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The role of the product owner in scrum - comparison between theory and practices

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Abstract

New methods have emerged in last ^{*} decades for managing projects and develop software. The agile ideology was generally defined with the agile manifesto in 2001 and is widely used for software project management. Scrum is the most common method within agile and has become one of the most popular tools in software development in Iceland.

The objective of this research was to shed light on how Scrum is applied. The role of the product owner is studied; the knowledge and skills he is required to have, according to the Scrum method. This is compared to the perception of a number of actual project owners of their role. Information was gathered by semi structured interviews with a limited number of product owners that have had that role for at least 1 year.

The results show that the majority of the participants in the survey are using different project management methods. They apply the methods that best fit their own operations. The understanding of the role and responsibility of the product owner is quite different between organizations but seldom in perfect conformance with the official Scrum method. Cases were reported where there are two product owners for the same product. One is then responsible for business aspect but the other is responsible for technical aspects of the product. Scrum has a strong position in software development with its defined roles, collaboration emphasis, understanding, visibility, effective process and fast development.

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1. Introduction

The project management of software projects includes several theories and methods that have developed through the years. The methods are different in nature and application. Examples of such methods are traditional project management, as represented for instance in the Project Management Body of Knowledge PMBOK® (Project Management Institute, 2009) and in IPMA Competence Baseline (Kock, Pannenbäcker, Pérez-Polo, & Seabury, 2006). Also PRINCE2, developed the Central Computer and Telecommunications Agency (A Best Management Practice, n.d.). Last but not least the Agile ideology should be mentioned, but agile has mainly been applied in software development and in the development of information systems. Different tools, processes or ideas from more than one method are frequently applied in the management of projects. Sometimes one method is used as a baseline, supplemented by tools and techniques from other methods.

The project management of software projects can be difficult, as they are getting larger and more complicated. Software plays an important role in the daily lives of people. Software development is a growing industry in Iceland and its importance is increasing year by year. There is increased emphasis on that executives and business people have understanding of management methods that are applied in software development.

A number of Icelandic organisations have implemented Scrum in their operations. The scope of this paper is the use of the Scrum method and how Scrum has evolved in recent years. The focus is specifically put on the role of the Product Owner (PO) in Scrum. The main objective is to investigate the role and responsibility of product owners in software projects and answer the question:

"Is there a conformance between the understanding of product owners of their own role and responsibility, and the ideas put forward by the initiators of Scrum?"

2. Theory

Agile is a general concept used for different methods for software project management and - development. Agile can be thought of as a link between software development and business management (Viktor Steinarsson, 2008). Examples of methods that fall under agile are eXtreme Programming (XP), Scrum, Crystal Clear, Feature Driven Development (FDD), Lean Software Development, Dynamic System Development Methodology (DSDM) and Kanban. New research shows that organisations that use agile most often apply Scrum, or in 52% of cases (PricewaterhouseCooper, 2012; Versionone, 2011).

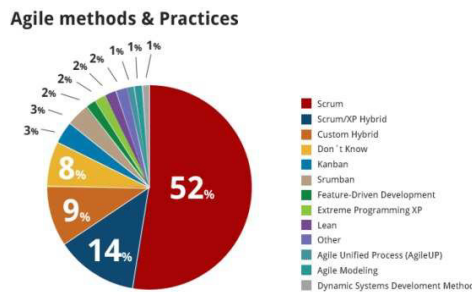


Fig. 1 - Assessing the use of agile methods (PricewaterhouseCooper, 2012; Versionone, 2011).

The origins of agile stem from the Japanese car industry. Toyota and Honda had implemented lean management in their production processes and developed just-in-time (JIT) processes. Scrum was heavily influenced by JIT. The focus of Scrum is however different from JIT as the main emphasis is put on maximum utilisation of manpower. Everything that does not deliver value to the customer is omitted, the focus is on the outcome rather than the process.

Even though the agile methods all have their own individual approaches, they all share certain vision and core values as represented in the agile manifesto for software development (Beck et al., 2001). The agile manifesto emphasize collaboration among the team and stakeholders of the project (Judy & Krummins-Beens, 2008). Agile methods are considered to have a great impact on project success, but in spite of the increased popularity of agile,

the ratio of unsuccessful software projects is still high. The Chaos report from 2011 shows that 37% of software projects are succeeded in that they were delivered on time, within budget, with all required features and functions (Curtis, 2012). This is the highest ratio that has been measured from the starting of the Chaos report in 1994. Scott W. Ambler (Ambler, 2010) points out that in agile methods, the measures of project success are not limited to conventional parameters such as time, cost and quality. The most important measure is the functionality of the product, this measure is followed by other factors such as quality, time/schedule and financial aspects. The size of teams is also important for success. Ambler (Ambler, 2010) defined three categories for team sizes, small, medium and large (more than 25 people). He presented evidence that the smaller the teams, the more likely it is that the project will be successful.

Scrum

The Scrum method is said to have been defined in year 1986 when Takeuchi and Nonaka studied methods to develop new products. They said that flexibility is one of the most important factors in the development process, and the most important aspect is that the development team work is one unit towards a common goal (Takeuchi & Nonaka, 1986). The Scrum method as it is known today was described in year 1995 by Ken Schwaber and Jeff Sutherland. The method is simple and easy to understand and follow through. Scrum emphasises product control and an important part Scrum is to divide people into teams and empower them to carry the tasks they are working on (Takeuchi & Nonaka, 1986). The Scrum method is graphically demonstrated in figure 2.

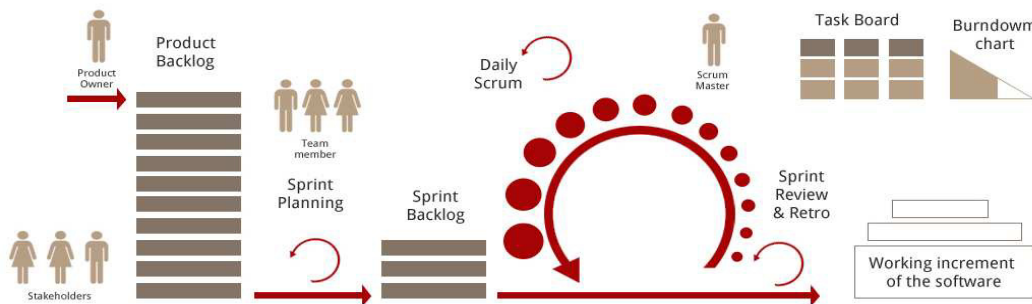


Fig. 2 - The Scrum framework.

One of the characteristics of Scrum is that a Scrum team is self-controlled, people are encouraged to come forward with new ideas, this leads to transparency in decision-making and more freedom in the development process. The method is followed through by continued review through the whole development time, with the objective of adjusting the products and the work procedures to the ever changing environment (Sutherland & Schwaber, 2012). Knowledge is considered to be based on experience and all decisions are supposed to be based on knowledge. These basic ideas are considered quite suitable for complex software projects, as it is often impossible to foresee the outcome and complexity of such projects in their starting phase. Scrum is in many ways different from traditional project management approaches, where people try to have as much as possible documented in the beginning, and keep changes to plans to a minimum.

Scrum roles

A Scrum team consists of 3 roles, Product Owner (PO), Team Member and Scrum Master (SM). All members of a scrum team have different roles in the management and supervision of projects. All roles are necessary for the Scrum process to work efficiently. Scrum teams are self controlling and they typically consist of people with various professional backgrounds. Each and every team has all the knowledge that is considered to be necessary to execute the project, and therefore the team doesn't need to rely on other input for the work (Schwaber, 2004).

The responsibility of the SM is to make sure that the Scrum process is applied, and to be a servant leader of the team. He supervises the communication within the team and make sure that any hindrances are removed for the team to reach the objectives of a sprint or of the project in whole. In addition he solves disagreements, within the team or between the team and the PO. He paves the way for the project within the organisation by ensuring that the

rules and strategy of the methods are followed. He also makes sure that any politics within the organizations can reduce the productivity of the team. He assists the team to focus on the project objectives (Schwaber & Beedle, 2001). The roles of the SM and PO complement perfectly each other, the PO is responsible for „what“ to do, the SM is responsible for „how“ to do it. The role of the PO has changed from someone who could be blamed if the project failed, to someone who is responsible for the success or failure of the project (Judy & Krummins-Beens, 2008).

The role and responsibility of the PO, according to Scrum

The PO role is one of the most important roles in Scrum and often the most difficult one. He is responsible for the financing of the project during its life-cycle and he puts forwards the requirements and objectives of the project. His most important role is to maximise the output of the team, and the output for each task, based on Return on Investment (ROI). Milanov and Njegus (2012) define a simple formula that is frequently used to calculate the feasibility in Scrum. They claim that this calculation is very important for the team and for the managers in particular. The formula is $ROI = \text{Business value}/\text{Effort}$.

Business value and effort reflects the assessment of the tasks on the product backlog. The ROI of projects depends on many variables, such as quality of the product, the features, the services and the content of the product. Also market assessment, good market strategy, contracts, marketing etc. The PO therefore has a clear role regarding profit or loss from a direct product. On the other hand, if the product is a software to be used within the organisation, ROI is less important and the PO takes the client role. He is nevertheless supposed to maximise the value of the tasks at hand during each phase, maximising the value for the lowest number of working hours (Deemer, Benefield, Vodde, & Larman, 2012).

The PO must find a balance between the different properties of the product, what can be sold, what can be done and what is his own passion. A PO is a single person, not a group of people. He is the representative of all stakeholders for the project. Roman Pichler (2010) in his book *Agile Product Management with Scrum* states that it is tempting to compare the role of the PO to traditional roles, such as product manager or project manager. The PO role according to scrum is however new. It reflects power and responsibility of many different roles, including clients or stakeholders, product manager and project manager.

The PO is responsible for maintaining and prioritising the so-called *product backlog* (PB) for the product being developed. The PB must be under constant care and scrutiny, and it is the backbone in the activities of the PO in his collaboration with the SM, the team and the stakeholders. Together, they define the function of product (Pichler, 2010). Research has shown the importance of stakeholders and clients to commit to participating in the project. By cooperating closely, a number of problems can be avoided, for example by collecting information and maintaining a clear and prioritised lists of demands on the PB (Hoda, Noble, & Marshall, 2011). The PB is changed and developed during the project life cycle, new requirements emerge and other requirements are dropped. The changes of the PB reflect the changes of business requirements for the project. The life cycle of the PB corresponds to the life cycle of the project (Viktor Steinarsson, 2008). Managing the product backlog also entails the following (Sutherland & Schwaber, 2012):

- Clearly expressing PB items.
- Ordering the items in the PB to best achieve goals and missions.
- Ensuring the value of the work the Development Team performs.
- Ensuring that the PB is visible, transparent, and clear to all, and shows what the Scrum Team will work on next.
- Ensuring the Development Team understands items in the PB to the level needed.

The PO works very closely with the team without having any authority over it. He is responsible for the project success, he provides guidance and support to everyone involved with the development, and he makes sure that difficult decisions are made when necessary. He must have communication skills and be good in negotiations. He must have enough authority and support from the executive management to lead the development and to coordinate the wishes of the stakeholders. He must be qualified and always accessible for the team for it to be able to deliver a good project. Being a product owner is usually a full-time job (Pichler, 2010).

The most important task of the product owner is to make a decision on what should not be prioritised, and take the consequences of that decision. It is imperative that he rejects new requirements that are not necessary, in collaboration with the stakeholders and the team, instead of adding new unnecessary requirements to the PB. Drury, Conboy and Power (2012) looked at the Scrum iterative process and the main reasons for decisions not to

be made in agile software development. They concluded that there are 6 main reasons. A reluctance to the commitment of decisions, conflicting priorities, unstable availability of resources and lack of planning ownership and empowerment. The consequence is a lack of long-term strategy for decisions, growing problem backlogs because of ill defined requirements from previous sprints and lack of team commitment. To make sure that the PO is as successful as possible it is imperative that the organisation respects his decisions. They are reflected in the content and priorities he makes on the product backlog (Schwaber & Sutherland, 1991). His most important role is thus to manage the expectations of different stakeholders.

Ken Schwaber (Schwaber, 2004) talks about the importance of the product manager to define the vision for the product. This vision reflects the motive for the project and the desired end state. The vision should be concise description of the core function of the product, common goals that the project should fulfil, but it still should be general enough not to hinder creativity. Pichler (2010) points out that the vision describes who are the clients, what they need and how to meet their requirements. The role of the PO is to make sure that the vision for a product is maintained through the process. This is done by writing requirements, maintaining close cooperation with the team, agree and reject the results of sprints. Furthermore, to lead the way for the project by following up and projecting its progress.

3. Method

Data was collected through interviews with 5 active product owners that work according to Scrum within 5 different organisations. The organisations are a part of an informal Icelandic association called "The agile network" (Agile netið, 2013). The objective of the interviews was to find out how the participants define the role and responsibility in the management of projects, where Scrum is applied.

Emphasis was placed on an understanding of people's experience of their social reality and their different perspectives. Each individual was thus examined from his past situation and present position. Conclusions were finally drawn from the data collected. The research design was flexible (Taylor and Bogdan, 1998). The researcher documented an objective assessment of the interpretations by the individuals of their own of reality. The generalisation of outcomes from the study is limited to the group that was surveyed. The legitimacy of the study is however high, since the data was gathered directly from participants (Taylor and Bogdan, 1998).

A semi-open questionnaire was applied for the interviews. In addition, background questions were used, e.g. regarding the age, education and experience of respondents.

Choice of participants

To achieve the objectives of the study it was decided to select only companies that were part of the Agile Network. The network consists of organisations that work according to the following statement: "We, members of the Agile network, support the reform of the management and development of Icelandic organisations. We believe that Agile and Lean methods are the best known methods today and their application can lead to excellent performance and productivity in the Icelandic society" (Agile Network, 2013). Participants were selected based on informal recommendations but certain pre-conditions were defined, the most important one that they should have been working as product owners for a minimum of one year. There were five participants, four men and one woman. All of the participants had education at a master level, their experience as product owners ranging from one to six years. Three of them had completed a Certified Scrum Product Owner course.

Execution of interviews

Interviews were conducted in the workplace of each participant, to provide greater security, and a more relaxed atmosphere (Taylor & Bogdan, 1998). The timing of interviews was determined in consultation with each participant. The same list of questions was used in all interviews, for the answers to be compared. The interviews were conducted in March 2013 and each interview took approximately 45 minutes. The interviews were taped and then documented. At the beginning of the interview the participant was informed that the researcher would keep strict confidentiality and anonymity in the treatment of information.

4. Results

The role of the product owner

All the participants work full time as product owners. This time is relatively divided between different tasks as shown in the following figure.

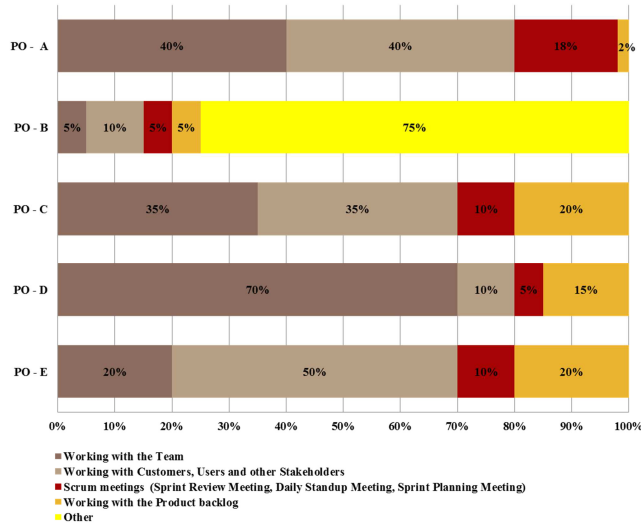


Fig. 3. Tasks of the product owners, and their relative weight in the total time.

It is quite different how much of the time a PO uses for with the team. The lowest ratio is 5%, three participants are using between 20 and 40% of the time with the team but the highest ratio was 70% for participant D. The maintenance and management of the product backlog is usually in the hands of the PO and the frequency of reviewing the product backlog is different from being on a daily basis to a monthly basis. Two of the participants said that the SM or the project manager manage their product backlog. The proportion of time for managing the product backlog is lowest for participant A or 2% but highest or 20% for participants C and E. Direct work with the stakeholders is lowest for participants B and D or 10% of total time. The ratio is highest or 50% for participant E. All participants use 5-10% of their time for Scrum meetings. Participant C uses 25% of his time for work with the team, work with stakeholders, scrum meetings, maintenance and management of the product backlog, but 75% for other work.

All participants agreed that their role is to combine the understanding between business and technical aspects of the product. They are the owners of a product, they prioritize and define the requirements to be implemented. Definition and prioritization is done in cooperation with all stakeholders involved in the project.

The PO is responsible for plans and ensures that all parties are informed of project status at any given time, in addition to managing the expectations with respect to all stakeholders. Furthermore, inherent in the role of PO is to look ahead and define the product vision. The participants mentioned other roles and responsibilities that they have. Three participants used the following phrasing on this subject:

- „is to sync, so that everything fits and works - so that it all passes the time, projections and plan. I am mostly doing planning, making sure that the right resource is available at any time“
- „.... is to ensure that the infrastructure and architecture is according to our technical strategy, this is my core obligation“.
- „....to chose and relect - chose what is needed and reject all that is not needed, e.g. just nice to have“.

Product owners were also asked how they manage the PB and how frequently it is reviewed. Three of the five participants agreed that their role would be to manage the PB, but two participants said that this was the task of the SM or project manager. Examples of remarks to this question are:

- „....I decide wht is in the backlog and what isn't. The project manager maintains the backlog, makes hardcopies etc “
- „....The PO was supposed to do this but that didn't work out. ... It is the role of the SM to work with the product backlog, to take care of the team and schedule meetings“.

Review of the PB is very different between the participants. Most people seem to look at the backlog weekly, daily or even many times a day, as there may be significant changes on the backlog. For one participant this is done only once per month, when a product is put into operation.

Characteristics of the PO

Most participants indicated that expectations management was one of the most important duties of the PO. Examples of vital characteristics of the PO to be able to fulfill their role are planning and communication skills. This was considered necessary to create a common understanding between the business manager and the IT department. A PO must be an extrovert and it should be easy for him to express himself orally and in writing. He needs to be solution oriented and be able to create and present a wholistic view. One of the respondents said:

- „...you need to look at all the trees in the forest, not only the single tree that is bothering you“.

The PO needs to know the processes and business practices, have good analytical skills and the ability to disseminate information. In addition, the following remarks were made:

- „...this is quite a demanding job, not for everyone“.
- „...you need very capable people, that's just how it is, we have very high expectations.“
- „...the job of the PO is "make or brake" for if the project will be a success or not“.
- „...a powerful PO and analyst are what matters“.

PO – and understanding of software development

Replies by the participants were divided in two distinct views on the importance for the PO of having knowledge in software development. Participant A considered it particularly important. If such knowledge exists, it would be easier to make the right decisions regarding product and/or the progress of the project. His reasoning was:

- „It is always important in our activities. ... It has cost us a lot when a PO ... with limited technical knowledge... had the power to take major decisions regarding the purchase of the software based on faulty assumptions“.

In addition, if the knowledge was not there, it would require quite extensive training of the PO to reach the level when everyone could speak the same language as the programmers. It would thus take a long time to develop a shared understanding of the project. Two respondents felt, however, important that the PO would have a great knowledge of the business aspects of the product. He would have to understand the product and the business processes in question, in order to identify and select the requirements that the team should be implementing at any time. It would then be for the team to identify technical solutions and support him.

- „...a good PO will then acquire a certain technical understanding over time, we know this from our experience“.

Total vision and objectives regarding the product

All participants agreed that the PO was the person leading the total vision for the product and leading the project that would make this overall vision a reality. It was noted that in some Scrum teams there were two product owners, one of which was responsible for the business aspects of the product and the other would be responsible for the technical aspect of the product. All decisions were made in consultation with stakeholders, represented in a "change council" of the organisation. This would ensure that the information and requirements of these groups would be introduced.

For Participant A, the objectives are defined by a change council. The project plan for first quarter of 2014 has been concluded. Nothing can offset this plan except for what participant A calls:

- „... inevitable demands from certain parties, such as fiscal or legislative changes“.

Participant D said that the teams do not set goals. For participant C, this was quite different between teams. He furthermore said that there has been discussion about how better coordination of how goals are set.

- „... we have started a professional work group of product owners to coordinate how goals are defined in projects within our company and enhance learning from our planning, what goes well and what goes wrong“.

Unrestricted authority to make decisions in projects

All participants said that it is either fairly important or very important that the PO has unrestricted authority to make decisions in the project. The role of product owner is to make decisions and this is often essential to be able

to finish the project. All assumptions on how to conclude a project are not available in its starting phase. To ensure the progress of the project, the PO must have authority to say *yes or no* when required, instead of waiting for the decisions of others. One participant said:

- „...I think the projects do better and their progress is more continuous when the PO has unrestricted authority and is trusted“.

The participants also emphasised cooperation regarding decisions when needed, and one participant argued in the following way:

- „... he also needs to have a sense of when he calls the right people to the table - who have the power in other places. But it can often be complicated to find the balance, when this is necessary“.

On the other hand, participant D pointed out that collaboration with the SM is very important when making decisions, since the SM often has better technical premises to assess what to do. He also pointed out that in his organisation the product owners frequently needed to align their work because:

- „...the system is integrated with a number of other systems. The PO is not in a position to make a decision without consulting with other product owners. Something that may seem quite small may in fact be huge“.

Collaboration, motivation and access of the team to the PO

Participants were unanimous on the importance of unrestricted access of the team to the PO. It is necessary to clarify any vague requirements, answer any questions that may arise regarding unmade decisions in the project. It may then be possible to immediately stop the team from losing track in the development. Participant A pointed out that he frequently observes in his work:

- „...every day I can see that a computer scientist does not have the same vision as the business“.

This point of view is also reflected in the remarks made by participant E:

- „...main reasons for the importance of the PO to be always available for the team, is due to the vague demands, questions and unexercised decisions, these are among the greatest obstacles in software projects“.
- „...I sit with the team, it is very important, the team delivers much more ... I get to solve a lot of daily problems. In addition, I do not know of anyone who handles the business side of the product in such a disciplined way that he can define the requirements so that they are ready“.

Motivation by the PO for the team is a very important factor and all participants agreed on this. Participant A mentioned one possible reason for this:

- „In the IT sector, these are princes and princesses - highly sought after people - and one really can't afford to have them unhappy and risk losing them. They need to constantly get challenging projects and the PO must constantly encourage them and make sure that they are interested and content“.

Participant C commented in a similar way, he pointed out that everyone wanted to get compliments. Motivation is very important. To give off positive vibes has a major impact on social cohesion and team spirit and this leads to better and more work by the team. The PO must influence the team with his interest and motivation. Everyone should get compliments and feel that they are delivering something important and making contributions that matters. If the PO is not interested in the product, the team will not be interested or find the purpose of the project.

Collaboration between the SM and PO is fairly or very important in the opinion of the participants. However, this also applies to all other members of team. One participant talked about the reasons for the importance of good collaboration between SM and PO:

- „... if people are not talking and do not have the same expectations and understanding of the challenges. otherwise, you can come with an idea to create a bike but end by building a plane. It is simply of the utmost importance that people are working closely together and speak the same language“.

The benefits of Scrum

All participants agreed that the Scrum method, as they had adopted it, had been a success. The method leads to better performance and working in sprints is very comfortable. With Scrum, there is better access to information on the status and progress of projects. The project objectives are more focused. The Prioritization of tasks is clearer for software developers. The visibility of projects is higher. This is good for the team because people are different, as one participant pointed out:

- „You just don't explain day after day that there has been no progress and you haven't concluded the task for the PO. You only do this twice“.

The method reduces disagreements, disagreements immediately are brought to the surface and as a consequence, no tension is built up in the team. The method also puts pressure on managers, because they get it straight in the face if there are any unrealistic demands that the team can not meet. Estimates are more accurate, because the scope for each sprint is limited and more detailed plans are possible, as one participant said:

- „Instead of working with a plan, e.g. on the work required to build a billing system, and you don't have any ideas on the requirements“.

Roles are clear. Development time will be shorter with Scrum because problems arise immediately and shorter time passes until a software developer discovers whether he is on the right track or is making a mistake.

- „...this is very important in modern software development where everything has to do with time and money.“

It was clear in the interviews that most of the companies are combining different project management methods for their software projects, and not only using Scrum. The main reason was that "pure" Scrum suited only for the development of a new product, for example in the gaming industry.

5. Discussion and conclusion

It should be pointed out that due to the small number of participants, it is difficult to generalise based on the interviewees. The results however give good indications for the understanding of the role and responsibility of product owners in Scrum projects, and the procedures used by the teams associated with this research.

The role of the product owner is a very difficult role. The reason is that success depends on so many factors; organizational culture, type of project, management approach, and last but not least, the interaction within the team that is developing the product. The way Scrum is applied in reality is very different between organizations and even within departments of the same organisation, between projects and different Scrum teams. It is furthermore often very different from the ideology of the PO role, according to the Scrum methodology as the results of this study show, e.g. when more than one PO is found for the same project. A PO is the one person, not a committee. He is the representative of all stakeholders of the project (Sutherland & Schwabe, 2011).

It has also been shown that there is no standard for how much of their time product owners use for the maintenance and management of the product backlog, this varies between 2% and 20%. According to Scrum, the product backlog requires constant attention and care of the PO - in collaboration with his team. The product backlog contains the business requirements for the project and is always changing (Pichler, 2010). Two participants furthermore stated that it was the role of the Scrum master or project manager to maintain the product backlog, but this also contradicts the Scrum method (Sutherland and Schwabe, 2013). It is interesting to see the relative division of the time the product owners use for different tasks. The participants agreed on the importance of PO would be always available for team. The actual proportion of their total working time used with the team is however very different, ranging between 5% and 70%. One reason given up for the lowest proportion was that as soon as the product was defined, no more work with the team would be required. This contradicts the philosophy that knowledge is based on experience and that all decisions should be based on knowledge. This observation is also particularly interesting in view of the fact that according to the Scrum method, the PO must both work very closely with the team and be always accessible for the team, as he is in the end responsible for project success.

The participants agree with Pichler (2010) about the role of PO being to provide the team with guidance and assistance, as required at every time. One of the most important tasks of the PO is decide what to implement and what not. This ensures that the team is not wasting its time on things that are not necessary. It is also important that he has unrestricted authority to make decisions, when basic questions arise during the product development. Otherwise, there is a danger of misunderstanding regarding the requirements, unanswered questions and that the result will not meet the expectations of stakeholders or the PO.

Scrum is here to stay, but it is unclear how its use will evolve in the coming years. The organisations related to this research all agreed that the implementation of Scrum had lead to increased project success. The main advantages of the method are clear division of roles and how easy it is to respond quickly to changes. The method helps with scoping by offering to view parts of the project as limited units within the larger project. This means that it is possible to work on a specific function of the system for a limited period of time. By dividing the project to smaller units, the client can easily keep track of the functionality that has been installed in the system at any

time. Defects are discovered earlier in the process, and can thus be dealt with much sooner than before, when the project was delivered finished in the end. In addition, this reduces the risk that the customer does not receive what he has actually paid for.

Most of the participants had in common to be mixing their own methods with the original Scrum method, in one way or another. There are many reasons for this. There are indications that large organizations have not been able to adapt their operations to the overall philosophy of Scrum. Some of the participants were not only doing new product development, but also maintenance and additions to older systems. They stated that Scrum was less suited for such activities. It should be pointed out that the literature on Scrum states that it is not suitable to take part of the process, and yet claiming to be using Scrum. The method is simple and there is not much left of it if one tool is removed. An organisation can only claim to be using Scrum if the Scrum method is applied in its entirety (Kniberg & Skar, 2009). The findings reveal that the ideas of the participants about their role and responsibilities as product owners, are consistent with the Scrum method. However, most of the participants are not applying Scrum exclusively. All participants agree that Scrum is here to stay and has led to increased project success for their organisations.

The results presented in this study are based on interviews with five active product owners who apply parts of the Scrum method for managing their projects. Whether these ideas reflect the prevailing ideas about the PO role cannot be answered without further research. This study is further limited in scope to the understanding of the role and responsibility of product owners and further study might include looking at perspectives of other players in the Scrum method, e.g. how the team feels that the PO is performing his role.

References

- A Best Management Practice. (n.d.). Project Management (PRINCE2®). Retrieved April 28, 2013, from <http://www.best-management-practice.com/Project-Management-PRINCE2/?ClickID=004804>
- Agile netið. (2013). Agilenetið, markmið og tilgangur. Retrieved October 3, 2013, from <http://www.agilenetid.is/um-agile-netid/>
- Ambler, S. W. (2010). 2010 IT Project Success Rates. Ambysoft. Retrieved March 28, 2013, from <http://www.ambysoft.com/surveys/agileSuccess2010.html#Results>
- Beck, K., Beedle, M., van Bennekum, A., Cockburn, A., Cunningham, W., Fowler, M., ... Martin, R. C. (2001). Manifesto for Agile Software Development. Agilemanifesto. Retrieved November 3, 2012, from <http://agilemanifesto.org/>
- Curtis, J. (2012). The Importance of a great project Manager. Retrieved from <http://quotient.net/blog/2012/6/25/the-importance-of-a-great-project-manager/>
- Deemer, P., Benefield, G., Vodde, B. og Larman, C. (2012). The Scrum Primer. Mendham, NJ: Goodagile. Retrieved November 14, 2013, from <http://www.goodagile.com/scrumprimer/scrumprimer20.pdf>
- Hoda, R., Noble, J., & Marshall, S. (2011). The impact of inadequate customer collaboration on self-organizing Agile teams. *Information and Software Technology*, 53(5), 521–534. doi:10.1016/j.infsof.2010.10.009
- Judy, K. H., & Krummins-Beens, I. (2008). Great Scrums Need Great Product Owners: Unbounded Collaboration and Collective Product Ownership. Retrieved from <http://origin-www.computer.org/csdl/proceedings/hicss/2008/3075/00/30750462.pdf>
- Kniberg, H., & Skarin, M. (2009). Kanban and Scrum making the most of both (Enterprise Software Development Community.).
- Kock, H., Pannenbäcker, G., Pérez-Polo, F., & Seabury, C. (2006). IPMA Competence Baseline (3.0 ed.). Hollandi: International Project Management Association.
- Pichler, R. (2010). Agile Product Management with Scrum: Creating Products that Customers Love (Addison-Wesley Signature Series. Upper Saddle River, NJ: Addison-Wesley.
- PricewaterhouseCooper. (2012). Insights and Trends: Current Portfolio, Programme, and Project Management Practices. New York, NY: PricewaterhouseCooper. Retrieved from http://www.pwc.com/en_US/us/public-sector/assets/pwc-global-project-management-report-2012.pdf
- Project Management Institute. (2009). A Guide to the Project Management Body of Knowledge: PMBOK Guide (4th ed.). Newtown Square, PA: Project Management Institute.
- Schwaber, K. (2004). Agile Project Management with Scrum. Upper Saddle River, NJ: Prentice Hall.
- Schwaber, K., & Beedle, M. (2001). Agile Software Development with SCRUM (1st ed.). Prentice Hall.
- Schwaber, K., & Sutherland, J. (1991). The Scrum Guide The Definitive Guide to Scrum: The Rules of the Game (1991st–2013th ed.). Scrum.org. Retrieved from http://www.scrum.org/Portals/0/Documents/Scrum%20Guides/Scrum_Guide.pdf#zoom=100
- Sutherland, J., & Schwaber, K. (2011). The Scrum Guide The Definitive Guide to Scrum: Rules of the Game. Scrum. Retrieved from http://www.scrum.org/Portals/0/Documents/Scrum%20Guides/Scrum_Guide.pdf
- Sutherland, J., & Schwaber, K. (2012). The Scrum Papers: Nut, Bolts, and Origins of an Agile Framework. Cambridge, MA: Scrum. Retrieved from <http://jeffsutherland.com/ScrumPapers.pdf>
- Takeuchi, H., & Nonaka, I. (1986). The new new product development game. *Harvard Business Review*, 64(1), 137–146.
- Versionone. (2011). Stato of Agile Development 2011. Versionone. Retrieved from http://www.versionone.com/pdf/2011_State_of_Agile_Development_Survey_Results.pdf

Viktor Steinarsson. (2008). Jekyll og Hyde ? Vangaveltur um hlutverk og ábyrgð ScrumMasters og verkefnastjóra í hugbúnaðarverkefnum (óbirt meistararitgerð). Háskóli Íslands, Verkfræðideild, Reykjavík.