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**AGILE PROJECT MANAGEMENT IN THE PROCESS OF DATA
COLLECTION**

Working Paper

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I. Introduction

Within an organization with a centralized data collection, employees experience some periods that are more intense than others. A central data collection unit handles many surveys, and many of them are collected in the same time period. Working effectively and prioritize among tasks is hence not always obvious. Smoothing the workload over time by allocating resources more effectively is therefore desirable. A process oriented structure enables a possibility to in a particular moment allocate resources more effectively in the data collection process. A requirement to get to this point is a working method that encourages this type of flexibility.

The Agile working method extends from the Lean theory of production and empowering employees to plan the working process within the agile team, with the purpose to increase productivity and deliver the greatest value to the organization¹. This method is well proven in the field of IT.² However, integrating this in a technology driven data collection process could lead to gains extending from the spectrum of quality to a better allocation of resources in the production. A better allocation of resources is a desired result when implementing the Agile working method, and leads to a leaner and more efficient production process.

Statistics Sweden started the agile management project for the data collection of the economic surveys in the public sector in the autumn of 2012. By merging similar surveys and their management teams, and by using the highly interactive communication characterized by the agile way of work, Statistics Sweden hope to be able to optimize the allocation of resources in the process of data collection, hence attain a more lean data collection process described above together with an increase in job satisfaction.

The purpose with this paper is to examine whether the agile working method could improve the working environment by using resources more effectively in the process of data collection.

After the introduction, the project will be presented in a more detailed way. After this part, I will present the result of the evaluation that the department of data collection carried out in June of 2013. However, I

¹ Agile methodology, <http://agilemethodology.org/>, accessed 2013-05-05, 15:16.

² Agile alliance, <http://www.agilealliance.org/the-alliance/what-is-agile/>, accessed 2013-05-05, 15:23.

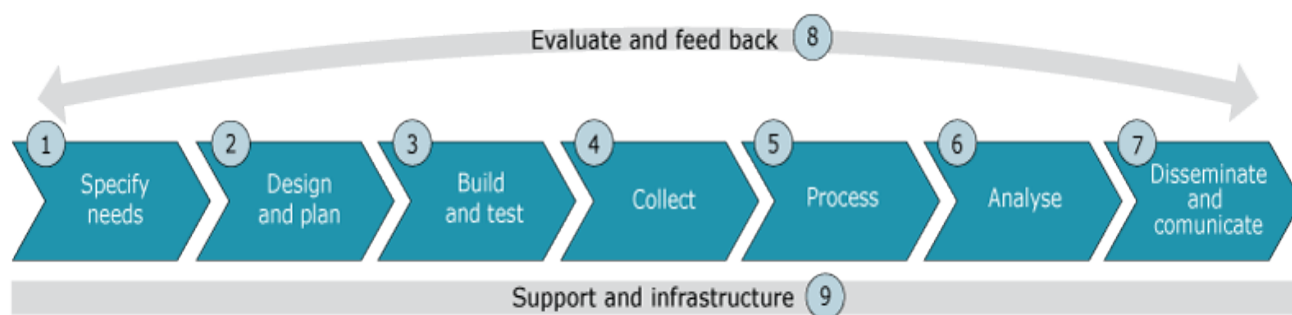
will refer to this evaluation in the other sections of this paper as well. Thoughts from different evaluation meetings will be included as well. This part will be followed by a part of discussion of the results.

II. Agile project management in the context of economic surveys

The collection of the economic surveys towards the public sector has previous years suffered from an uneven workload and a low work satisfaction. In the autumn of 2012, a project with purpose to improve the work environment for the economic surveys was initiated. The project started with several sessions where the different surveys were presented and discussed. The aim of these sessions was to broaden the knowledge of the surveys that the group would work with. The team existed of eight people with different experience and background of whom five had worked with these surveys before. Three of the members had no previous experience.

A. Agile project management and Statistics Sweden's organizational structure

Statistics Sweden is working with a process oriented view of the statistic production process (see figure below) and strive after standardized methods, tools and procedures. Data collections as well as IT are all centralised at Statistics Sweden. The output is organized within its different fields.



Statistics Sweden works after a particular management model that specifies *how* statistical production and related activities are managed. There are different roles defined in a management team. Among these roles, we find the *data collection manager* (IA). The IA is a person responsible for the operative coordination for the whole data collection process regarding surveys of a specific collection area. The public sector survey unit has one IA within the area of economic surveys. In addition, there are many different roles for particular surveys.

As a result of these formal roles, this management model could lead to hierarchic management teams and a focus on specific surveys rather than the whole process. To avoid this, one way could be to merge management teams and attain positive synergies. As mentioned in the introduction, this requires a working method that enables this type of flexibility.

Within the Agile management model (scrum), there is only one given role, and this is the *Scrum Master* (SM). This method requires empowered, responsible and driven team members. By having clear common goals, the ownership issue should be carried by the whole team, rather than by one specific member.

The Agile way of work is characterized by intense and visual communication. The team had short and intense meetings everyday (Scrum meetings, 15min) that aimed to get a good view over the present situation. During these meetings, the team prioritized among activities that were specified on a board with post-it notes – each activity had one note. In addition, the team had longer meetings in the end of a *sprint period* with purpose to evaluate the last two weeks of work, and one hour meetings in the beginning of the sprint period with purpose to improve the next sprint period.

The team worked with the surveys below.

- **Accounting Summary from Municipalities (AS-M).** The purpose of the AS-M is to provide accurate information on the local economy for both national and municipal levels. The survey is extensive; about 2500 variables are being collected. The survey is in Excel form consisting of fourteen tabs³, and has earlier been viewed as three parts, where three different persons reviewed one part each.

The explanation why the survey was viewed as three different parts could be derived from the historical background of this survey. Clients ordering the AS-M were earlier:

- *The National board of Health and Welfare*
- *The Swedish National Agency for Education*
- *The National Accounts*

Now, the National Accounts is the client ordering the whole Accounting Summary. This year, each member of the team reviewed the whole survey.

- **Accounting Summary from Counties (AS-C).** The purpose of the AS-C is that county provides reliable information on the county councils finances and local economy. The survey is in Excel form and consists of 11 tabs.⁴ The reviews of the survey have earlier consisted of a small team of two persons. The National Accounts is the client ordering this survey.
- **Accounting Summary from Municipal and Coordination Covenants (AS-MCC).** The survey aims to provide reliable information on municipal union's economy and is collected in web form.⁵ The reviews of the survey have earlier consisted of a small team of two persons. The National Accounts is the client ordering this survey.

The results from these surveys are used by the National Accounts and the GDP calculations.

B. Concrete goals of the project

The goals of the project were as follows:

- Activities are put in relation to resources demanded
- Increased visualization and transparency of the production process
- Increased work satisfaction
- Increased participatory and sense of responsibility among team members
- Broadening the competence within the team by spreading tasks,
- Spreading the workload within the team

³Statistics Sweden,
http://www.scb.se/Pages/DataCollectionProductInfo_259789.aspx?PageID=99313&SelectedTab=1
(SWEDISH), Accessed 2013-08-07, 11:23.

⁴ Statistics Sweden
http://www.scb.se/Pages/DataCollectionProductInfo_259789.aspx?PageID=275894&SelectedTab=1
(SWEDISH), Accessed 2013-08-07, 11:21.

⁵Statistics Sweden
http://www.scb.se/Pages/DataCollectionProductInfo_259789.aspx?PageID=99305&SelectedTab=1
(SWEDISH), Accessed 2013-08-07, 11:19.

III. Results

As mentioned, the Human Resources department did an extensive evaluation of the agile project in June 2013. The evaluation had a qualitative character and consisted of interviews with the members of the team as well as with our internal customers of the economic surveys, The National Accounts.

A. Concrete goal fulfilment

- Activities are put in relation to resources demanded

Among the persons that have been involved in the production of the surveys earlier, many experienced an increased control over the time schedule. The regular meetings made it possible for the team to get a good view over the individual team member's time schedule the next period of time. During the whole data collection the team had a goal driven approach, something that was appreciated by the group.

- Increased visualization and transparency

The visualization of the activities, using post-it notes, was viewed as positive by the whole group. The visualization increased the awareness of the whole production chain, and the common view is that no activities have been forgotten.

The discussions within the group have been open, and even though the views at times have differed, the group has been able to agree and proceed to actions.

- Increased work satisfaction

Most of the people in the group have experienced an increase in work satisfaction. This has also been seen by the customers at the National Accounts. The group experienced that the team had a decrease in workload and perceived that the group has been larger compared to earlier years. However, looking at the actual outcome, we see that the hours spent on the collection and reviewing of these surveys are in line with the hours spent in the year before. In addition, the number of people involved has been in line with previous years. One explanation of this perception could be that the regular meetings have enabled visualization for the whole team. This will be discussed further in the IV- part, A- section.

- Increased participatory and sense of responsibility among team members

All members of the group have experienced the team working approach as a good working method. However, a part of the group felt that the amount of responsibility among the team members differed. All of the members of the group have not been able to give 100 per cent all the time due to other tasks. This will be discussed further in the IV- part, C- section.

- Broadening the competence within the team by spreading tasks

Team members that have been working with these particular surveys have experienced an increase in knowledge regarding these surveys. The visualization that characterizes the working method has increased the awareness of how the different parts of the survey are linked.

- Spreading the workload within the team

The working method results in a clear observation of where resources are put in. In addition, the team members get a good view regularly over the situation in all of the surveys covered by the team's umbrella. Despite the fact that many of the team members have been working with other type of surveys during the period, no delays have been experienced.

B. Additional opinions from the interviews

- **Meetings**

The experiences from the daily meetings are very positive. This has been an opportunity to lift questions and problems experienced by the team members. It is of great importance that members that have a tight schedule can signal this. It is also of importance to continuously review the working method, and by understanding that an important part of the agile way of working is to continuously adapt to ways that works out best for the group.

- **Broadening the numbers of surveys reviewing**

All of the members of the team have experienced the new reviewing approach as positive. To review the whole AS-M rather than treating it as three different surveys has increased the understanding of how these parts are linked together. As mentioned earlier, the whole group has been on several sessions of the other surveys mentioned. However, three persons from the group chose to take a bigger role in the continuous reviewing of the other two surveys (AS-C and AS-MCC). As a result of this, team members experienced that these surveys received less attention on the teams meetings. All of the persons that chose to broaden and take more continuously responsibilities regarding these surveys have been pleased about this way of working. The three persons that chose to review all of the different surveys had no or little experience of these surveys. This will be discussed further in the IV- part, B- section.

- **Communication with the customer**

The experience regarding the communication between the customers – The National Accounts – and the data collection unit are both very positive. The team agreed to use two persons in the team as contacts for the customer. Again, it's important to underline the value of an open climate within the group. Everything that the contacts communicate with the customers - and vice versa - must be spread within the group.

The customers have experienced a decrease in topic related questions compared to previous years. More of the questions from respondents have been solved within the group compared to previous years, and less pressure has been put on The National Accounts.

As described earlier, the surveys are considered as complex in comparison to other surveys. The impression from The National Accounts is that the knowledge among the team members has been successfully spread. The customers have described that they would like to see the team intact for the next year.

C. Summary of the results from the qualitative interviews

Most of the group thinks that the agile method has been working well. The average assessment of the whole group was eight out of a ten degree scale. All of the team members think that it has been positive to work in a big group and felt an increase in job satisfaction compared to earlier years. The daily scrum meetings have been viewed as positive and resulted in an increase in the understanding of what to prioritize in the particular moment.

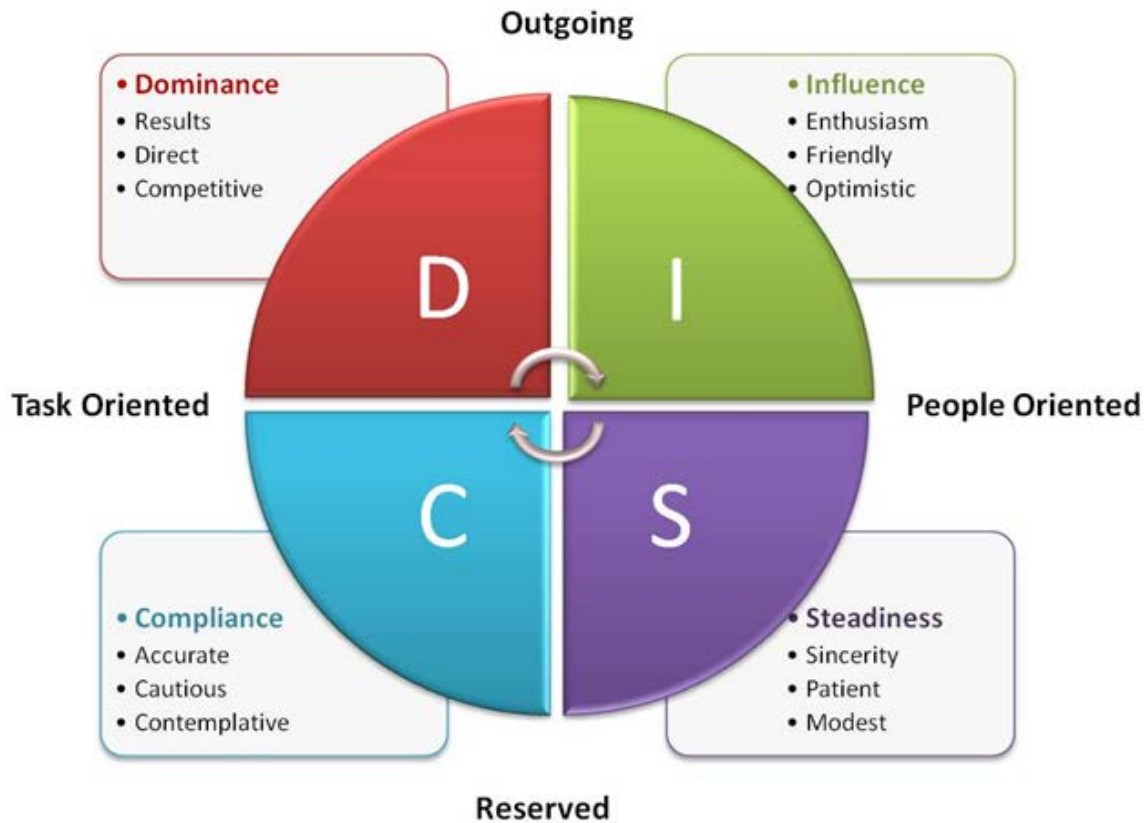
The visualization with one post- it notes for each activity has enabled the possibility to get a good view over the whole data collection process. Despite that all of the team members have been involved, an impression among team members have been that a larger responsibility has been worn by a smaller group within the group. This was not viewed as negative from the group. This issue will be discussed further under the part IV, C- section.

The entire group thinks that it has been positive to review one whole municipality survey, rather than parts of it.

The communications with The National Accounts – the customers – has been viewed as positive from both sides.

D. Personality profiling - DISC

The persons in the team have all been doing a personality test called **DISC** (*Dominance, Influence, Compliance and Steadiness*) to increase awareness of the individual's personality and improve the interaction with others. One of the opinions was the importance to know more about your own personality when interacting with other team members. It is also important to take those differences in personality and attitude into account when putting a team together. Please find an attached summary of the DISC profile below.

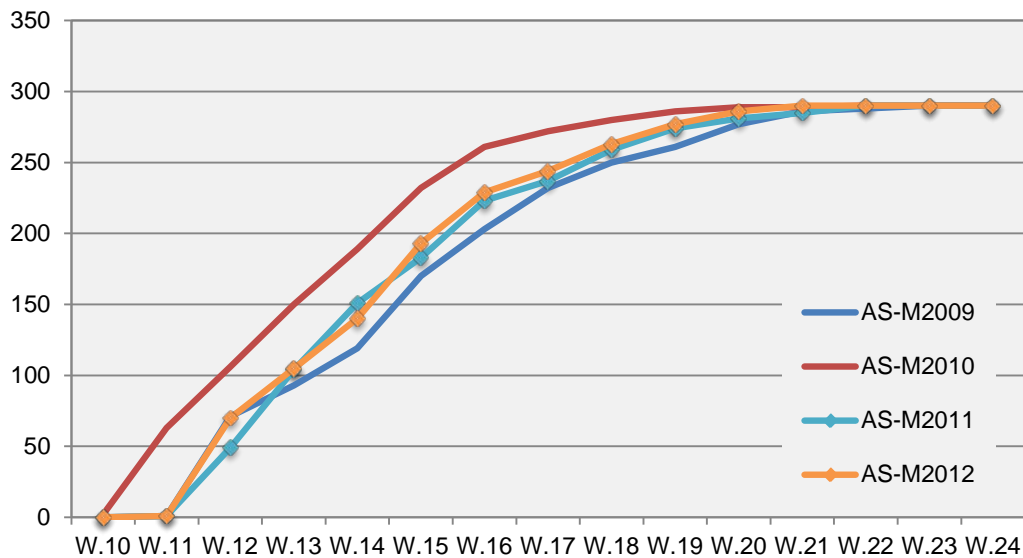


IV. Discussion

A. Perceived result versus actual outcome

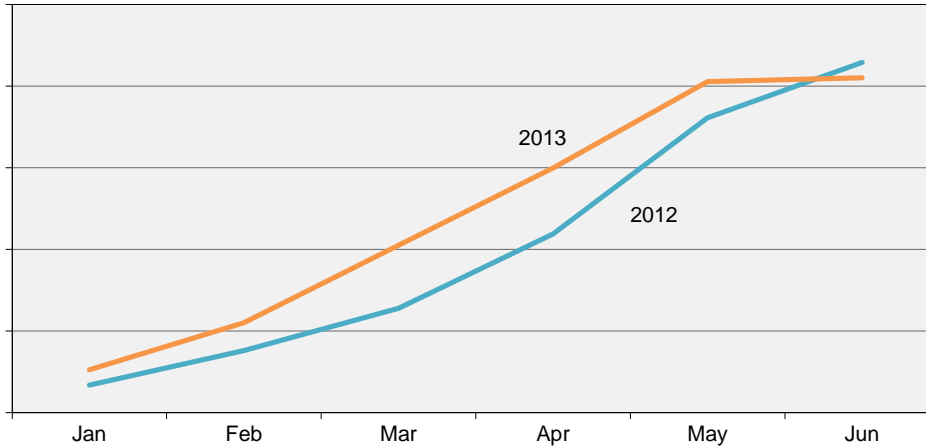
As described above, the result of this project was positive. One interesting part of these interviews is the difference between perceived results versus actual outcome. The group have felt that the team has been consisting of more people and been given more resources. However, the actual resources spent on these surveys were in line with previous years. One explanation of the perception that there had been more people involved could be the regular meetings that made the whole group more visible for each other. Just by meeting the whole team and by knowing that more persons were working with the same surveys had some positive effects.

The inflow of the Account summary for the municipalities the last years are illustrated by figure below. Note the similarities between AS-M2011 and AS-M2012 regarding the inflow, one conclusion of this figure is that the external factors were constant compared to earlier years.



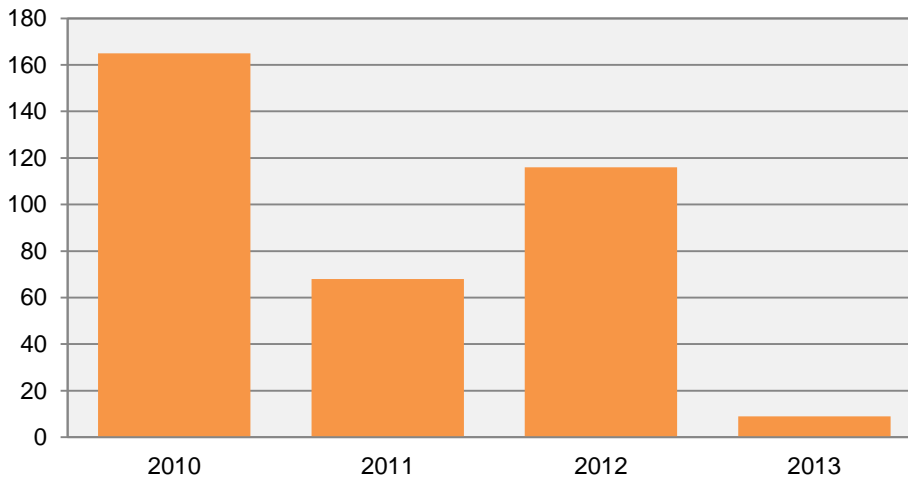
The resources spent on the whole data collection were in line with previous years. This is illustrated by the figure below. The team experienced a more evenly distributed use of resources compared to 2011. Despite an inflow in line with earlier year, the team managed to finish the whole collection of this survey many weeks earlier. In other words, the pattern of the work has changed. The visual planning has made it possible to execute certain activities in an earlier stage than previous years. The team use more hours in an earlier stage, hence shifting the whole process of production. The hours worked have also been more evenly distributed compared to 2012.

Accumulative economic resources



The amount of overtime the last years are illustrated by the figure below. The figure shows that the overtime has been eliminated. This could be one explanation of the increase in work satisfaction and one more indication of a leaner production.

Hours, overtime



B. Complexity and the widening in numbers of surveys

As earlier mentioned, these surveys are viewed as complex in comparison to other surveys at The Public Sector Survey Unit. The National Accounts as well as individuals from the team have described that they would like to see the team intact the next year, due to the relative complexity surrounding these surveys.

However, it is important to remember that many of the persons in the team were completely new and had no earlier experience regarding these surveys before starting the review of the surveys. These individuals all had a university degree, often within the area of economics. By continuously working with standardization and harmonization between the products, this could lead to a less perceived complexity and an increase in the quality of the data.

The method and experience of reviewing the whole AS-M as well as the AS-C and the AS-MCC has been very positive according to interviews. As earlier mentioned, the group as a whole attended several sessions with the purpose to educate each individual in all of the different surveys. However, three individuals within the group have more continuously reviewed the AS-C and the AS-MCC. A part of the group felt a bit uncertain regarding these surveys. This insecurity could be derived from the lack of standardization within the surveys.

The surveys in this project are homogenous regarding the design and questions found. The tools and the programs used when reviewing the surveys are a bit different. Harmonizations between these tools are prioritized this autumn, with purpose to lower the threshold when going from one survey to another.

C. Roles within the agile team – Is it possible to be half pregnant?

The agile working method does not require, as earlier mentioned, specific roles in the production. The Scrum Master (SM) is the only given role in the team. However, this role is not supposed to differ regarding the responsibility in comparison to other members of the team.

As earlier explained, Statistics Sweden have clear roles in the data collection process. The *Data Collection Manager* (IA) is a role that could be viewed as a contrast or compromise to the agile team structure. The team embraced the working method, but a decision was made to keep the role to fulfill the formal requirements from the organization. Even though the IA had a greater responsibility on paper, the expectation was a shared responsibility within the group. In addition, the team had a Senior Advisor in the group. The Senior Advisor had no formal role in the management model, but had a great influence on the group and had the role of a mentor for many of the less experienced team members.

The ownership issue has been shared by the whole group, but a part of the group experienced that The Senior Advisor together with the IA carried a greater responsibility. This could have some cultural

explanations. Since the organization have had these roles in the management model for many years, one natural result of these formal roles could be that these roles still have some sort of formal influence. In addition, The Senior Advisor could have easier getting a groups trust than a non -experienced member due to the experience and knowledge this team member hold.

V. Looking forward

The public sector survey unit at Statistics Sweden are right now introducing the agile way of working in the data collection of the social welfare statistics production. In addition, other parts in the department of the data collection are trying this method of work. Jeanette Hultin, the Scrum Master in the agile team of the economic surveys, has a central role regarding this spreading of working method at the department.