

# Agile Adoption Survey 2009

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*Agile adoption survey was part of my research for MBA dissertation work. The research identified the company culture as key parameter for agile adoption process and therefore further more investigates the connection and culture dependencies.*

*The experiences identified by respondents are summarized in detail in section 1.5 Recommendations on Agile Adoption Process and 1.6 Online Groups Discussion. The survey results are summarized in the last section 1.7 Survey Analysis.*

## 1 ONLINE SURVEY RESULTS

The online Agile Adoption Survey (see Appendix A) was used as first data gathering, trying to understand whether there is any connection or dependency on the agile methods, their understanding and difficulty to adopt. In addition to that, there were three final questions regarding the open text recommendation to gather as much information and recommendation on agile adoption process as possible.

The respondents were from different companies, in term of size, business, industry, culture, and geography. The respondents holding different positions, and therefore and have different level of agile experience. In total the survey was completed by 181 respondents in about 3 months time period (Figure 1). The following sections show the results of the survey.

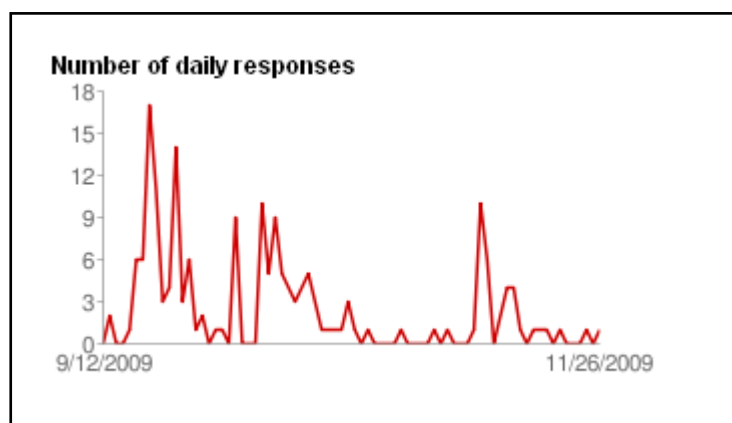


Figure 1: Agile Adoption Survey Results – Number of Daily Responses

The first survey section was a general section describing the respondents (see Figure 42). The following picture (Figure 2) represents the agile experiences of the group of respondents. As the majority of the respondents have longer experience than one year, the replies can be considered as highly experienced and relevant for this research.

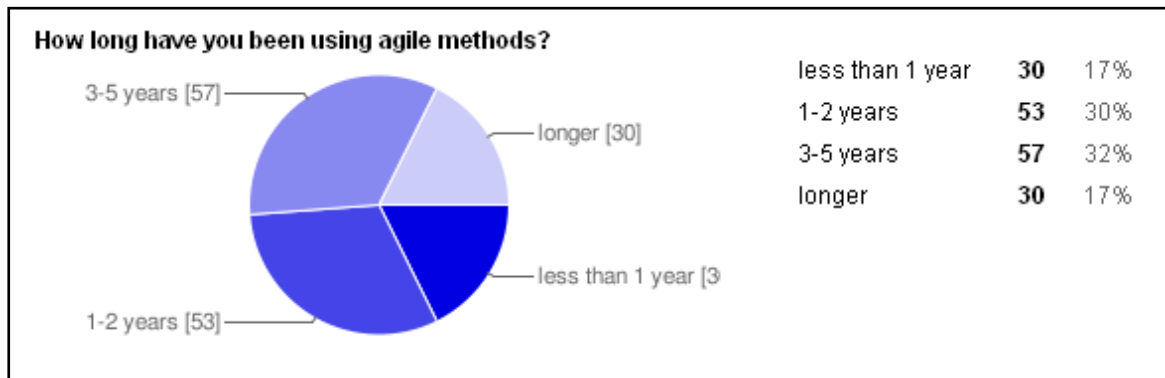


Figure 2: Agile Adoption Survey Results - Experiences With Agile Methods

The key answer from this survey is considering the motivation of people to start agile methods (Figure 3). This question was included in the survey in the third version (see Figure 48), as a result of the structured interview. Nonetheless, this question will be the key identifier for a company who is starting agile methods.

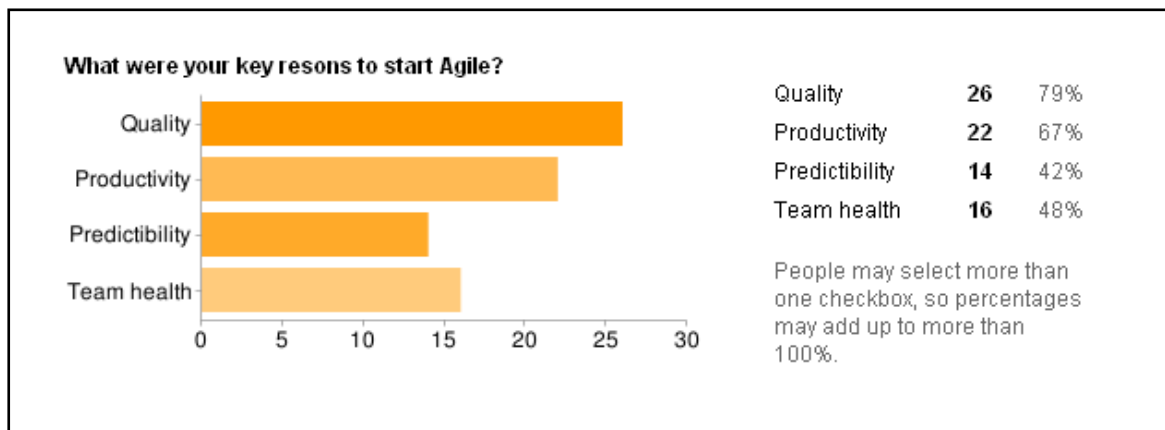


Figure 3: Agile Adoption Survey Results – Key Reasons to Start Agile

## 1.1 DIFFICULTY OF THE AGILE PRACTICES

The survey was designed to describe the agile adoption process, from its start, and identify the general best practices<sup>1</sup> and hints where and how to start agile. Therefore the second section (see Figure 43) is focused on the early beginning of the agile adoption process.

<sup>1</sup> Agile practices are described in Appendix A -Agile Terms.



Figure 4: Agile Adoption Survey Results – Starting Scrum (Stand-up) Meeting Practice Difficulty

The Scrum (Stand-up) meeting is indeed one of the easiest practices. The only obstacle starting Scrum meetings may be the team resistance for change, but good leader supposed to be able to make this meeting fun and motivate the people in this practice.

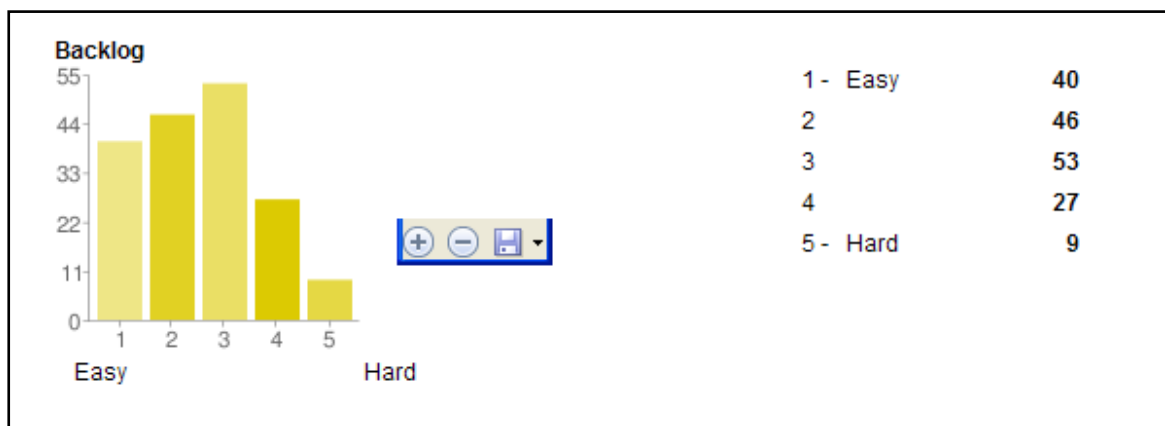


Figure 5: Agile Adoption Survey Results – Using Backlog Difficulty

The second practice discovered in this survey is Backlog (see Figure 5). Starting Backlog seems to be observed as more difficult than Scrum meeting, but still pretty much easy to implement as only 19% respondents identified Backlog as difficult practice. The similar difficulty distribution was observed for Burndown framework (see Figure 6).

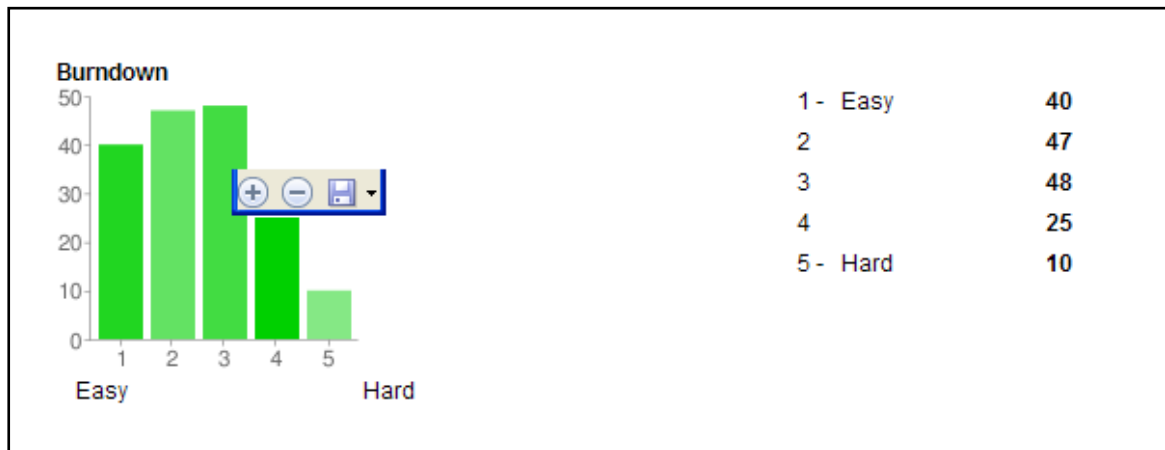


Figure 6: Agile Adoption Survey Results - Starting Burndown Practice Difficulty

Completely different results were observed for pair-programming practice; where more than 46% identified the start of pair-programming pretty difficult and only 17% found it quite easy to adopt (see Figure 7).

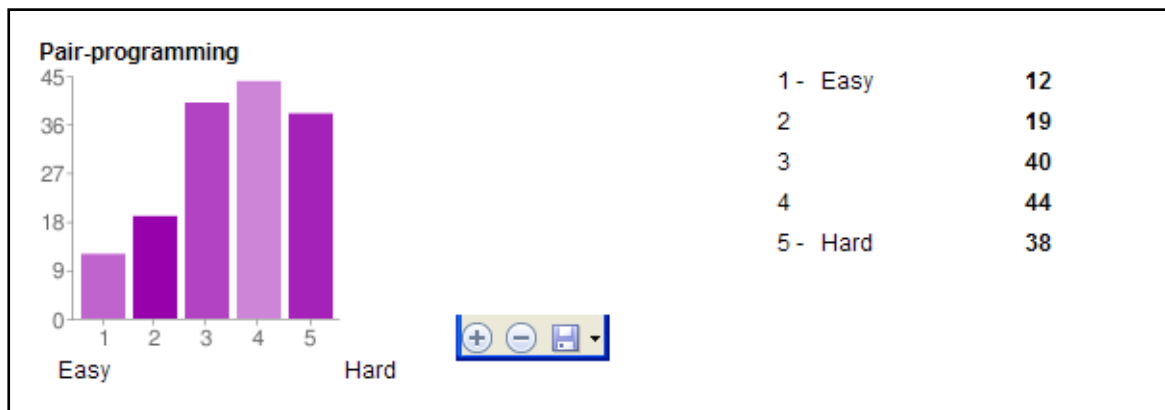


Figure 7: Agile Adoption Survey Results – Starting Pair-programming Practice Difficulty

As even harder practice was identified Test Driven Development (TDD), where only 16% of respondents identified the Test Driven Development practice as easy to start with while over 50% found the practice difficult (see Figure 8).

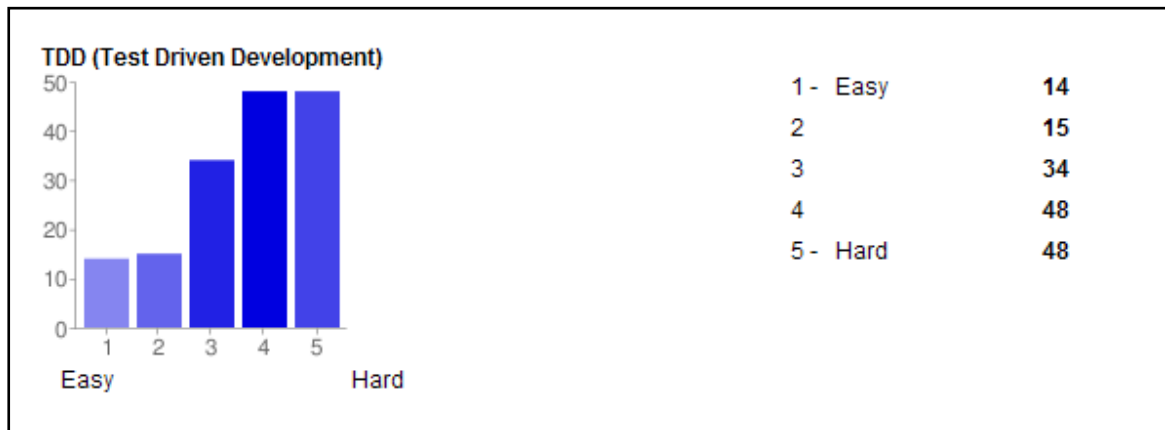


Figure 8: Agile Adoption Survey Results – Starting Test Driven Development (TDD) Difficulty

The point estimation was observed as hard as well (see Figure 9) with 16% of respondents identified the practice as quite easy, and almost 50% who seen it as difficult. However this time the distribution of the ‘hard’ scale was not so strict and just 15% of respondents marked the practice as very difficult (hard grade).

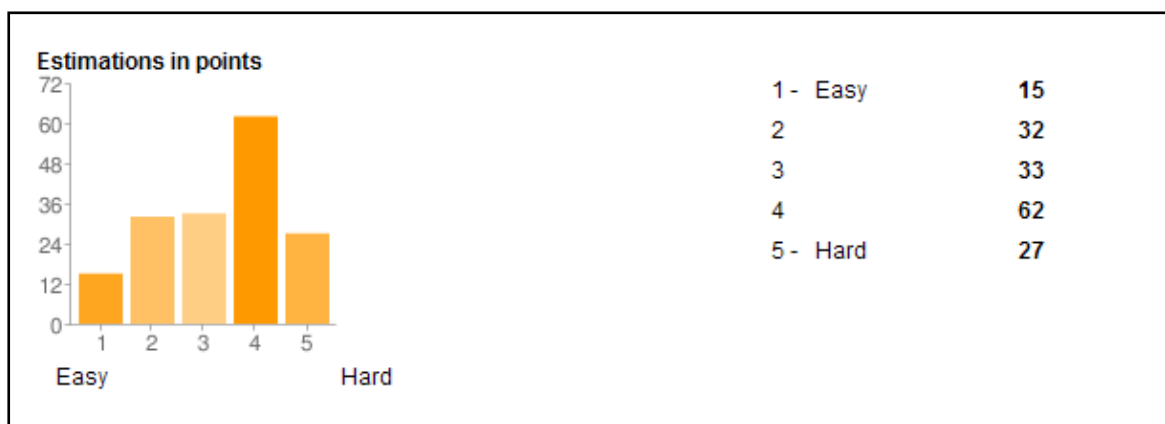


Figure 9: Agile Adoption Survey Results – Starting Point Estimation Practice Difficulty

The next agile practice – planning poker – was observed as pretty easy where only 16% identified it as hard to adopt, and almost 40% find it easy (see Figure 10).

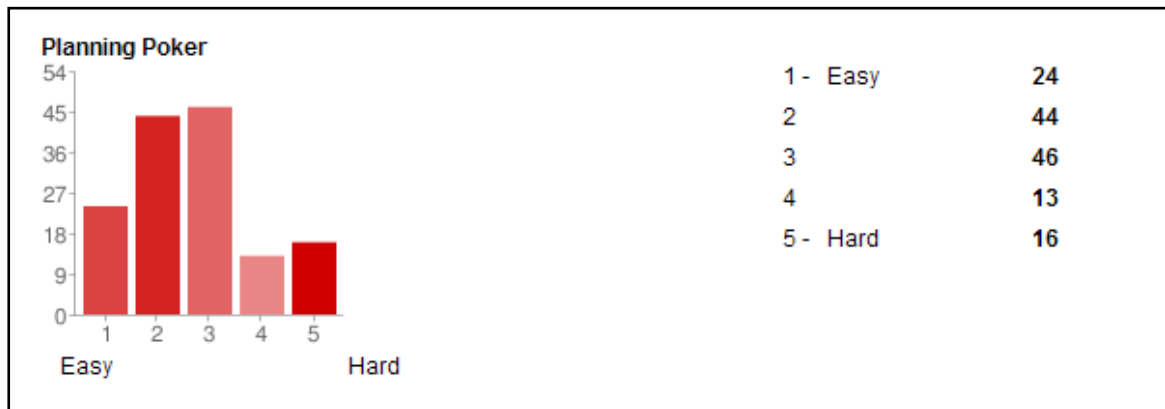


Figure 10: Agile Adoption Survey Results – Starting Planning Poker Practice Difficulty

Surprisingly as very easy practice was observed customer demo. Even though teams often discussing the difficulties how to make customer listen and involved, the practice was identified as hard just in 10% of cases and as easy by 56% of respondents (see Figure 11).

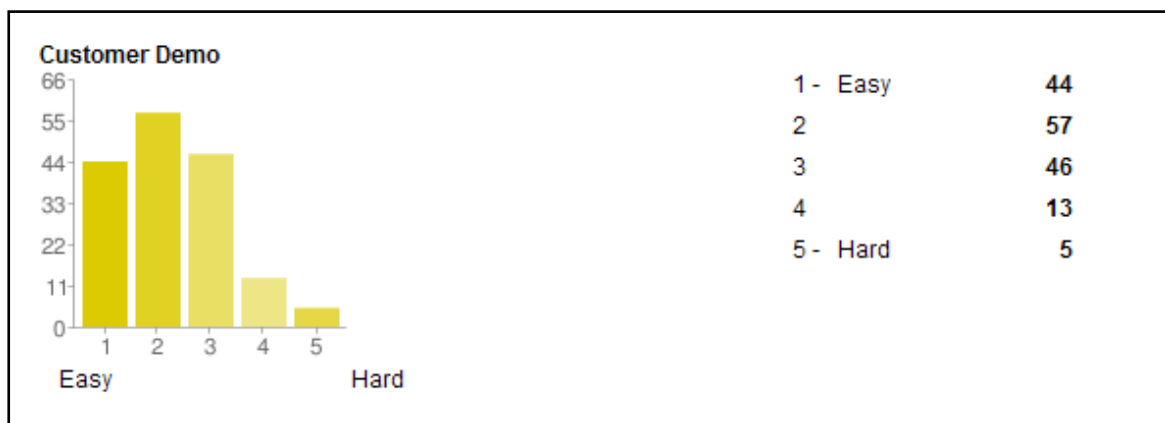


Figure 11: Agile Adoption Survey Results – Starting Customer Demo Practice Difficulty

The last practice from the survey is reflection (retrospective) meeting which is rated as surprisingly easy. Only 16% of respondents find it difficult and 44% of respondents found it quite easy.

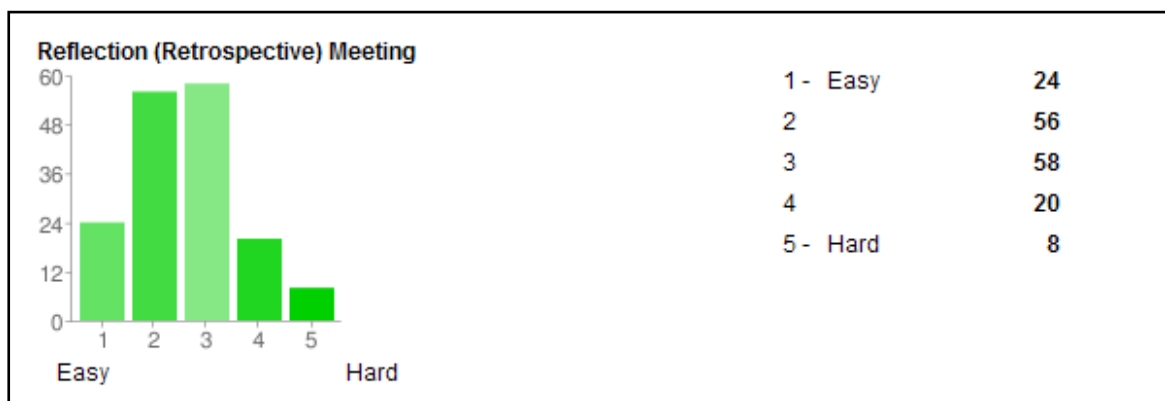


Figure 12: Agile Adoption Survey Results – Starting Reflection (Retrospective) Meeting Practice Difficulty

## 1.2 FREQUENCY OF USING AGILE PRACTICES

The third section of Agile Adoption Survey (see Figure 44) was design in order to recognize how often the particular agile practices were used.

The first survey question indicated almost all people are using Scrum meeting and 72% of the respondents are using it on a daily basis and another 17% frequently (Figure 13).

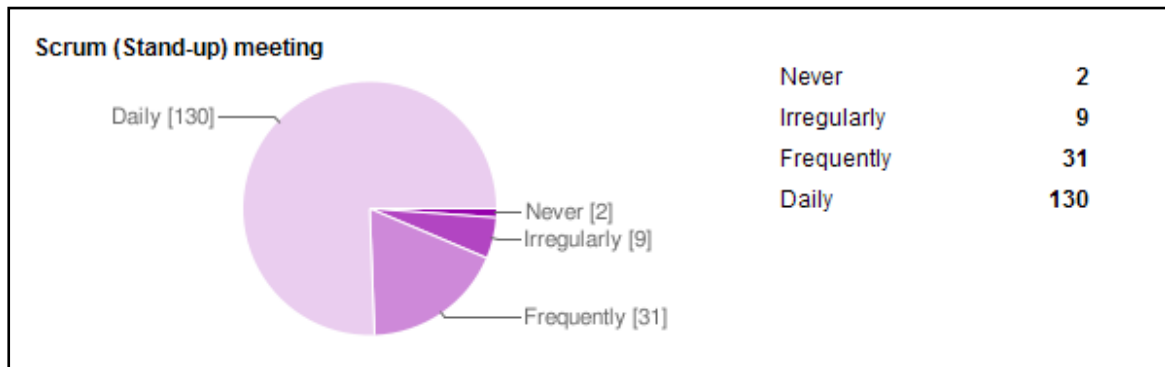


Figure 13: Agile Adoption Survey Results – Frequency of Using Scrum (Stand-up) Meeting

Pair-programming is on the other hand used less massive where 34% of respondents indicated they are using pair-programming daily or frequently, 42% rarely and 18% hadn't find it worth of try (Figure 14).

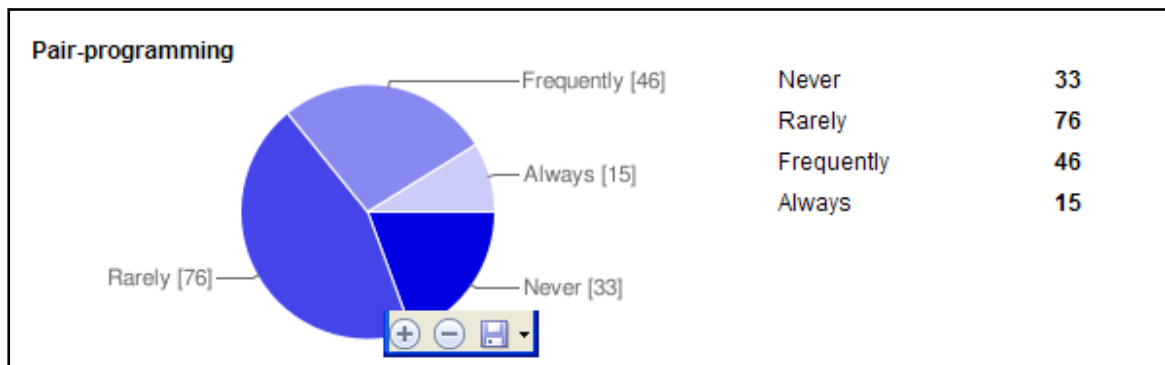


Figure 14: Agile Adoption Survey Results – Frequency of Using Pair-programming

Test Driven Development (TDD) was identified as the practice which the majority of respondents are using just partially, while the other half is equally divided for those who had never used it 22%, and the group who is using it in a full scale 21% (Figure 15).

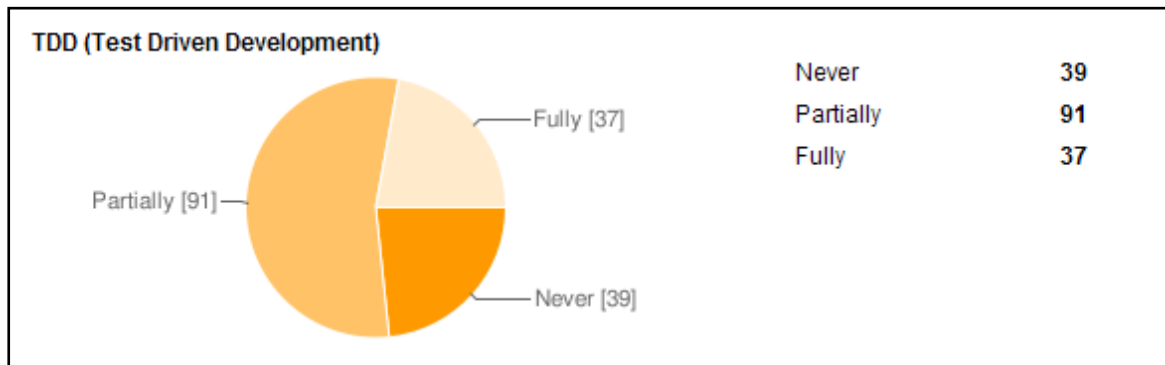


Figure 15: Agile Adoption Survey Results – Frequency of Using Test Driven Development

The customer demo practice was recognized as quite popular as 55% of respondents are using customer demo every sprint and 25% irregularly while only 13% rarely and 2% never (Figure 16).

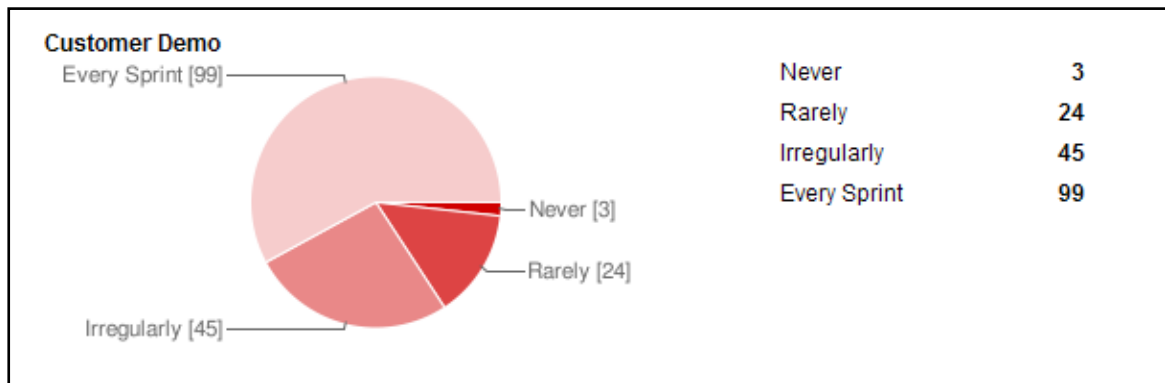


Figure 16: Agile Adoption Survey Results – Frequency of Using Customer Demo

The similar frequency distribution has reflection (retrospective) meeting. More than half of the respondents are having retrospective meeting every sprint, 28% are having it irregularly and only 8% are having the reflection rarely and just 6% had never used it (Figure 17).

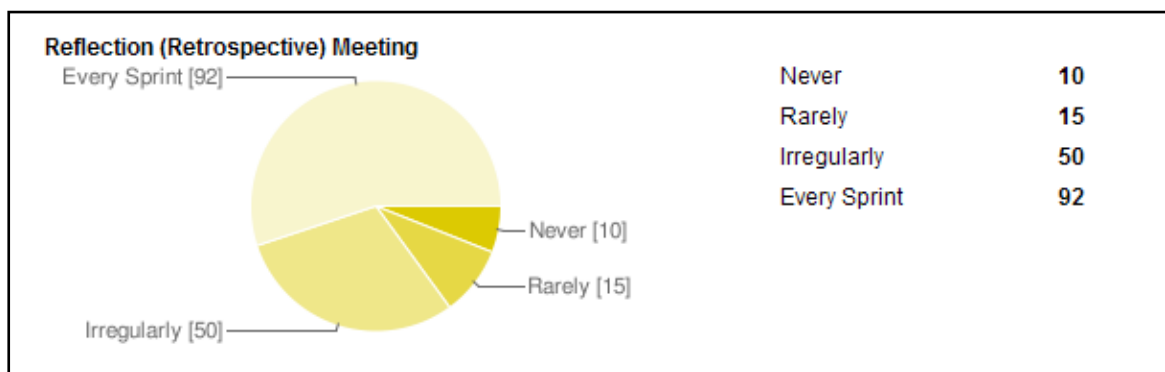


Figure 17: Agile Adoption Survey Results – Frequency of Using Reflection (Retrospective) Meeting

The estimation in points is one of the controversial practices so the question was here to identify how widely points are used instead of time estimation metrics. The estimations in time

are preferred by 29% of respondents while the points are preferred by 42% of respondents and 22% of respondents are using both point and time estimations together without any preferences. On the other hand, 16% doing the estimations just in time metrics, while 42% is using the points only.

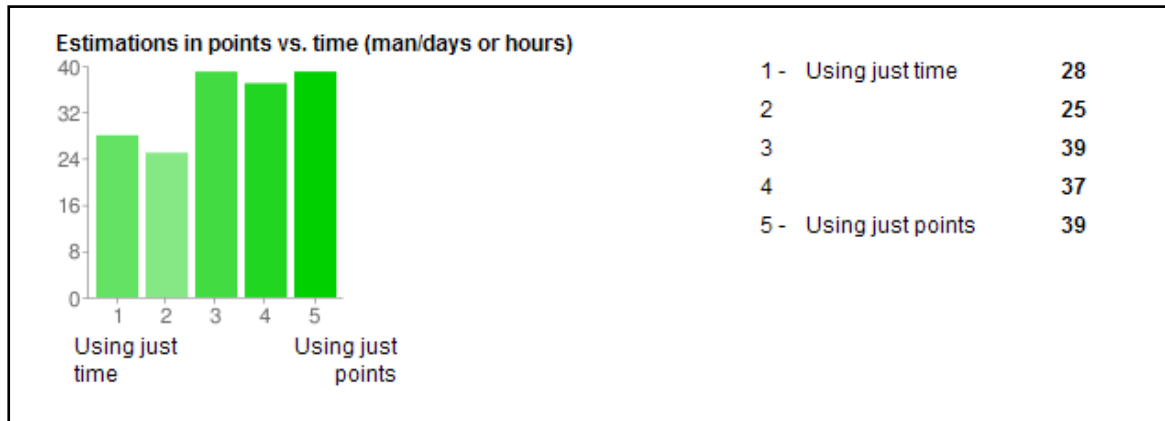


Figure 18: Agile Adoption Survey Results – Frequency of Using Point Estimations

Next practice – planning poker – is not so frequently used as it could be expected, but it's widely used by the respondents. About 20% of respondents always plan using planning poker, 19% are using it often, 24% sometimes, while only 29% of respondents haven't find it worth of using (Figure 19).

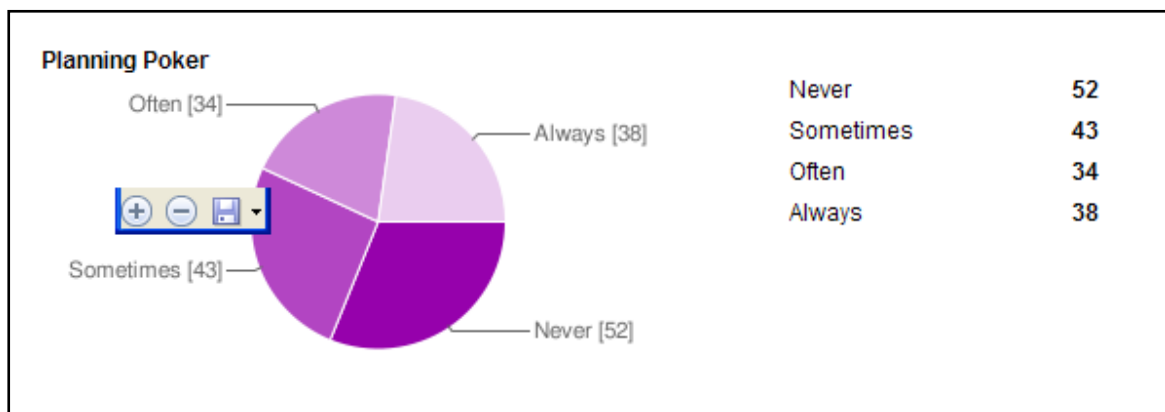


Figure 19: Agile Adoption Survey Results – Frequency of Using Planning Poker

### 1.3 USEFULNESS OF THE FOLLOWING AGILE PRACTICES

The fourth section of Agile Adoption Survey (see Figure 45) was useful are the particular agile practices for the respondents. The survey section investigated the same set of agile practices as the previous sections.

The Scrum meeting is identified as extremely useful by the respondent group, where 85% of people identify it as quite useful, while only 5% didn't find it useful at all (Figure 20).

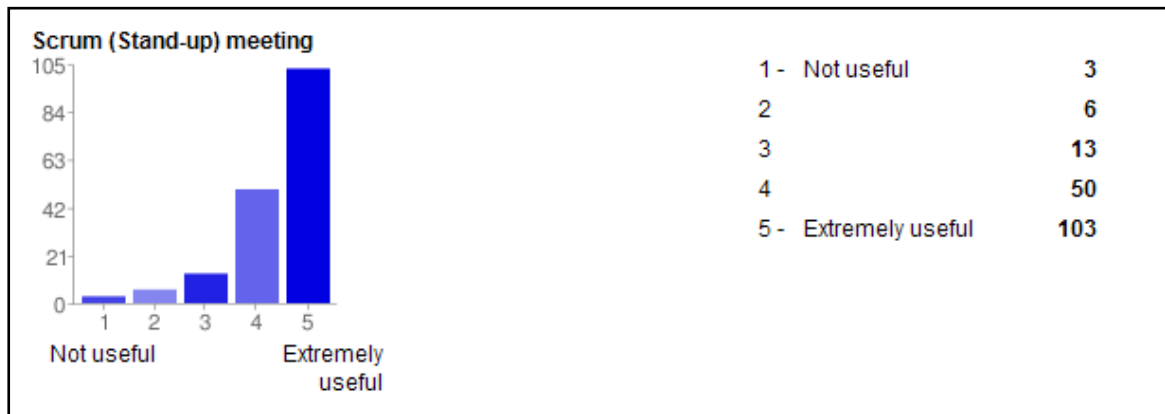


Figure 20: Agile Adoption Survey Results – How Useful is Scrum (Stand-up) Meeting

The similar score distribution is for backlog practice, which was described as useful by 84% of respondents while just 4% of respondents identified it as useless (Figure 21).

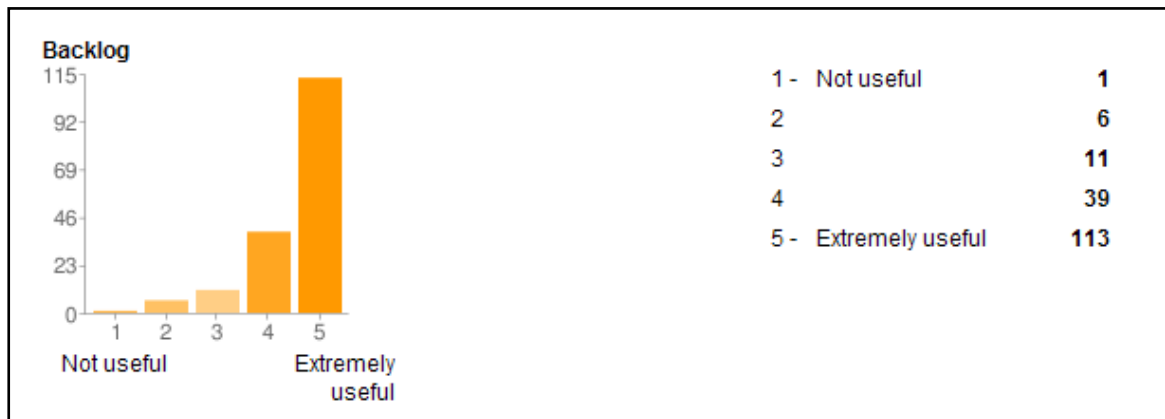


Figure 21: Agile Adoption Survey Results – How Useful is Backlog

The Burndown is still widely accepted as useful practice as almost 60% of respondents seen it pretty useful, however 12% of respondents indicated Burndown as not useful practice (Figure 22).



Figure 22: Agile Adoption Survey Results – How Useful is Burndown

The next practice – pair-programming – was identified by 38% of respondents as quite useful, by 23% as pretty much useless while almost 30% of respondents were actually not decided whether pair-programming is useful or not. However as absolutely useless was pair programming identified by 4% of respondents only while as extremely useful by 29% (Figure 23).

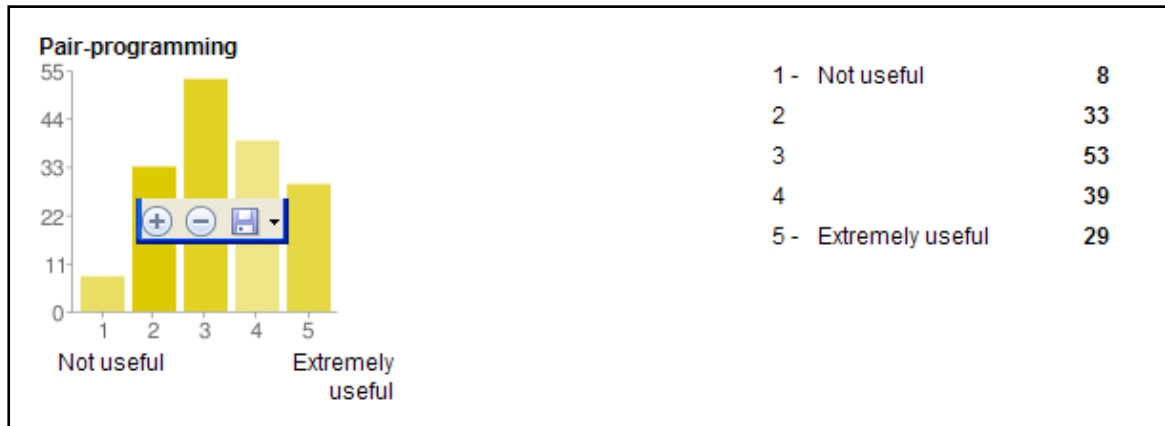


Figure 23: Agile Adoption Survey Results – How Useful is Pair-programming

Test Driven Development practice was surprisingly well classified. More than half of the respondents - 56% identified the practice as pretty much useful, while just 8% find it more the less useless. However 26% were not decided about it (Figure 24).

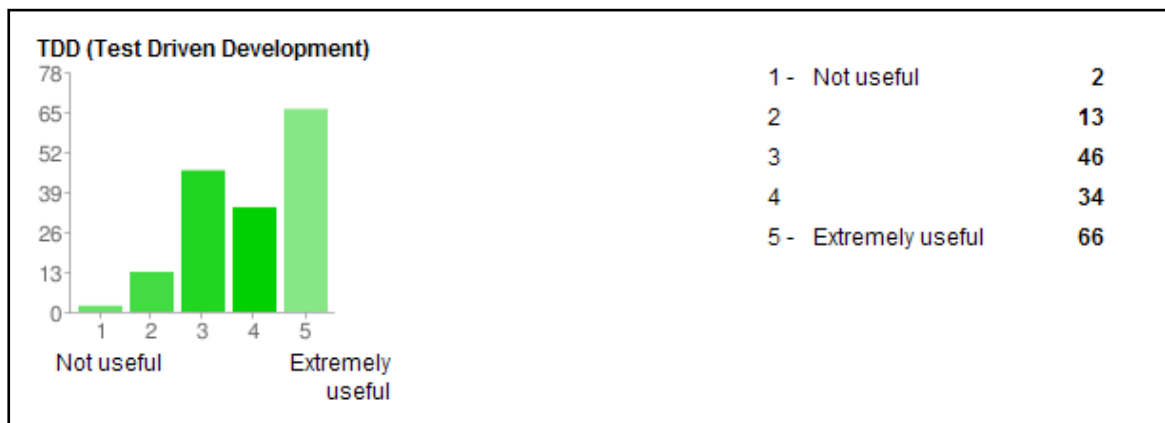


Figure 24: Agile Adoption Survey Results – How Useful is Test Driven Development (TDD)

Point estimates were identified as quite useful practice by 51% of respondents, 22% were not sure about the usefulness of points and 20% had identified points as more the less useless (Figure 25).

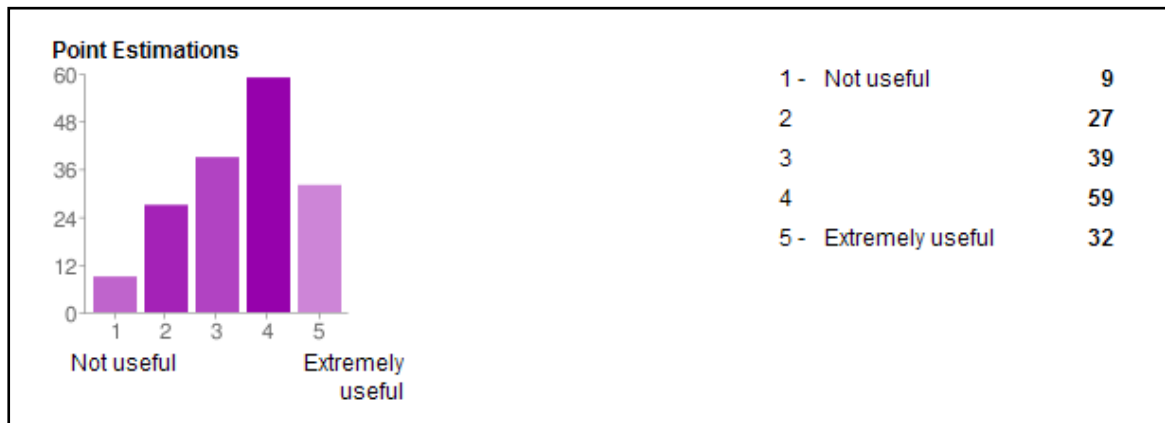


Figure 25: Agile Adoption Survey Results – How Useful are Point Estimations

Planning using planning poker was recognized as 38% of respondents, 23% were not sure about the usefulness of planning poker and 22% had identified planning poker as not useful (Figure 26).



Figure 26: Agile Adoption Survey Results – How Useful is Planning Poker

The next practice – customer demo – was recognized as very useful by 77% of respondents, while only 2% identified customer demo as not very useful, and zero respondents identified it as not useful at all (Figure 27).

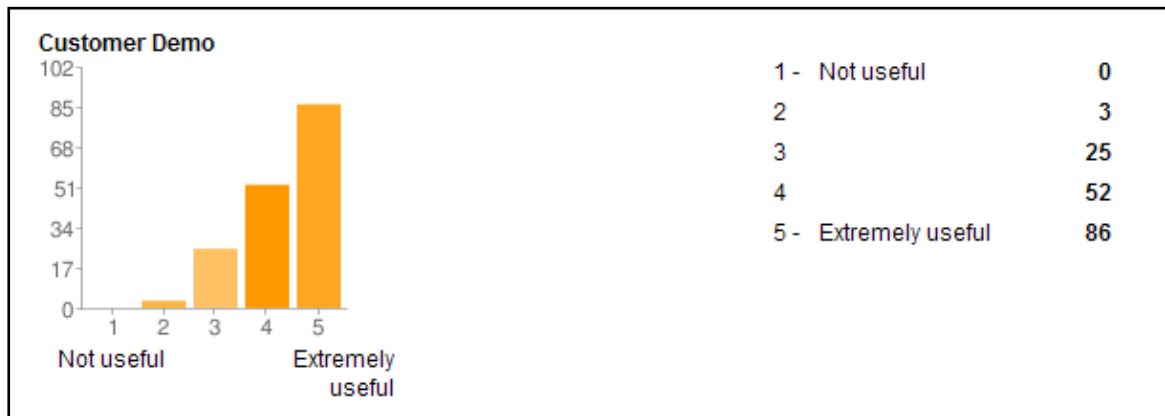


Figure 27: Agile Adoption Survey Results – How Useful is Customer Demo

Finally the reflection (retrospective) meeting was rated as useful by 70% of respondents and as pretty much useless by 6% respondents (Figure 28).

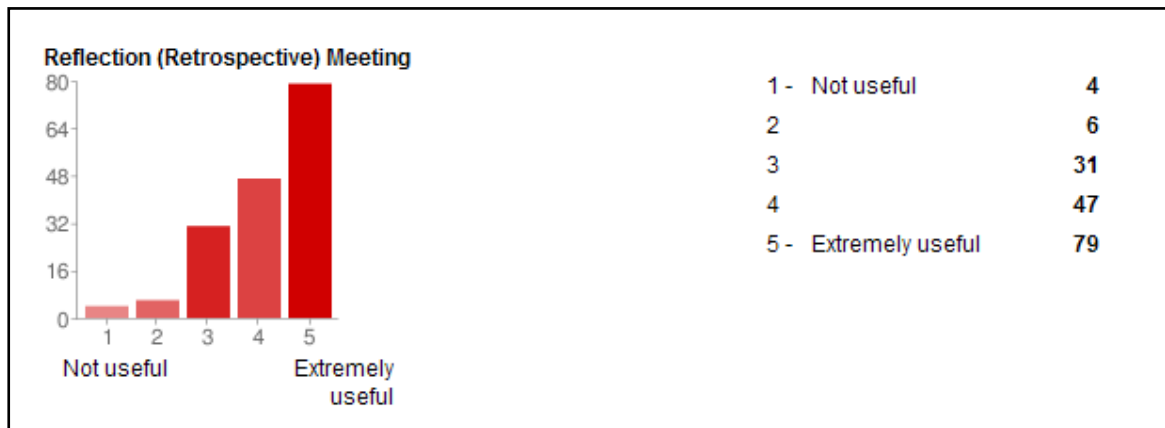


Figure 28: Agile Adoption Survey Results – How Useful is Reflection (Retrospective) Meeting

## 1.4 CHALLENGES DURING AGILE ADOPTION

The fifth section (see Figure 46) was designed to understand the challenges during agile adoption process. The respondents should indicate which aspects were the most problematic during agile adoption. The section considers the factors which can involve success of the agile adoption process the most significantly.

The first factor is team communication and cooperation. It's hard to imagine agile methods without real cooperating teams. Agile methods are team methodologies, and therefore are not suitable for individualistic cultures. However, this was not such a big challenge for the respondent group. As difficult was the team communication and collaboration identified by just 28% of respondents out of it 5% rated it as very difficult. On the other hand 38% of respondents rated the team challenge as no problematic (Figure 29).

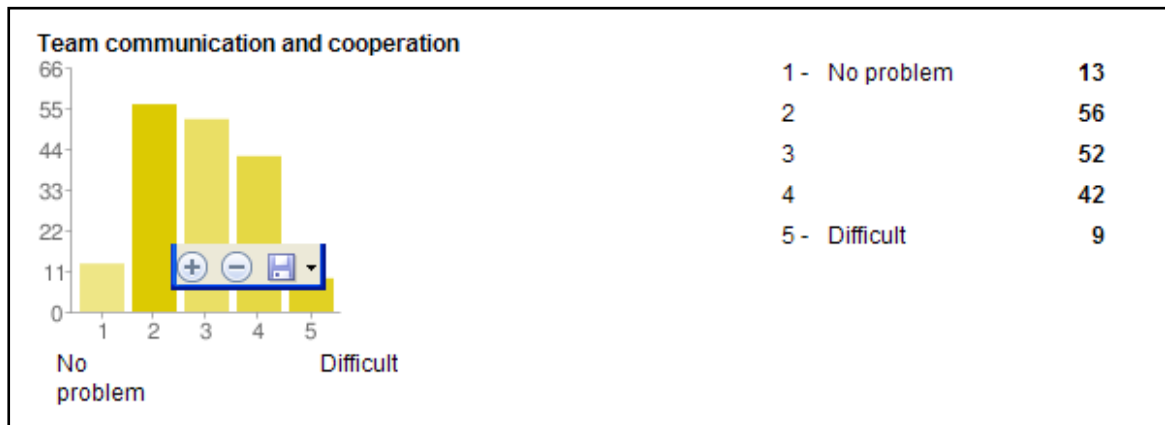


Figure 29: Agile Adoption Survey Results – The Challenges of Team Communication and Cooperation

The second challenging factor is based on customer involvement in the project and the communication between customer and team. This seems to be more challenging factor, while just 18% of respondents indicated it as not problematic factor and 54% of respondents had some difficulties there (Figure 30).

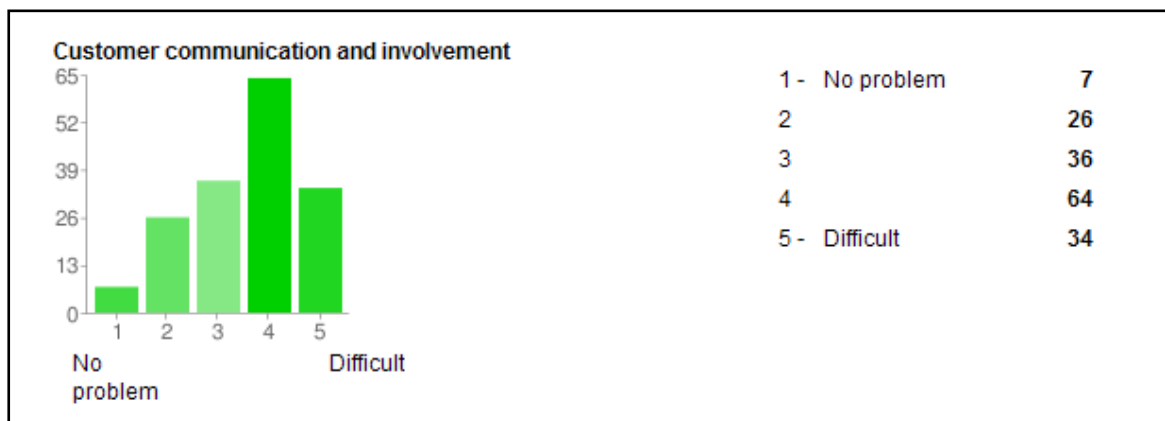


Figure 30: Agile Adoption Survey Results – The Challenges of Customer Communication and Involvement

The most discussed issue is team responsibility. Some people like it, some not as much. This survey identified one third of respondents see it as no issue and one third rated it as difficult (Figure 31).

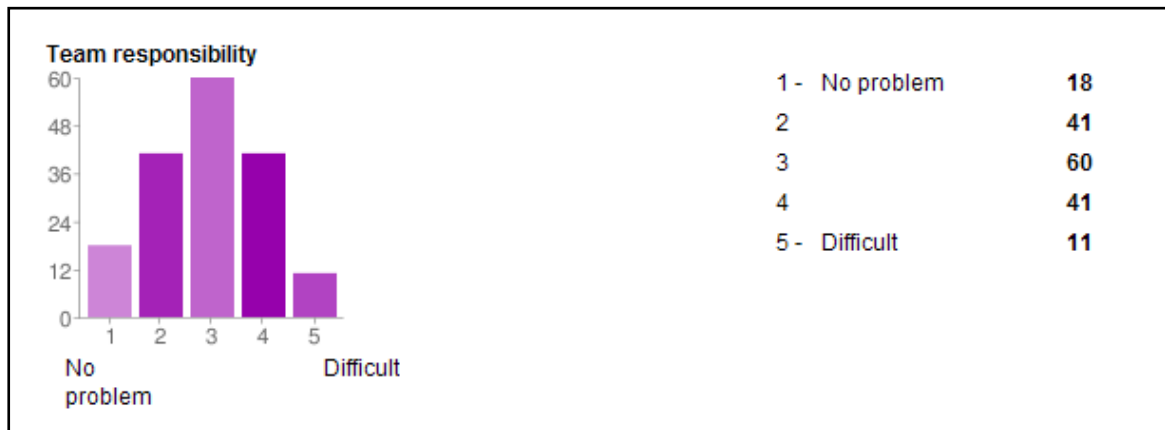


Figure 31: Agile Adoption Survey Results – The Challenges of Team Responsibility

Change resistance is rather worth, with 41% respondents seeing it as difficult while 24% found it as no big problem and only 5% had seen no issue there (Figure 32).

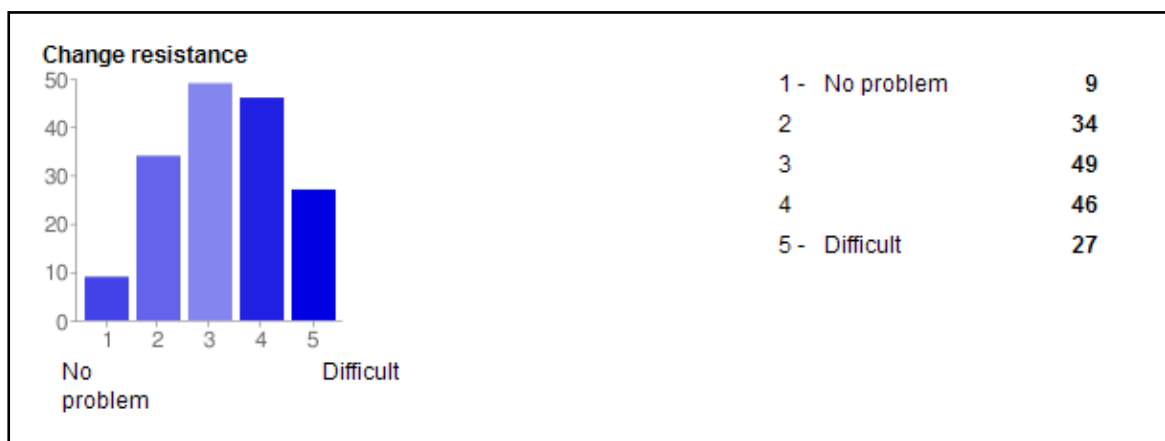


Figure 32: Agile Adoption Survey Results – The Challenges of Change Resistance

The last factor of management support and understanding is rated as difficult by 38% and as no issue by 31% of respondents (Figure 33).

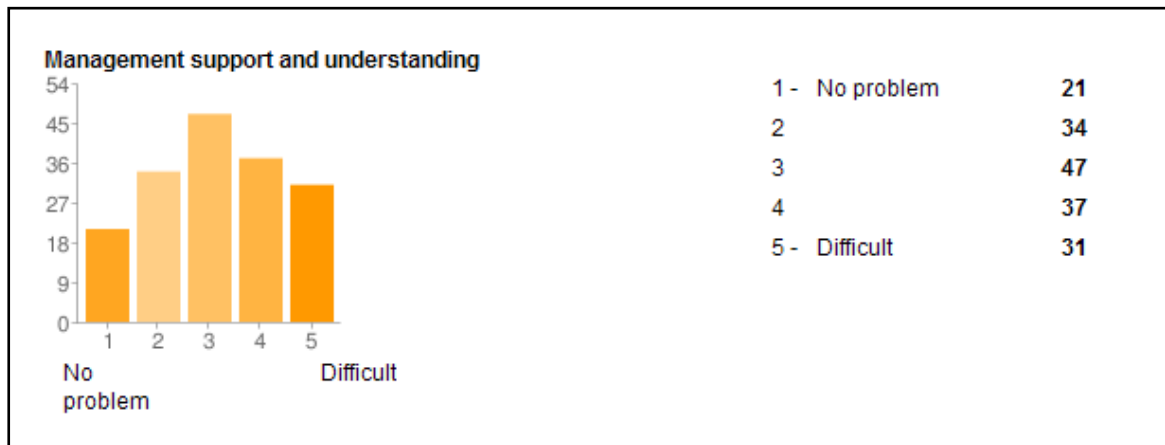


Figure 33: Agile Adoption Survey Results – The Challenges of Management Support and Understanding

## 1.5 RECOMMENDATIONS ON AGILE ADOPTION PROCESS

The final part of the agile adoption survey (see Figure 47) was free text recommendations in order to allow people freely share their experiences with adoption process. The section contains three questions:

- What did you find as the most challenging during agile adoption process?
- What would you do differently?
- Any general recommendation?

The goal is to provide a wide picture of difficulties and problems as they were observed by a broad number of respondents and include some recommendations as well. The selected results are as follows<sup>2</sup>:

The first set of replies describing the respondent's experiences with agile adoption process, focusing on challenges and difficulties. The first table provides a good set of challenges (see Table 1). To summarize the results, the most difficult overall reasons were connected to the change aspect of the adoption process (change thinking, get understanding, change mentality, and overcome change resistance: buy-in, reduce skepticism, try something new, etc.). The change is in general the change of company culture, the people has to get different mindset, agile thinking.

### Agile Adoption Survey Results: Challenges during Agile Adoption Process – Overall

To get the same understanding of agile approach from all stakeholders, especially from product owner and team.

Agile thinking.

Common goals, managing teams in a too big team.

Just about to start with adoption.

The role of agile in the overall business.

<sup>2</sup> This section is rather practical, it supposed be sharing the knowhow on agile adoption process and therefore the answers were left as they were stated by the respondents to keep the sentences authentic.

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To understand why agile is better and more efficient than Waterfall.

External interferences specially from managers because they still use scrum butt concepts.

Finding an actual Product Owner that can and will make the call.

Getting management understanding.

Change of mentality.

I think for us, change adoption was the most challenging. When you have a large group of people who have always done things the same way for many years, it's hard to convince them to try something new, and that the new way is ultimately going to be better.

Because there are many practices, most of which required adaptation to fit the situation of the team, I found it hard to decide how to transition from our old practices to some new practices. We didn't know enough or trust ourselves enough to establish all the agile practices and principles at once, and yet we found it hard to choose which practices to bring in first, when to bring in new practices, and when to adjust the ones we started with.

We are a mature software development organization. While change is accepted and encouraged within the organization, there were pockets of resistance within the group. A number of engineers were uncomfortable with the collaborative nature of agile software development. Some have left the company as a result, some have grown to accept agile and others continue to harbor negative feelings about agile.

The most difficult part of adoption was skepticism by team members. Most of us have had a number of development processes proposed over the years, and they all seemed to have the same result, so why try another new one?

Getting management buy-in. Also, identifying a coaching and mentoring partner can be hard.

From personal accountability to going for the same goal (releasing great software solutions)

Team taking responsibility.

Make people care.

Finding/training the right coaches. Some people were inflexible - too rigid with process.

Team leaders feel less responsible, less important.

The role of managers who were used to being technically involved and directing the work every week.

Initial buy in. Bypassing years of existing processes and groups.

It is most challenging implementing any Agile / Scrum techniques in an organization that is very 'command & control' focused and has a hard time breaking away from traditional waterfall techniques.

Movement from Individual Commitments to Team Commitments.

Agile/Lean is more of a way of thinking than anything. Changing corporate culture is particularly challenging. Most small businesses are entrepreneurial by nature. The more a company grows and expands, the more it loses, or potentially loses, that Agile feeling. There is this false sense of security in processes. I believe this is why waterfall is so attractive.

Getting the whole organization to adopt a different mindset. It is not only changing from waterfall to agile, but a different approach how you work together. The most difficult is the transfer of responsibility from management to the team members. On one side to let be the controlling and on the team side to really take over and embrace the responsibility.

Convincing senior management that adopting agile practices would involve a cultural change across the company. Making sure that agile techniques were used only for those projects that lent themselves to the practices, i.e. where the requirements weren't fully understood and/or where a high degree of change is anticipated.

Change in company culture, and expectations about agile – what it does and does not provide.

For Agile to succeed, you need vocal executive level support. This is one of the most important areas and it needs to be visible every day especially in established organizations. This directly affects the organizational change program that the adoption to Agile really requires.

We were unable to get business owner participation. Also, our mainframe developers did not accept Agile approach. This caused all our agile projects to fail.

People not really understanding the methodology and adopting only pieces of it but not the pieces that really make agile work.

Dealing with groups outside IT.

Changing mindset (what we're used to doing) from a mixed agile/waterfall way of developing software to pure agile.

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Sometimes we need to marry the Agile and CMMI process :) to keep the Quality team happy.  
 Get the Agile mindset; get the team to understand their responsibility (and power).  
 Getting people to believe that better ways to work were possible.  
 Lack of faith that it was a better process. The very first agile project I did, we didn't even have a process and I got resistance. Getting a team room. No one seems to want to give up their cubicle even though everyone makes fun of them and there are studies showing how ineffective they are. Developers don't "need" a personal space.  
 Product Ownership completion of measurable User Stories. The stories are often left vague and are identified within the development team rather than being a result of customer needs. The needs exist, the challenge is in having the product owner spend the time to capture and clearly define them.  
 Relationship with non-agile service.

**Table 1: Agile Adoption Survey Results – Challenges during Agile Adoption Process – Overall**

The second table of responses is more focused on challenges within the team including the way of working (Table 2). One portion of the replies identify particular agile practices and the difficulties with them (Scrum meeting, Test Driven Development, Backlog, User Stories, Estimations, etc.), the other part is more connected to the people's minds and the team itself including (make people understand, change the traditional way of doing things, communication, collaboration, work with distributed teams, etc. ).

**Agile Adoption Survey Results: Challenges during Agile Adoption Process – Team and Practices**

Making team understand why we're moving to the new methodology and make them like it.  
 Bringing up team to meet regularly (working hours synchronization), as well as working with part-time colleagues. Regular attendance of customers is also a problem. Avoiding change during sprints is sometimes very difficult.  
 Persuade the team members that this is the right way. Motivate people to support SCRUM process.  
 Change in traditional thinking process in upper management that still wants to see the plan, milestones, and the final day. Another big challenge for us was and still is to use SCRUM for big projects with distributed teams. SCRUM of SCRUMs is not well established and difficult to use.  
 To adopt SCRUM approach also to projects that are not classical SW development (for example - support and maintenance projects).  
 Estimating task time initially and remaining time during sprint. Controlling filling data (xls, wiki) by everyone to reflect the task development process.  
 Time pressure. Communication within the team and cooperation. Process vs. uncertainty.  
 To make team self organized. To make developers to accept the fact that they are responsible for a project and make them act in the correspondent way.  
 To avoid specialization of 1 team member.  
 Other members of the team resisting change, especially moving to ATDD and TDD.  
 Distributed development.  
 Introduce object oriented principles to team members and start writing code in more structural manner.  
 Completing tasks per original project estimates while learning the new methodology at the same time.  
 Most challenging agile adoption process is when you try to apply to small team where one person is doing couple of tasks together. During formal manual and auto test execution it was most difficult to follow agile process.  
 Creating the backlog and fully estimating it. We already started before fully estimating the backlog.  
 Trust team members.  
 People continually wanting to refactor.  
 Daily stand up with EVERYBODY get some senior developer upset - they need to stand right next to the student and explain what they did.  
 Avoiding chaos and braking rules without reason.  
 Requirements management is a vital part of any project and especially Scrum. In spite of fact that User Stories are widely known, I see that they are used very rarely. As result, the quality of Product Backlog

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items in average is poor.

Making collaboration and meetings work when teams are widely distributed.

Getting management and developers to adopt TDD and pair programming. Also, maintaining legacy code is difficult to do in an agile way and improving legacy code is even harder.

TDD was difficult as our application was a legacy app.

Managing communication with remote employees.

Test-driven development and pair programming from a development perspective. Coverage of legacy code that is difficult to put under automated testing.

Getting past paradigm changes: Not having all the requirements up front. Done means Done. Sprints end on time.

Getting all team members to focus on the sprint goals.

The team members felt like they were losing time attending these meetings. Also, some team members felt out of the loop if they were not in a SCRUM. Indeed, those members lost productivity as their manager focused almost solely on the SCRUM members and not the rest of the team.

Difficulties also with requirements: developers and (especially) testers wanted to have very detailed specifications. Understanding the fact that communication is a part of requirement was hard (and still is).

Finding ways to maintain communication with remote / distributed team members.

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**Table 2: Agile Adoption Survey Results – Challenges during Agile Adoption Process – Team and Practices**

The third table describing identified challenges which are connected with customers (see Table 3). The results can be summarized as lack/inappropriate/insufficient communication, listening, commitment, and trust at both sides.

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#### **Agile Adoption Survey Results: Challenges during Agile Adoption Process – Customer Oriented**

Deal with customer habits.

Lack of leadership & commitment at customer side.

To get the clients trust. Without trust it's hard to avoid strict planning.

Sales people do not reflect the iterative and agile way to work and do not make contracts accordingly.

Customer involvement.

Talking directly to the customer. Listen.

Handling a solution provider that offered a low price on everything and expects to be able to make most of the profit from change management during the project.

Pulling the customer in the team.

Identifying a customer voice.

Changing client culture regarding providers.

Making some stakeholders understand that the development team can't answer the question "when will this feature be ready?" -- That it's THEIR job to set the priorities and hence to set the answer to that question.

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**Table 3: Agile Adoption Survey Results – Challenges during Agile Adoption Process – Customer Oriented**

The second question supposed to gain from the experiences and suggest things which would the respondent do in a different way (see Table 4). To summarize the results, recipients would next time involve come external expert or coach to help them with the adoption process, co-locate teams as much as possible, spend more time communicating agile goals both internally and externally to have a common understanding and commitment as well, improve some practices, etc.

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### **Agile Adoption Survey Results – What Should be Done Differently**

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In big projects (more than 10 people) don't use stand-up meetings. Divide the projects or teams and have daily Stand-up meetings only with team representatives.

Hire a good full time coach.

The development/design part of our team adopted Agile first and we did not involve the testing community enough at the beginning. We would have been better off had both sides begun the journey together.

Co-locate as much as possible.

Adjust the length of sprints for every project.

Focusing on customer - explanation and maybe forced participation at the beginning.

If we could start from scratch, we would implement TDD from the start. It's difficult on legacy products.

Change is hard. Change is messy. Our group's adoption of agile was no different - it was hard and messy. At the same time it was a grass roots effort that has helped reinforce a culture of empowerment within our software development organization. For these reasons, I would not change much.

Introduce agile practices gradually. Start with partial pairing. Let team leads do initial setup of backlog, stories, burndowns. Bring the other agile practices in as the team becomes comfortable with each over time. Allow flexibility as each practice is adopted.

Get the training from expert about agile methodology.

Talk to your team about how you want to apply in your project. Clarify about point estimation and burn down chart. Make team comfortable about tracking points, scrum meetings and backlog items.

Would put "price tags" in \$\$ for all required features.

Better expectation management. Clearing requirements up front and ensure that team want to do them.

Take the time to estimate the full backlog at the beginning of the project.

Project owner must always be close member of team.

Start with a few of the process - scrum, planning and reflection.

Before we began our project, I would make absolutely sure that our internal customer was identified, was committed full time on the project, and was accountable for working with the development team to ensure that the product that was developed was the "right" product.

Just a practical advice - if the team has on-going input from customers and needs doing regular estimations - I propose to split Estimation and Planning meetings. We do Estimation session in few days before the end of the Sprint. We just come and play poker about top items prepared by product owner. He reads and explains each item and the team discusses complexity and plays a number. It is not necessary that we will work on issue in the next sprint, so we don't spend a lot of time for redundant details. We just discuss the complexity and compare item with something that we already had. Such split helps to make Planning meetings more focused and effective, as long as we don't spend half of it for estimations and product owner have time to align priorities, based on complexity of each request.

Involve more business stakeholders in setting up the agile development process. More people than just the engineers are affected.

Focus more on management responsibilities with regard to Agile development.

Greater control over the environment. Isolated database and app tier, not having to build in a shared service environment.

More education for the team members on scrum.

If the environment is open to learning, changing and becoming more successful, then Agile / Lean has a chance. If the corporate environment prevents changes in processes, there is not chance and attempting

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to change is a lost cause.
Start convincing well the client.
Select projects with limited mainframe (backend involvement) and only select projects where business owner is fully engaged.
Do all the design elements in waterfall, and all the development in agile.
Bring in a coach earlier.
Try to bring more senior developers on board, rather than accepting a high attrition level.
Make the most difficult parts of agile development mandatory much sooner to get the team on board faster.
Get contracts people involved early in the process.
Separating team according specializations. Having deployment team reorganized so we could separate releases and with this having more frequent ones.
We didn't break stories down into bit-size pieces, which we should have done. We will correct this next time around.
Ensure (in the beginning) that all team members understand the agile methods and ideology.
Insist on a team room for all development.
Have a co-located team with a better environment for pair programming.
Work more on responsibility, auto-organization.

**Table 4: Agile Adoption Survey Results – What Should be Done Differently**

Finally the last question result in a set of general recommendations with agile adoption (see Table 5). The summary includes the same things as the previous results like communication and learning, but have a couple of more general recommendation like attend agile conference or don't forget the agile needs as good leaders as any other project, and no practice is a dogma – it always can be changed.

### **Agile Adoption Survey Results - Recommendations**

Agile cannot be implemented top-down only nor bottom-up only. Agile needs to be a grass roots effort that has executive level sponsorship. Agile champions are needed at all levels of the organization in order to be successful.
It's good idea to pay more attention to making newly hired stuff familiar with the project.
Agile & Scrum is not a silver bullet. Leadership and aspirations is crucial for success.
Sprints with different time durations.
Attend Agile conferences.
Getting CI acceptance testing strategy agreed at the beginning of project.
Don't cheat and never ever let a sprint go past its time.
Find the balance and make adjustments along the way to make the team as productive as possible.
Communication is everything.
View coach and customer as KEY roles and ensure the right people are in these roles.
Spend time certifying and educating everyone in the project. Read, discuss and read more.
Don't sell Scrum as the dogma. The main reason to engage any management process is increasing predictability of delivering results and reducing waste.
Expect everyone to be involved in an Agile effort understands the Agile Manifesto's Values and Principles.
We are adapting agile methods for driving projects in internal support (system engineers - not developers) group.
We do not plan by planning poker, it is general consensus. Estimation in points is hard to understand by management.
Forget about "scrum tools". Use a real physical whiteboard and super-sticky post-its.
Use tactical small steps when non-understanding and "enemies".

**Table 5: Agile Adoption Survey Results – Recommendations**

## 1.6 ONLINE GROUPS DISCUSSION

As far as the survey collected more the process and practices oriented results, the second approach was to extend interviews with people with another source of information, gathering data from answers to question in focused online groups<sup>3</sup>. The intention was to get more data on agile and company culture.

The discussion subject was defined by a set of questions as follows:



*Do you believe in 'agile company culture'?*

*Do you believe the company culture is crucial for starting with agile methods? If so, how the culture should be?*

*Does it have to be to some extent agile as well or it doesn't matter?*

*Is there anything you would classify as key parameter starting agile with respect to company culture?*



Discussion how the company culture should be in order to start agile methods in general accepted the idea of an importance of company culture in order to start working agile. Indeed “Agile working culture makes life easy”<sup>4</sup> and so the agile adoption is easier for companies with agile culture. Nevertheless maybe the “company culture has to be changed in order to get even more benefits”<sup>5</sup> so the company should always understand its culture and be ready to adjust it in order to be more efficient.

Another respondent believes “There has to be support from the key stakeholders. The nature of agile is that it can't be done as a 5th column enterprise.”<sup>6</sup> Even more, “if the culture doesn't support or embrace Agile, it will never work as a process”<sup>7</sup>. Considering the following statement, “if management is not prepared to do management by coaching and is not willing to let your agile team search its own best practices, I think it is difficult to let agile method succeed”<sup>8</sup>, the agile culture itself may not be exactly defined or able to identify itself, but supposed to be able to let itself find its own way to do things. “Often culture is changed from bottom (when development teams become better) and, of course, it is faster and better to

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<sup>3</sup> The discussion was held at several LinkedIn agile groups (Agile , Agile Testing, Agile CMMI, Agile Project Management Group, Scrum Practitioners, ...)

<sup>4</sup> Shreedhar Sattur, Product QA Engineer at Ariba

<sup>5</sup> Timofey Yevgrashyn, The Improved Methods

<sup>6</sup> Dave Poole, Data Architect at Moneysupermarket.com

<sup>7</sup> Chris Conrey, Human to Geek Relations at Integrum

<sup>8</sup> Inge Gorgon, Cegeka

change it from the top when all departments do understand the 'Flow'.”<sup>9</sup> But then there has to be liberal management willing to try new things.

*“In my experience Agile changes culture. People willing to let go of their ego and those with an open, positive attitude towards change tend to embrace it while those who dislike change, don't communicate well, or are overly defensive are at the other end of the spectrum. Identify the positive early adopters and they'll help you convert the rest. I believe it can work most of the time. It's hard and it takes time. You can't expect immediate results. You start by improving where you can, enlist help, expand your influence, and repeat. At the same time certain cultures will be very difficult change. I think these are the minority. In my experience these are the heavy, authoritarian, top-down cultures. Maybe not impossible, but it could be close.”*<sup>10</sup>

So how the agile culture should be?<sup>11</sup>

- Open to change,
- Open communication - both verbal and written - clear and concise, professional business communication,
- Technical skills - information sharing across projects and competencies.

Here is another definition of agile culture: *“The one thing from which everything else naturally flows is for the culture to be focused on delivering value to stakeholders. That is, to be outwards looking and concerned to understand and deliver value to the end consumer or taxpayer, and to sustain the capability to deliver value over the long term.”*<sup>12</sup>

But there is another view to agile culture based on trust, *“to be able to deliver project in agile way there must be trust between you and the client to accept the project to be managed agile way in the first instance as well as good relationship and transparency within the (well motivated) project delivery team.”*<sup>13</sup> Michal's definition of agile culture suggest *“the culture needs to make the team cooperative and well motivated, encourage members to report any new issues/risks as soon as they're identified without being blamed for lack of skills”* he believes the culture must be *“accepting people being different”* and *“providing them flexibility”* in order to be efficient and productive.

One saying says: *“If the neck is stiff, it is hard to have an agile body. Not impossible, but hard. Obviously. Organizations that are not agile at all do adopt agile. Sometimes even a single group manages to be agile while the rest of the organization isn't. But it is much easier and more natural when the whole environment is agile. The leaders of the agile group don't need to 'fight' with the rest of the organization.”*<sup>14</sup>

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<sup>9</sup> Timofey Yevgrashyn, The Improved Methods

<sup>10</sup> Erich Schulz, Director of Engineering at Ecast, Inc.

<sup>11</sup> Kshitij Peter, Test Lead at PSL

<sup>12</sup> Grant (PG) Rule, Founder Member at UK Rightshifting Network

<sup>13</sup> Michal Solc, Internal Systems Consultant at Save the Children

<sup>14</sup> Abramovich Azriel, Technical Architect at FIS Software (UK)

Finally there is another point. *“Any method to be adopted must be essentially compatible with the culture. And switching to any new method requires some driver for change and overcoming resistance. It requires a certain willingness to take risks.”*<sup>15</sup> and Bruce continues that *“adopting 'agile' methods is all about process improvement and change management. And for that to be successful and sustained, the right kind of culture is crucial.”*

It's hard to say what must be in first in place, if it is the right culture or the agile processes changing the culture. *“Sometime it is a chicken and egg situation, where as culture evolves it starts to encapsulate some behaviors promoted through agile methodology. In other times, agile processes and behaviors are grounded in already accepted values within the organization.”*<sup>16</sup> Eli further suggested the right agile culture to have *“Openness, Leadership/Ownership and Focus on the Client Needs”* as the key value.

The most detailed agile culture definition was provided by Kris Gottschalk from Rally:<sup>17</sup>

- #1 Commitment to be great; disciplined culture and metrics
- #2 Creating Your Own Reality and Corporate Vision
- #3 Quality and Faster
- #4 Personal Flexibility and Rhythm
- #5 Bottom-up and Top-down Decision Making
- #6 Collaborative and Smart
- #7 Contributing to the Community and Maintaining a Profitable Company
- #8 Sustainable and Successful
- #9 Servant and Leader
- #10 Work/Life Balance and Consistent Delivery

In general, the culture which *“favors open and objective thinking over tradition, values results more than bureaucracy and is disciplined enough to both implement processes but required they are sensible and as lean as possible”*<sup>18</sup>, is more suitable to start agile processes.

However the most important may be *“what problem(s) you feel that agile methods are the answer to”*<sup>19</sup>.

One of the experienced agile coaches suggested the ideal way, even though not realistic in fact, of starting agile processes: *“Ideally a company would do a top to bottom training of their management, business and IT people to get everyone sharing an understanding of the Agile philosophy. This includes understanding why and how it serves them personally, their*

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<sup>15</sup> Bruce Duncil, President at Alderon Consulting, Inc.

<sup>16</sup> Eli Hirschauge, Senior Consultant and Programme Manager

<sup>17</sup> Kris Gottschalk, Regional Client Development Manager at Rally

<sup>18</sup> Cristiano Sadun, Manager, Software Solutions&Architecture at Tieto

<sup>19</sup> Iain Mckenna, Associate Consultant at RADTAC

organization in the company, the company as a whole and the company's customers. This is very rare.”<sup>20</sup>

On the other side, another respondent noted: “I believe in agile company culture. However, a company doesn't have to be Agile itself in order to make use of agile methods. In order to successfully introduce agile methods to an organization the culture should be able to embrace change. However, the most important factor is existence of the organization’s DESIRE for Agile methods.”<sup>21</sup>

## 1.7 SURVEY ANALYSIS

This section summarizes the Agile Adoption Survey results by four different categories. The categories were inspected both in general and then with dependency on the length of using agile methods.

### 1.7.1 DIFFICULTY OF USING AGILE METHODS

The following graph (see Figure 34) visualizes the rating of difficulty of using the given agile methods. The survey identified the pair programming, Test Driven Development and Estimation in Points as quite difficult while the Customer Demo and Scrum meeting are quite easy for adoption.

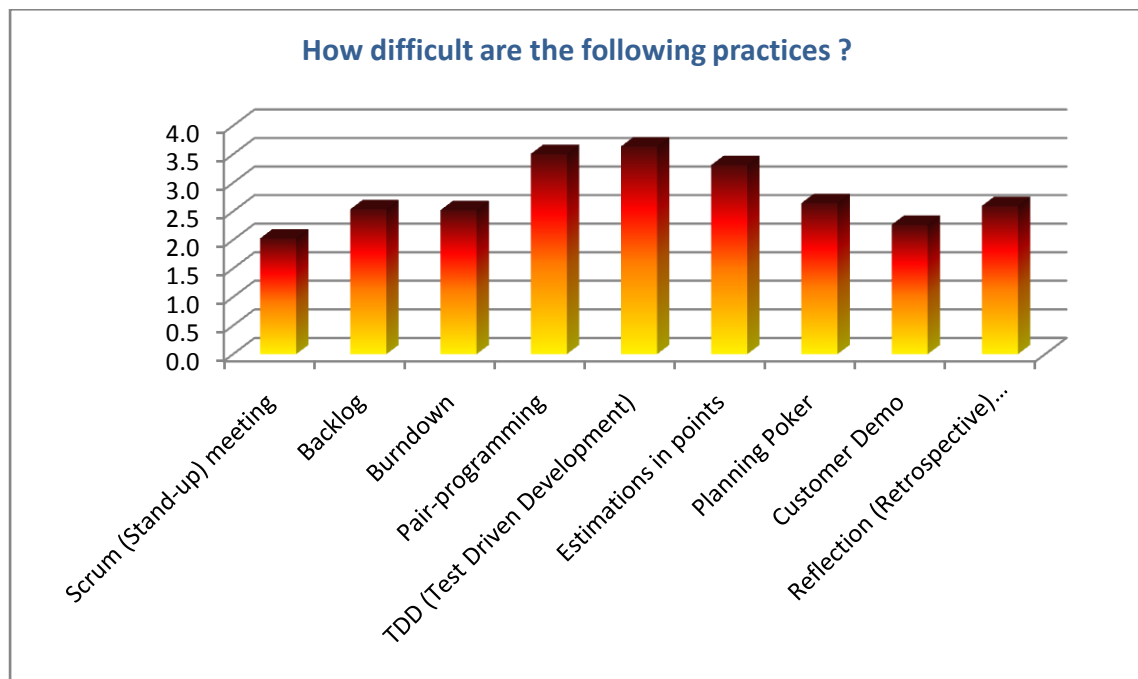


Figure 34: Survey Analysis - Method Difficulty

The next graph (see Figure 35) is taking into consideration the length of experience as well. However, surprisingly there seems to be no clear connection between the length of using and the difficulty of the given method, even though most of the methods seem to be observed

<sup>20</sup> Jay Conne, Lean, Agile, Scrum, XP coach and trainer.

<sup>21</sup> Dave Chesworth, ScrumMaster.

as easy first year, then when users understand the difficulties they rate them as rather difficult, and then as the experience grows, the observed difficulty level decreases.



Figure 35: Survey Analysis - Method Difficulty with Respect to the User Experience

### 1.7.2 USEFULNESS OF AGILE METHODS

The next category inspects the usefulness of given agile practices (see Figure 36). As the most useful practices were identified the using of Backlog, Scrum Meetings, Customer Demos and Retrospectives.

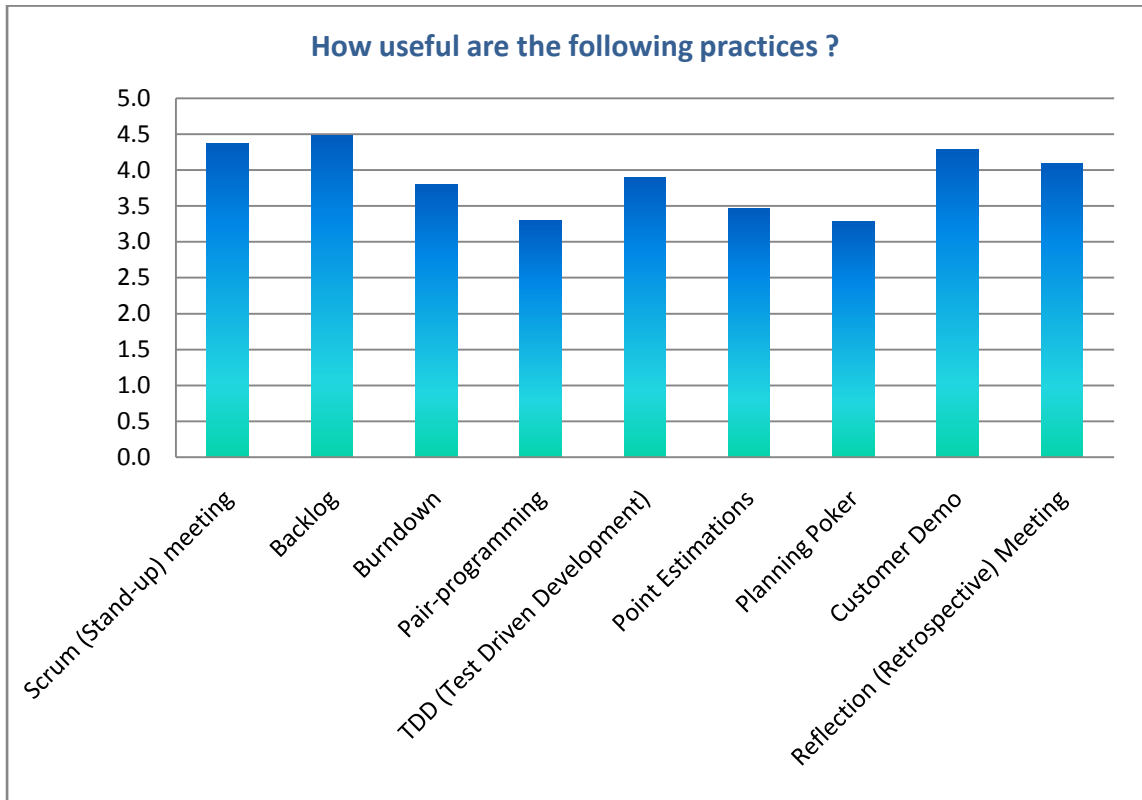


Figure 36: Survey Analysis - Method Usefulness

Considering the length of experience (see Figure 37), the Test Driven Development which was considered as one of the most difficult practices, was identified as much more useful practice by experienced respondents than with beginners. In general, for most of the practice es there is some positive influence considering the experience.



Figure 37: Survey Analysis - Method Usefulness with Respect to the User Experience

### 1.7.3 CHALLENGES DURING AGILE ADOPTION PROCESS

The next section investigates the challenges during the agile adoption process (see Figure 38). It's not surprising that as the most challenging factor was identified the customer involvement and communication, while the team communication and responsibility was identified as the less problematic.

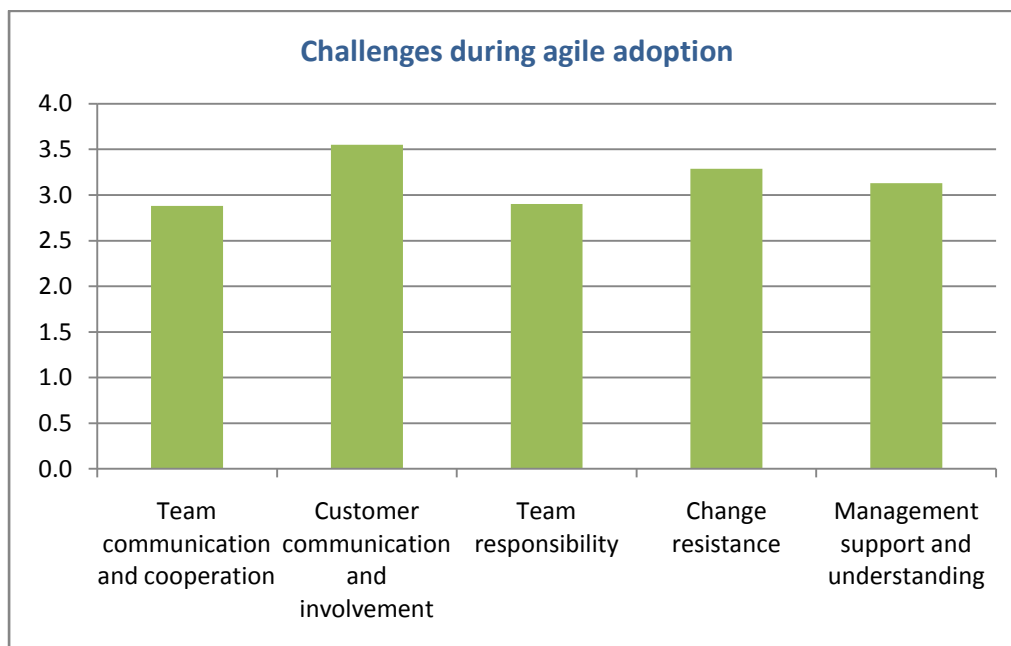


Figure 38: Survey Analysis - Challenges during Agile Adoption

However, it's quite interesting, that the change resistance and management support and understanding seems to be observed as much problematic by experienced respondents than with beginners (see Figure 39). On the other hand team responsibility seems to have an opposite course, being observed as more difficult by beginners than experienced respondents.

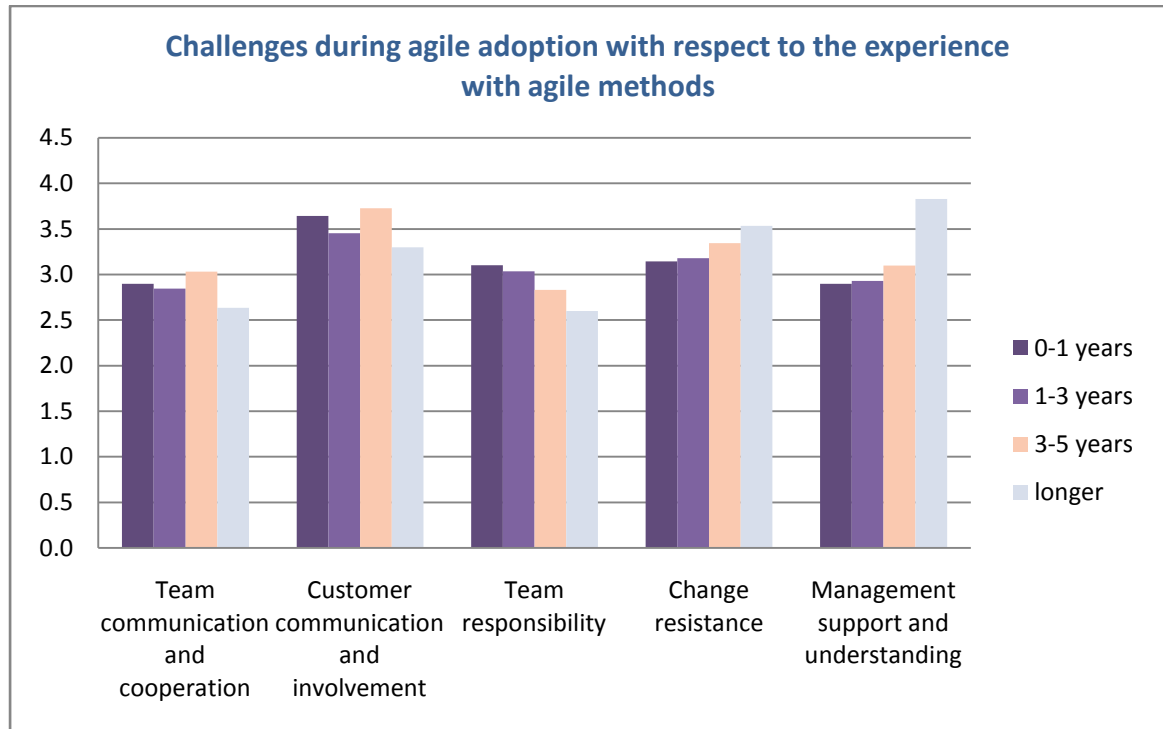


Figure 39: Survey Analysis – Challenges during Agile Adoption with Respect to the User Experience

Finally, about one third of respondents would like to improve productivity, one third quality, and the rest is divided into team health and predictability (see Figure 40).

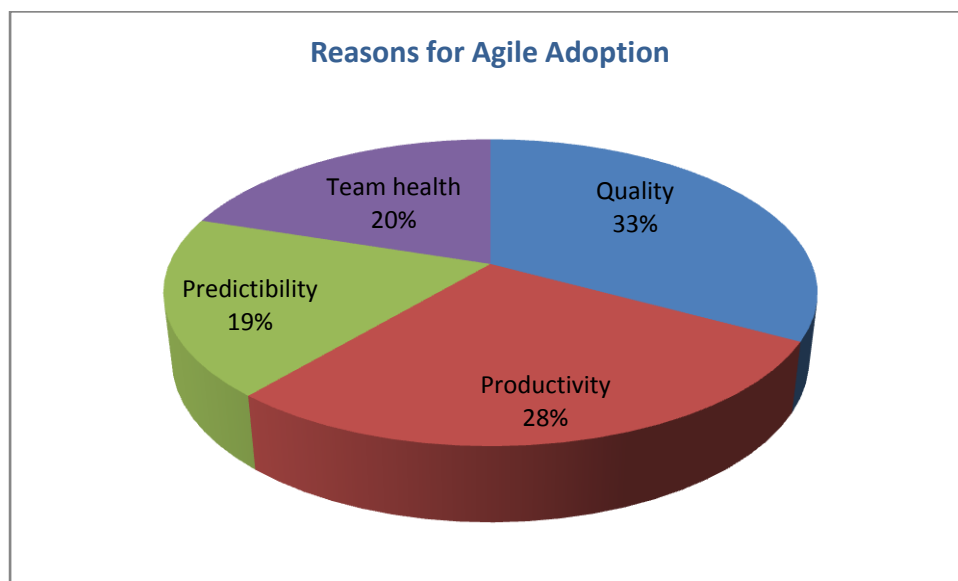
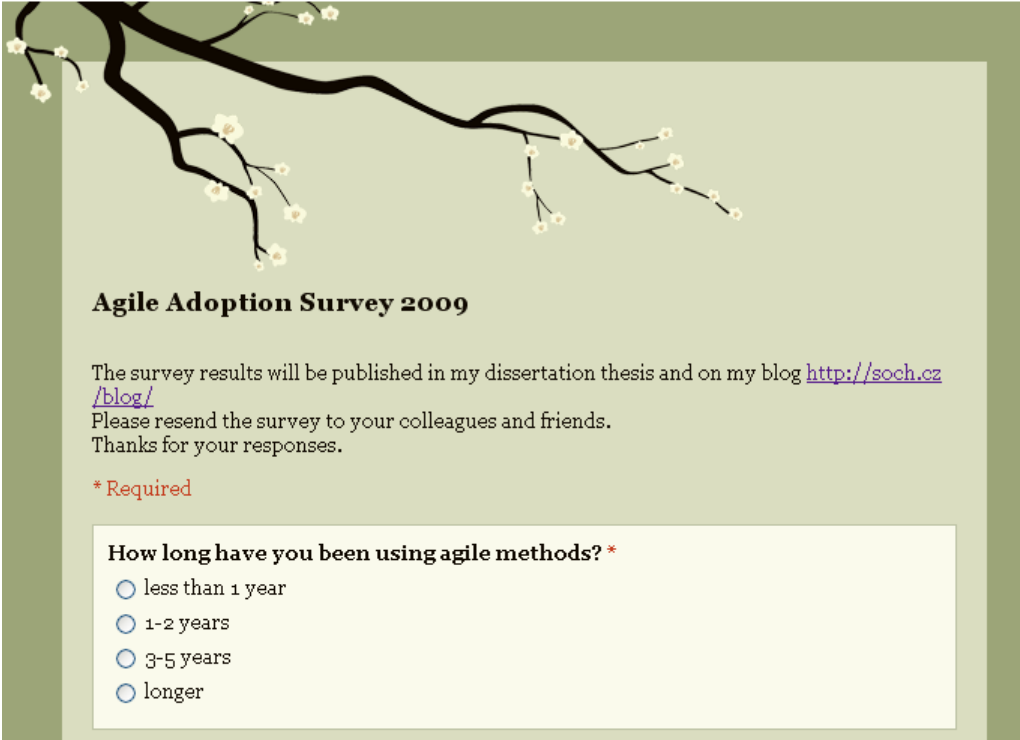


Figure 40: Survey Analysis – Reasons for Agile Adoption

To summarize the survey results, it's hard to decide which practices are harder to adopt, or more useful. As the context of every company is different, the experiences with agile adoption process differ as well. Therefore the survey was classified as an interesting source of recommendations, but was not really useful to create any recommendations for agile adoption process. However the last open survey section provided an important set of suggestions. The next sections are based on both data gathered from the survey open section, online discussions and structured interviews.



The second version of the Agile Adoption Survey was updated with respect to the feedback from trial version respondents and review of the results. The survey was distributed online<sup>22</sup> and was design to understand the usability of the particular agile methods. The goal was to identify the set of best practices how to start agile adoption process. The survey was divided into five sections as follows:



**Agile Adoption Survey 2009**

The survey results will be published in my dissertation thesis and on my blog <http://soch.cz/blog/>  
Please resend the survey to your colleagues and friends.  
Thanks for your responses.

\* Required

**How long have you been using agile methods? \***

- less than 1 year
- 1-2 years
- 3-5 years
- longer

Figure 42: Agile Adoption Survey 2009 v. 2 (part 1 - General)

<sup>22</sup> The Agile Adoption Survey 2009 at <http://soch.cz/agilesurvey.html>

**How difficult do you consider using the following practices?**

Focus on the early beginning of the agile adoption process. Keep empty if not applicable.

**Scrum (Stand-up) meeting**

1 2 3 4 5

Easy      Hard

**Backlog**

1 2 3 4 5

Easy      Hard

**Burndown**

1 2 3 4 5

Easy      Hard

**Pair-programming**

1 2 3 4 5

Easy      Hard

**TDD (Test Driven Development)**

1 2 3 4 5

Easy      Hard

**Estimations in points**  
(instead estimating in man/days or hours)

1 2 3 4 5

Easy      Hard

**Planning Poker**

1 2 3 4 5

Easy      Hard

**Customer Demo**

1 2 3 4 5

Easy      Hard

**Reflection (Retrospective) Meeting**

1 2 3 4 5

Easy      Hard

Figure 43: Agile Adoption Survey 2009 v. 2 (part 2 –Difficulty of the selected practices)

**How frequently are you using the following agile practices?**

Keep empty if not applicable.

**Scrum (Stand-up) meeting**

Never  
 Irregularly  
 Frequently  
 Daily

**Pair-programming**

Never  
 Rarely  
 Frequently  
 Always

**TDD (Test Driven Development)**

Never  
 Partially  
 Fully

**Customer Demo**

Never  
 Rarely  
 Irregularly  
 Every Sprint

**Reflection (Retrospective) Meeting**

Never  
 Rarely  
 Irregularly  
 Every Sprint

**Estimations in points vs. time (man/days or hours)**

\_\_\_\_\_ 1 2 3 4 5 \_\_\_\_\_  
 Using just time      Using just points

**Planning Poker**

Never  
 Sometimes  
 Often  
 Always

Figure 44: Agile Adoption Survey 2009 v. 2 (part 3 – Frequency of usage of the selected agile methods)

**How useful do you consider the following agile practices?**

**Scrum (Stand-up) meeting**

1 2 3 4 5

Not useful      Extremely useful

**Backlog**

1 2 3 4 5

Not useful      Extremely useful

**Burndown**

1 2 3 4 5

Not useful      Extremely useful

**Pair-programming**

1 2 3 4 5

Not useful      Extremely useful

**TDD (Test Driven Development)**

1 2 3 4 5

Not useful      Extremely useful

**Point Estimations**

1 2 3 4 5

Not useful      Extremely useful

**Planning Poker**

1 2 3 4 5

Not useful      Extremely useful

**Customer Demo**

1 2 3 4 5

Not useful      Extremely useful

**Reflection (Retrospective) Meeting**

1 2 3 4 5

Not useful      Extremely useful

Figure 45: Agile Adoption Survey 2009 v. 2 (part 4 – Usefulness of the selected agile methods)

**Challenges during agile adoption**

Indicate which aspects are the most problematic.

**Team communication and cooperation**

1 2 3 4 5

No problem      Difficult

**Customer communication and involvement**

1 2 3 4 5

No problem      Difficult

**Team responsibility**

1 2 3 4 5

No problem      Difficult

**Change resistance**

1 2 3 4 5

No problem      Difficult

**Management support and understanding**

1 2 3 4 5


No problem      Difficult

Figure 46: Agile Adoption Survey 2009 v. 2 (part 5 – Challenges during agile adoption process)

The image shows a survey form titled "What would you recommend (optional)?". It contains three text input fields with the following questions: "What did you find as the most challenging during agile adoption process?", "What would you do differently?", and "Any recommendation?". Below the fields is a "Submit" button and a footer that reads "Powered by Google Docs" with links for "Reset Stage", "Terms of Service", and "Additional Terms".

Figure 47: Agile Adoption Survey 2009 v. 2 (part 5 – Recommendations)

Finally, there had to be done the third survey version, considering the previous online survey result review and the first set of interview results and recommendations. The change was done in the first section only, and link the company background (why the company decided to go agile) with the particular usage of the agile methods. The section was as follows:



### Agile Adoption Survey 2009

The survey results will be published in my dissertation thesis and on my blog <http://soch.cz/blog/>  
Please resend the survey to your colleagues and friends.  
Thanks for your responses.

**\* Required**

**How long have you been using agile methods? \***

- less than 1 year
- 1-2 years
- 3-5 years
- longer

**What were your key reasons to start Agile?**  
(what did you want to improve)

- Quality
- Productivity
- Predictability
- Team health

Figure 48: Agile Adoption Survey 2009 v. 3 (part 1 – General)