there other reasons?

This research is now taking place. I don't have the conclusions yet ready. We expect to improve this piece of the process by reducing the number of tasks on one contract. By, for example, to start to process a contract only when all documents are received. This will save us about xx hours, an amount of yy euro's.



An other finding which I would like to show you is the Welcome Pack:

After the contract is final and we paid the loan to the client ...



... we send a welcome pack. In this pack we send information about the loan and more.



This is a process that is done by hand, because we have to send a hard copy of the contract with an autograph of a authorized employee.



- First time right xx
- With correction yy



We have two different tasks. Contracts which are fine and contracts where we have to make changes on the contract before it is returned to the client.

In Disco we found out that zz% had to be corrected. After this finding we asked the unit to measure all the work they have on the Welcome Pack.

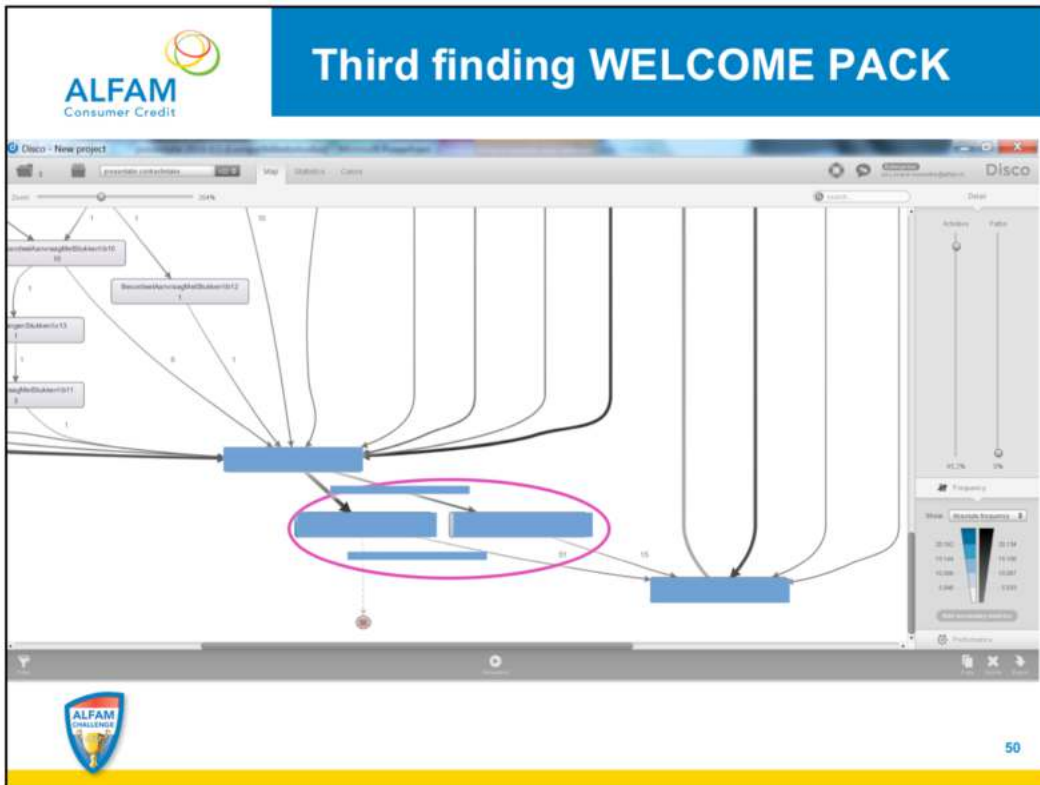
Medewerker		Datum 30-5-2016		
Aantallen	Keuze maken voor Proces	Begintijd shift/ctrl	Eindtijd shift/ctrl	Totale tijd
1	Readsoft	07:28:00	08:46:00	1:18:00
1	Overige van werkplek	08:47:00	09:08:00	0:21:00
1	bkr schoningslijst	09:10:00	09:45:00	0:35:00
1	Rookpauze	9:45:00	9:53:00	0:08:00
1	Readsoft	09:53:00	12:01:00	2:08:00
1	Rookpauze	12:01:00	12:07:00	0:06:00
1	Readsoft	12:07:00	13:05:00	0:58:00
1	Lunch	13:06:00	13:35:00	0:29:00
1	Overige van werkplek	13:35:00	13:50:00	0:15:00
124	tekenen werkomstpakket	13:50:00	14:21:00	0:31:00
2	BKR digitale afkeur	14:21:00	14:32:00	0:11:00
1	Readsoft	14:32:00	15:32:00	1:00:00
1	Rookpauze	15:32:00	15:44:00	0:12:00
2	BKR digitale afkeur	15:44:00	16:01:00	0:17:00
1	post	16:01:00	16:11:00	0:10:00
1	Readsoft	16:11:00	17:31:00	1:20:00



For this, I provided them with an excel measurement file.



They measured for 15 weeks.



As you can see, for the process improvement we first saw something in Disco, but to measure we used Excel, because we had not that detailed information about this task in the system.

We are now searching for a solution to automate this process.

Third finding WELCOME PACK

Jaar	2016				
Som van TotaleTijd	Kolomlabels				
Rijlabels	tekenen welkomspakket	Versturen contracten	welkomspakketten	uitprinten welkomspakket	Eindtotaal
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
Eindtotaal					

xx hours
weekly



The business value for this change is xx euros. An average of xx hours each week will be saved by this change.

This was my last example. We have already made the first improvements and more changes are coming.

- **Already done:**
 - Financial lease automatic start refused contract EUR xxxxx
 - Financial lease extra sentence EUR xxxxx
 - Prioritization of tasks EUR xxxxx
 - Work-sharing adjustment EUR xxxxxx

- **Under construction:**
 - Reduce task 'Corrigeer KvK/Ondernemingsstructuur' EUR xxxxx
 - Correct product feedback EUR xxxxx
 - **Welcome Pack** EUR xxxxxx
 - Reducing waiting time in VOS/BMS EUR xxxxx
 - **Increase automatic rating quotation** EUR xxxxxx
 - **Start Contract when every document is received** EUR xxxxxx
 - Financial lease automating application EUR xxxxx

Total amount of

EUR xxxxxx



We already have realized the following changes:

- Automatic Start contract after we received documents on a refused contract
- Reduce rework by putting an extra sentence in the contract
- Prioritization of tasks, so the employees don't have waiting time
- Adjust the worksharing program

The total amount is xx Euros. The next changes are on their way: the green ones are the ones I have told you about:

- Reduce the task corrigeer kvk/ondernemingsstructuur
- Change the feedback about the product in quotation so we don't have to do this twice
- Change on the Welcome Pack
- Reducing waitingtime in the task VOS/BMS
- Increase the automatic rating in quotation. As I told you earlier it is now about xx %. When we increase to xx% we will save about xx hours
- Start process Contract when all the requested documents are received
- Financial lease an automating application for quotation for our distribution partners

If we execute all this changes we will save an amount of xx euros. And we have just started by looking to our Mid Office, which is just one process of many, and we did not yet explore every finding.

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DISCO

ALFAM CHALLENGE

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I thank you for your attention and hope you got an insight into what we have already done with Disco and that you can achieve a lot if you actually can see how your process really flows.

