

# Scrum Beyond Software

## How Dialogues Incubator Goes Agile

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Scrum is a well-known approach to the management of software development projects. For a long time it had been a prerogative of the software industry, however, Jeff Sutherland's experience of applying the scrum framework in church management<sup>1</sup> and a venture capital group<sup>2</sup> opened up new opportunities for employing scrum in various business contexts.

Scrum has its roots in iterative and incremental development. Its framework includes a set of roles, artifacts and ceremonies. It helps to improve project success rates, empower teams and build better customer relationships. However, successful implementation of scrum implies changes in the organizational structure and roles of managers, teams and customers.

This whitepaper presents the experience of ABN AMRO Dialogues Incubator in using the scrum framework for managing its business projects and activities which has been coined scrum for business. Having started with a single project, scrum is now expanding into

the entire organization and even beyond its boundaries.

Three case studies are discussed in this paper. The results of our research showed that scrum has helped Dialogues Incubator's teams to improve transparency, accountability, productivity and communication. It also makes it easier to manage the deadlines and build stronger teams through enhanced collaboration and cooperation.

In order to succeed, scrum requires a commitment and willingness to change from senior management and scrum teams. In this paper you will find a detailed description of the scrum process in Dialogues Incubator, as well as the problems and benefits experienced by the teams within the Incubator when implementing scrum.

### ***Keywords***

*Agile, Scrum, Innovation, Corporate Incubator, Project Management*

# Content

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<b>Introduction</b>	<b>3</b>
<b>Implementation</b>	<b>3</b>
Case 1. Investments Project	4
Case 2. Human Resources Project	5
Case 3. Innovation Project	6
<b>Issues &amp; challenges</b>	<b>7</b>
Case 1. Investments Project	7
Case 2. Human Resources Project	7
Case 3. Innovation Project	8
<b>Top issues</b>	<b>8</b>
<b>Top benefits</b>	<b>9</b>
<b>Lessons learned</b>	<b>10</b>
<b>Where we are now: May 2011</b>	<b>11</b>
<b>Conclusion</b>	<b>12</b>
<b>About Dialogues Incubator</b>	<b>12</b>

## Introduction

Dialogues is an initiative of ABN AMRO Bank that consists of Dialogues Incubator, Dialogues Technology, an IT start-up from Dialogues Incubator, and Dialogues House, a facilitation and event organization company. Dialogues Incubator's mission is to facilitate innovation and entrepreneurship in financial services by providing a wide range of services from corporate venturing and research & development to consulting and training activities. A considerable part of Dialogues Incubator's activities is based on the development of new innovative projects.

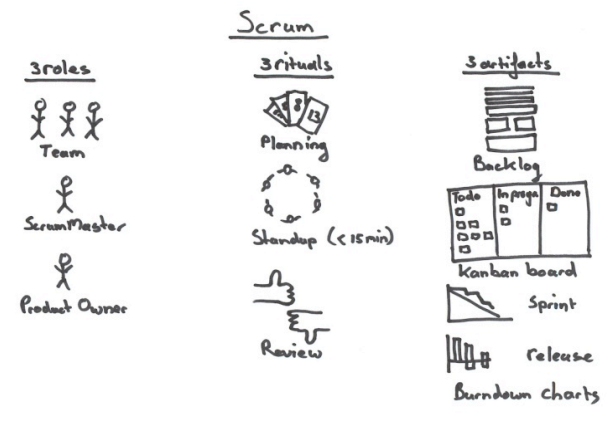
These projects pass through the entire innovation funnel starting with idea generation and conceptualization and in some cases ending with a real-life launch of a pilot or new venture. The scope of projects is mainly focused on the financial services and banking industry and Dialogues Incubator continuously looks for the fresh ideas coming from a variety of sources. In general, the projects are characterized by a high level of innovation, a complex stakeholder management system, multitasking of personnel and an uncertain and often fast changing internal and external environment.

In order to better cope with these challenging conditions, almost a tenfold growth of the organization and a considerable overload of the senior management, Dialogues Incubator decided in October 2010 to give the scrum framework a try on business projects. Having about three years of successful scrum experience with software projects at Dialogues Technology, it was reasonable to undertake this challenge.

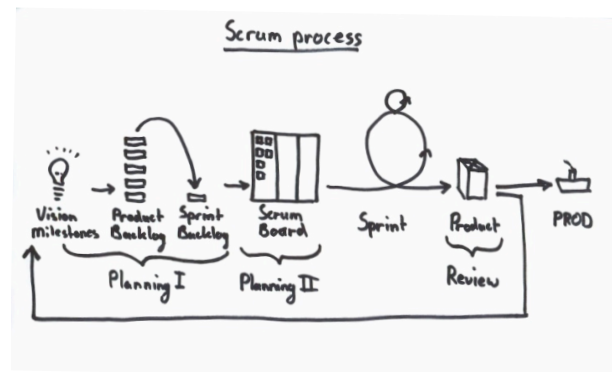
Next, we will take a look at how Dialogues Incubator implemented scrum and the various advantages and disadvantages it has encountered. Each project has its unique internal and external environment and, therefore, needs to individually find the right configuration of the scrum framework that will fit its needs.

## Implementation

The scrum framework consists of roles, artifacts and rituals (or ceremonies), including:

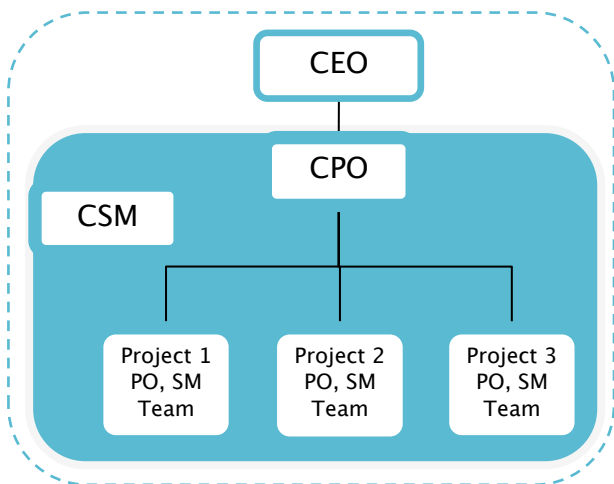


The entire scrum process from setting-up a vision to delivering the end product can be illustrated with a single diagram:



Before starting to use scrum one of the Dialogues Incubator's innovation managers obtained scrum master (SM) and product owner (PO) certifications and was appointed as Chief Scrum Master (CSM). Each project has a product owner, a scrum master and a team. In addition, Dialogues Incubator decided to set up a new role, namely, the Chief Product Owner (CPO), who is responsible for top-level decisions and removing of major impediments if a particular project team is not able to overcome them on its own.

The new organizational structure with regards to the scrum is presented below:



Next, the Chief Scrum Master and an experienced IT Scrum Master from Dialogues Technology organized a workshop to introduce the scrum framework to the entire Dialogues Incubator team. An investments platform initiative was chosen as pilot project which was followed by other projects in the period from the end of 2010 to March 2011. All those projects are still being implemented and the results of this research are as of May 2011.

The following section describes how scrum was implemented in each of the three case studies.

## Case 1. Investments Project

### 1. Scope

This project was launched in May 2010 but started to implement scrum at the end of the year. The main deliverables include developing a web platform and marketing materials, creating a customer base and setting up a legal entity at the different phases of the project. The Chief Scrum Master was assigned to coach the team that consisted of four core members. After two to three months of coaching the team became well experienced with scrum and the Chief Scrum Master was able to delegate all the responsibilities to the scrum master who is part of the team.

### 2. Roles

As mentioned the team consisted of four team members in which the product owner and scrum master are part of the team as well. The extended project team also includes two external consultants; however, they are not part of the scrum team. In case interns join the project, they are included in the scrum process as well. The team is cross-functional but each team member is the main lead for a particular area such as ICT, legal or marketing.

### 3. Artifacts

In the beginning of the project the team practiced weekly sprints, but currently they have shifted to two week long sprints because of a feeling of planning overload. The sprints

are always kept time-boxed and are never extended. In case there is an unfinished task it is reviewed and then placed on the next sprint or product backlog or be discarded if it is not relevant anymore. Because the project itself consists of several smaller sub-projects it is difficult for the team to have a complete product backlog. It is instead planned step-by-step every sprint. The backlog is being maintained jointly by the product owner and the scrum master. Because of the nature of the impediments their removal goes mainly through the product owner and the Chief Product Owner.

At the outset the Investment Project team measured the velocity by estimating the story points, which reflected the perceived complexity of the task, using planning poker. At first, the velocity was low, but it gradually went up. However, after several sprints the estimating in story points became confusing and the team introduced “ideal or perfect hours”. These measurements were conceptually easier to understand. Recently, the team has not practiced the velocity measurement because of the perceived time overload of planning poker.

#### **4. Ceremonies**

The team session is held on Mondays. It basically includes the demo, the retrospective and the sprint planning. As it takes the team lots of time to accomplish these three items, in order to shorten the Monday session, the product owner together with the scrum master prepare the sprint on Thursdays in order to discuss it with the other team members on Monday. The clear responsibilities of each team member make such a process possible. For instance, a team member responsible for the IT part sets up the IT stories for the

backlog. The team holds daily stand-ups everyday in the morning in order to connect and say what they are focusing on for the day and share any impediments concerning achieving their objective. Then these impediments are put on an “impediments board,” In order to keep track of them and ensure that they are solved as soon as possible.

## **Case 2. Human Resources Project**

### **1. Scope**

Like the previous project the Human Resources (HR) project also started to use scrum halfway through the project. However, at that time the staffing of the project team changed which made the scrum implementation easy to accept. The former team had already experimented with the scrum framework but it mainly concerned the IT requirements and as a result the project lacked the required clarity on business objectives. The main deliverables of the current phase include achieving certain operational targets, qualitative and quantitative research and improving the web platform. The main incentive for the scrum introduction was to bring more insight and visibility to the project.

### **2. Roles**

The HR project has a relatively small team consisting of only three members. Moreover the product owner and the scrum master are also part of the team where they play both roles – team member and product owner/ scrum master. The team has several external contributors that put a limited amount of time

into the project and are not involved in the scrum team.

### 3. Artifacts

As with the investments project, over time sprints shifted from one week to two weeks. The sprints are kept time-boxed and the remaining tasks are moved to the next sprint. The project has the product and sprint backlogs that are jointly maintained by the product owner and the scrum master. In addition, the team has to keep its backlog integrated with the IT backlog which is executed by a different scrum team. Impediments are generally removed by the product owner. The team does not practice estimations.

### 4. Ceremonies

Along with the sprint length, the sprint planning meetings also moved from weekly to once per two weeks. The review meetings have been replaced by meetings with stakeholders that take place on a regular basis. At the end of every week the team has a conference call that follows the daily stand-up meeting format. On Mondays before the portfolio review of all the Dialogues Incubator's projects the team members hold another stand-up meeting. However, no daily stand-ups are held. The retrospectives do not have a regular schedule; they are held only when believed necessary and are called by the scrum master.

## Case 3. Innovation Project

### 1. Scope

The third project commenced with scrum in March 2011. Like in the previous two cases, this project had already been active for several months. Since it is a joint initiative of three different companies and the team comprises employees of these three organisations, scrum was introduced mainly in order to improve both stakeholder management and communication processes.

### 2. Roles

At the time scrum was introduced into the project a new team was formed which now has six core team members including the scrum master and the product owner. Several stakeholders work on the project as well, however they are not directly involved in the scrum process.

### 3. Artifacts

The sprints take two weeks. With some exceptions sprints are not extended when tasks have not been completed; instead, tasks are moved to the following sprint. Again, as in the previous cases, the backlog is created and updated jointly with the product owner and scrum master. The backlog is prioritized by assigning tasks three categories – high, medium and low priority. The tasks are allocated among team members who individually first work on the high priority items before moving to the medium priority items. However, as the end of the sprint draws near, team members review the scrum board and jointly put all the efforts into completing the high priority items. No estimation techniques are applied.

### 4. Ceremonies

The sprint planning takes place on Mondays and is used for discussing the ongoing state of the project as well. At the end of the sprints, on Tuesdays, the team holds the demo and the retrospective meetings and on Thursday mornings it has a stand-up call.

Each of the last two projects has received personal coaching from the chief scrum master who continuously observes and advises the teams. All the projects use paper scrum boards and wikis for backlogs, meeting briefs, retrospective outcomes and other necessary information related to the project. Since wikis are open to all the projects, this also encourages knowledge exchange among different projects. A complete comparison of the three projects is illustrated in the table on the right:

Comparison of the cases			
	Investments	HR	Innovation
Roles			
Product owner	✓	✓	✓
Scrum master	✓	✓	✓
Team	✓	✓	✓
Artifacts			
Sprint length	(1)2 w	(1)2 w	2 w
Product backlog	✓	✓	✓
Sprint backlog	✓	✓	✓
Velocity measurement	(✓)-	-	-
Ceremonies			
Sprint planning	✓	✓	✓
Demo meeting	✓	✓	✓
Retrospectives	✓	-	✓
Daily stand-up	✓	-	-

\* parentheses indicate prior practices

## Issues & challenges

### Case 1. Investments Project

In the first place, introducing of scrum halfway through the project was in itself a challenge for the team. It was difficult to shift from one set of procedures to another in the middle of the working cycle. Another issue concerned estimations. Although the Investments team is the only team that has practiced task estimation, it still seems to remain a burden because of the perceived time overload of planning poker. Also, since the team members have flexible workdays, the team has to cope with differences in the working hours.

Concerning scrum roles the scrum master and product owner often have mixed responsibilities. For example, maintaining the backlog and removing impediments. The main challenge for the product owner seems to be setting up of a complete backlog with all the different subject areas such as sales, marketing, legal, ICT and finance.

### Case 2. Human Resources Project

For the HR project the size of the team seems to be not big enough for obtaining improved results via scrum. Moreover, as in the previous

case, the product owner and the scrum master are both part of the team and also have mixed responsibilities. The team has to adjust to very scarce and flexible working hours and the multitasking of the team members.

The team also lacks a set of artifacts such as regular retrospectives, velocity measurement techniques, and daily stand-ups. In addition, the meetings are not very effective – stories may repeat from one meeting to another.

### Case 3. Innovation Project

Some of the team members are resistant to the scrum implementation which makes practicing scrum more difficult. Meetings are generally considered to take too much time. The Innovation Project does not practice task estimations and daily stand-ups. Again, the product owner and scrum master are both part of the team and have mixed responsibilities.

**TOP 3 ISSUES**  
PERCEIVED TIME OVERLOAD  
DUAL ROLES  
BACKLOG MAINTENANCE

framework spend a big part of their time on these activities. This becomes the source for some resistance to scrum and in order to break it down some teams decided to extend original sprint length. However, this is rather logical since every new team has to find its own pace according to the team members working hours and nature of the work, and the sprint length should be adjusted to that pace.

#### 2. Dual roles

The next important issue is the absence of a clear separation of the scrum master's role when a scrum master is a member of the team as well. This makes administration of the process

much more difficult for the scrum master and inefficient for the entire team and at the end of the day - the project. It is possible that very experienced scrum masters can handle such dual roles; however for those new to scrum, it is better to assign an external scrum master whenever it is possible. Another challenge is the dual role of the product owner versus team member. Having a product owner in the team results in role conflicts and reduces potential efficiency of the project.

#### 3. Backlog maintenance

Another issue concerns creating and maintaining backlogs. In many cases the backlog is jointly created by product owners and scrum masters, which is a consequence of having a scrum master as a team member. Being a team member, the scrum master is able to give a 'team-like' insight into the product owner's requirements. This structure fits the current situation, but when an external

## Top issues

### 1. Perceived time overload

One of the common issues for all the teams is the perceived time overload of planning poker. Since with scrum a team becomes involved not only in execution, but also in planning, reviewing and decision-making, initially teams who have recently transferred to the scrum

scrum master would be used, then this should change to a joint backlog planning by product owners and teams with the product owner taking the leading role.

#### 4. Involvement of the stakeholders

It also takes time for the product owners to get used to the scrum framework as it requires them to be fully dedicated to the project. Although it is not the easiest thing to achieve when a product owner is extremely busy and is involved in several projects, having a dedicated product owner is crucial for the project's success. One of the challenges at Dialogues Incubator is also the continuous involvement of the Chief Product Owner and stakeholders in the review meetings, since their feedback is critical for the project teams.

#### Case 1. Investments Project

For the investments team, scrum brought more focus, clarity and transparency to the project, enabling all the members to understand what their counterparts were doing on a daily basis. As a result, the project and team were better organized and hence were better equipped to achieve deadlines, since they could spot impediments in a timely manner and deal with them. According to the product owner, scrum makes the existing issues more visible and gives the team an opportunity to discuss the impediments during the retrospective.

#### Case 2. Human Resources Project

According to the team, compared to the traditional project management approaches, scrum has enabled the team members to be focused on what is going on and to understand the purpose of the work. The main advantages of the scrum implementation include enhanced visibility, greater ability to monitor and adjust priorities, as well as deadlines and HR requirements. Thus, scrum streamlines the entire process. The scrum team's priority moves from being on time and in budget to delivering an output closer to the customer needs.

#### Case 3. Innovation Project

For the Innovation Project, implementing scrum has improved focus for the team and has enabled the team to improve stakeholder management. Every two weeks the stakeholders are updated about the state of project as well as current impediments. Due to scrum's iterative approach it has also

become easier to manage the deadlines.



### Top benefits

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#### 1. Transparency

Improved transparency is the top benefit of the scrum implementation so far. Breaking down tasks into small pieces understandable for all team members with the use of visual scrum tools makes the project and its goal very visible and clear. According to our recent

survey results, 15 out of 17 respondents think that transparency is better or much better than it was before.

## 2. Accountability

Accountability has greatly improved according to the majority of the respondents. In fact, only 1 respondent thought that accountability had decreased. As it is known in scrum there is much less space to “run and hide.”

## 3. Communication

Frequent meetings help to improve communication within the team and with external parties, among which the most important role belongs to the project stakeholders. As mentioned before, the stakeholder management system is often complex and the projects are highly dependent on them. The survey shows that despite the perceived time overload, communication is better according to 5 respondents out of 17 and much better according to another 5. The rest thinks that communication has remained the same.

## 4. Collaboration and Cooperation

Collaboration and cooperation within the projects has improved, with 10 respondents stating that scrum has made collaboration & cooperation better or much better and only 1 person saying it had gotten worse. That said, 6 respondents believe that collaboration and cooperation has remained the same.

## 5. Productivity and Team Morale

According to more than half of the survey participants, productivity is now better or

much better than before. Although the teams have not directly measured it, none have indicated that productivity has decreased.

## 6. Deadlines

Although there was no quantitative data collected to date, all the teams have reported that scrum helps them to better achieve deadlines. Since it makes the process extremely visible, any potential delays are known in an early stage, which helps when managing expectations.

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In addition, we started to use the scrum of scrums as a portfolio monitoring tool, which is analogous to the scrum of scrums weekly stand-up. Here, scrum masters or product owners of each project brief the others on what their team has done since the last stand-up, what it will do next and what the impediments are. Thus, scrum masters learn about other projects, their ongoing status and issues. Moreover, knowing about each other's problems has enabled teams to quickly help one another, matching their competences and availability to the other's needs without any task allocation by management. Scrum of scrums is held every Monday morning in an open place where besides scrum masters, team members and product owners everyone can join the meeting.

## Lessons learned

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Although Dialogues Incubator has used scrum for less than a year, there is already a solid

base of learnings that we have seen. Some of our key lessons learned are presented below:

1. **Organization and senior management commitment.** If you want scrum to succeed you may need to restructure your company to some extent and be willing to allow conflict at certain stages in the process with trust and commitment being the starting points. Please be aware, that buy-in and commitment of the senior management are crucial for success.
2. **Separation of roles.** Try to avoid dual roles like combining scrum master and team member or product owner and team member. Having an external scrum master brings a completely different and neutral perspective to the project.
3. **Good training.** Make sure that every team member has passed a good scrum training and understands basic terms and rules of scrum in the same way. Product owners needs to be additionally coached and prepared to adequately fulfill their roles.
4. **Multitasking.** Having multiple projects per employee impedes the process and lowers the results. To get the most out of scrum it is beneficial to have dedicated project members.
5. **Perceived time overload.** Many teams experience time overload when first

introduced to scrum. Try to move the entire non-work related burden of administration to a dedicated scrum master.

6. **Estimation.** Estimating the backlog items helps to keep track of the process and velocity of the team.
7. **Scrum is not universal.** And, finally, scrum is not for every individual, every project or every organization. Various factors need to be considered before implementing scrum.

## Where we are now: May 2011

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INVOLVE MANAGEMENT!  
AVOID MULTITASKING &  
DUAL ROLES!  
TRAIN & COACH!  
USE FULL STANDARD  
TOOLSET!

We are now in a transition process. After completing our first research since introducing scrum we are ready to improve our skills and eliminate existing impediments. The Incubator team as a whole sees the potential benefits of scrum and is determined to take further actions. The next steps

for Dialogues Incubator are the following:

1. **Training and coaching.** One of our first steps is further training and certification of scrum masters. This will bring more experience into the teams and is likely to help with the scrum roles restructuring. Eventually, our goal is to make scrum masters external to the projects and, naturally, to the teams.

2. **Daily stand-ups.** Another element to be implemented is the daily stand-up meetings. So far, only one team is doing stand-ups every day. For the other projects we are starting to introduce daily stand-ups as a regular ceremony – everyday at 08:45.
3. **Estimations and velocity measurement.** The estimation techniques should be (re)introduced in all projects. In particular, this relates to the poker planning technique. This will allow teams to better monitor their projects, manage release dates and have quantitative data on productivity which is important for measuring performance on both project- and corporate portfolio levels.

## Conclusion

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Implementing scrum is not an easy task, but is certainly worthwhile, given the results it can achieve. There is currently little empirical evidence of the use of scrum in management of business projects and particularly in innovation management. It needs to be further applied and explored in different business contexts in order to identify the best application areas and key success factors.

Dialogues Incubator is constantly adapting scrum to its environment and, in turn, adapting itself to the scrum framework. In this way we are always looking for the best scrum models that will satisfy our business requirements. In order to accumulate practical data and make our experience available to an

extended scrum community, we also plan to continue researching scrum for business within Dialogues Incubator teams. Research of another interesting initiative with scrum implementation in an ongoing working environment (the Dialogues House strategy & operational team) will also be published soon.

There are several limitations concerning the outcomes of this research which we would like to note. First, it should be noted that all three projects are currently practicing different “ScrumButs”, i.e. are using scrum elements not correctly or are not using some of them at all. This relates to the dual roles of the product owners and scrum masters, the absence of the regular stand-ups and the absence of the velocity measurements.

Another limitation of this research concerns the small number of the available cases and their participants and absence of adequate quantitative data. We have surveyed 17 persons in total, and therefore any inferences should be carefully examined before an extrapolation can be made. Cultural factors should also be taken into account; our teams consist exclusively of Dutch people and this could reflect certain cultural specifics such as low power distance and high level of individualism.

## About Dialogues Incubator

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Dialogues Incubator’s mission is to facilitate innovation and entrepreneurship in financial services by providing various services such as

corporate venturing, research & development, consulting and training.

For Dialogues Incubator scrum is now more than a simple project management framework – it has become a way of thinking. We started to scrum everything, even writing of this whitepaper was scrummed!

Dialogues Incubator is happy to share its experience with other scrum practitioners and

researchers. To stay updated on our progress with scrum visit our website, check our scrum related posts or make an appointment to discuss our experiences with scrum for business.

<sup>1</sup> Sutherland A.C., Sutherland J. & Hegarty C. (2009) Scrum in Church: Saving the World One Team at a Time, Agile, 329-332, 2009 Agile Conference

<sup>2</sup> Sutherland J. & Altman I. (2009) Take No Prisoners: How a Venture Capital Group Does Scrum. Agile, 350-355, 2009 Agile Conference