

Online Supplement — What Makes Effective Leadership in Agile Software Development Teams?

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1 Online Supplement

1.1 The Interview Guide

This interview is intended to let the participant speak freely about the context in his/her organization. Let the participant speak freely about their work and how it might differ in a traditional or agile set-up. Try to once in a while interpret what the participant is saying in your own words to verify the correctness.

1.1.1 Introduction

- Could you please state your educational background, position in the organization (department/group/team). How long you have worked at the company, current role etc.?
- What are your current tasks?
- Could you describe the organization, what it looks like, and then also why you wanted to work with agile methods and how that idea came about in your organization?
- Could you briefly describe the organizational structure?

1.1.2 Examples of follow-up questions on agile methods

1. What would you say was the main reason why you introduced agile?
2. What agile methods do you use?
3. What did you use before agile methods? And how is it different?
4. Did the organization decide to implement agile overall or did you start with parts, and then what parts?
5. Any new challenges compared to before you implemented agile?
6. Which were the different challenges of implementing agile?

7. How did you start implementing agile? Did you run a couple of pilots first?
8. What would you define as the greatest advantages of agile methods overall?
9. How do you adapt to that surrounding waterfall method (if applicable)? You have strict waterfall teams too right now?
10. Do you see any difference in the performance of teams since you started working with agile?
11. Do you have any other aspect that you think that we haven't covered that you think is an important part of working agile?

1.1.3 Examples of follow-up questions on leadership

1. How did management handle agile?
2. What would be the greatest challenges of leadership in this “new” context?
3. Has the fact that the teams get more authority to decide affected management somehow?
4. Could you compare the dynamics of the teams in the agile set-up to how they were before?
5. Would you say that this person does leadership?
6. Who would you say is in charge here?

1.2 Description of Participants' Organizations

Each interviewee was asked to describe their organizations. Below is a summary of their responses.

1.2.1 Company A Background

Company A introduced agile methods for typical reasons similar to many other companies; to have more ownership and buy-in from staff/employees, increase job satisfaction, better buy-in from the business, better time to value, and increased quality. The effect of synchronizing business and IT was described as not that well understood in the beginning of the implementation. They had hired a consultant that had started with coaching and conducting some implementation work for the initial ramp-up. The IT organization had decided, a while back, to not have a centralized PMO (Project Management Office). The previous method they had had (before the agile approach) was more schedule-driven where they had dictated a date and budget for each project without involving the teams. The initial set goals had not been negotiable but more of a commitment, even though they had not used a strict plan-driven method, but described it as more of a “loose” waterfall. The initial vendor who had implemented agile had had more of a disciplined

approach and had been a believer of bootstrapping. After a while, they had then looked for agile coaches, and that was how the interviewee had started at the company. They interviewee had tried to turn the ship a bit recently and went more toward the agile principles. They used a tailored version of Scrum and Kan-ban. The interviewee was located in the USA.

1.2.2 Company B Background

The interviewee was a part of the corporate enterprise IT organization, and the company had had a rigorous waterfall in place before changing to agile. The interviewee was on the development-side and had been for a couple of years, and managed the project managers. Company B was described by the interviewee as a kind of a follower, and they had to adhere to their plan-driven approach as well, surrounding their agile teams. Before agile, by the time they had delivered, the system either had not satisfied the requirements or they had often been out of money. In the end of 2011 they had decided to try an agile approach to see if they could get a quicker realization of business value. They had not deployed in an organizational “big bang” but had hired third-party consultants who had partnered with the employees in order to transfer their knowledge to the company. The main reason for trying an agile approach had been to get quicker realization of business value. The interviewee was located in the USA.

1.2.3 Company C Background

The interviewee from this company was responsible for the project portfolio management process and was managing the team work with these processes. Before agile they had been struggling with how to align the business with the priorities for the projects within the company. They had basically been working on whatever the person with the loudest voice had suggested, i.e. a reactive way of dealing with project priorities. There had also been issues with the visibility of what they were working on at a certain point in time. The interviewee had taken a Scrum Master class and had lunched a pilot project for its implementation earlier on. They had applied the selected agile framework to fit their own company. Before the agile approach to projects, the company had had more of an *ad hoc* process with a lot less formalization. They had tried an agile approach the longest within the company’s IT portfolio management. Since the systems needed deliveries from other parts of the organization, they had a business council instead of a product owner containing employees from each department. The teams used a cross-functional list from this council to conduct the sprint planning. The business cooperation with IT through this process had received many compliments within the organization. The interviewee was located in the USA.

1.2.4 Company D Background

Company D had started with an agile approach to find innovative ways to deliver value to customers, both internally and externally. They had decided to use agile in a new

program they had started and then evaluated it. In the beginning the method was described by the interviewee as experimental but a while back they had decided to use it on a smaller scale. IT had driven the process but some teams had been less successful since they had first started the project, and then looked for a business representative. The teams who had started by seeing the whole project as a partnership from the beginning were described as being more successful by the interviewee. The biggest benefit in Company D was having IT and business work together in the new agile approach. Traditionally they had had more of a waterfall approach. The greatest benefits had been increasing throughput, shorter cycle-time to delivery, and embracing change. The interviewee's description of the preceding mentality was well put forward in the following quote:

“Here are the requirements, now let me throw them over the fence.”

The interviewee was located in the USA.

1.2.5 Company E Background

Interviewee 1 at Company E was the team leader for sales and distribution within the company. The team was specifically handling order management, pricing, etc. The team was described as a “lean team” with a lot of work accomplished with a small amount of people. The team members were working extensively, and the tool they used help them focus on what their priorities were. The interviewee was located in the USA.

Interviewee 2 was a part of the PMO within the company that covered two continents. All projects that involved infrastructure teams were in their portfolio, and the PMO had around 25 project managers. It had mainly been focused around waterfall methodologies before they introduced agile. When they heard of agile methods, they had brought in a consultancy firm to kick-start the agile transformation. They had started with one project because the organization had not been culturally ready for a larger agile implementation at that time. They had found out that smaller projects were more aligned with the agile methodologies because and the reason for this is well-described in the following quote:

“[They] are less... I call it political.”

They had started using *Agile Start-up Squads* which were groups of four people that were agile experts and coached the project managers to run agile projects. These teams of agile coaches were stable over time. The interviewee was located in the UK.

1.2.6 Company F Background

The interviewee was a part of the IT organization and was a project manager involved in project execution work. The interviewee was involved in a huge ERP System implementation and was responsible for that whole delivery. The IT part was like an organization of its own, and this IT part was like an IT service company providing IT services exclusively to the company internally. Historically, in the classical implementation they

had had, changing the requirements, especially in the data model, were among the most expensive changes. That was why they decided to use prototyping a while before the interview was conducted. When they had started implementing Product Life-cycle Management (PLM) the interviewee had been studying project management on the job but also off the job. That was when the person came across agile methods and started a pilot to access the potential of that approach. Using agile for ERP implementation work was new territory, and they had developed the methodology along the project execution. Already Sprint 1 had been described as “kind of” successful, but was still considered elementary as compared to what they were doing at the point of the interview. The interviewee was located in Germany.

1.2.7 Company G Background

Interviewee 1 worked in a relatively new part of the company, which created smaller applications that helped speed up implementations of the larger software. A while ago they had realized that the products they developed not only needed to be developed at customers’ sites but also that they needed to develop more quickly. They then decided that an agile approach was reasonable to try. Interviewee 1 was located in the USA.

Interviewee 2 was the Scrum Master of two teams. One of the teams conducted service development and the second developed mobile applications. They had 2-week sprints and the product owner was in direct contact with the team. The teams had started working with agile methodologies from the beginning when the teams were created. Interviewee 2 was located in Tunisia.

Organization-wise interviewee 3 was part of the global IT organization and specifically from the application services part. The current project was sprung from another one that had been driven from the business side and not from the technical side. The current program wanted to use the very latest technology, which was a clear difference from before. Therefore it was an innovative project that also explicitly had stated from the beginning that they intended to leverage agile implementation methods. They had started with an undefined Scrum methodology and had adjusted it over time. Interviewee 3 was the Scrum Master of the team and was located in Germany.

1.2.8 Company H Background

The interviewee had started working with agile in 2008, and had been one the first team who ever applied agile (Scrum) in the company. The main reason for introducing an agile approach to project had been due to problems they had had had in the past. The problems had consisted of trying to specify the requirements for the whole system up front and had spent one year on only implementation. The problem had been that the requirements had been changing and new ones had appeared with a fixed delivery date. With agile they had gotten the opportunity to put something in production and evaluate it with the customers with much shorter iterations. The culture before had been to guess what users liked and then they had spend over a year developing it. They had used the Rational Unified Process (RUP) before but needed better and faster feedback

loops. Since a while back they had been trying to adopt Kanban due to issues they had had with Scrum. They more mature teams already switch to Kanban while others lag behind. They stopped having Scrum Masters but instead have other roles and put small blocks into production in short iterations. They implemented Kanban in small steps so that the employees could adjust step-by-step. In the beginning they had started with Scrum training by a consultant who had given some extra training when needed. After that they had only had internal workshops and when they started with Kanban some teams had started using Kanban internally and had then given workshops to other teams. The interviewee was located in Brazil.

1.2.9 Company I Background

The interviewee's position in the organization was difficult to answer by the interviewee. The person did anything they needed, from fixing hardware to teaching classes. The person identified himself/herself, however, as an agile coach. The interviewee had worked 9 years at the company, which was when the company started. The interviewee described the organizational structure as very flat which few hierarchies. The all sat in the same room and collaborated across projects. They were always there and tried to learn new things continuously. The business side of the organization did have hierarchies but not the developers. In the beginning they had organized their work in the way they thought was the best, without having known about agile. In the end of 2007, a researcher had visited from the university and had told them that what they did was very similar to XP. They had just been doing what they thought was best financially since they needed to be flexible. The different teams could select their own agile process based on their needs, but all of them did pair-programming, code reviews, and automated testing. The agile training was done internally and they offered courses on processes and practices, which included Scrum and Lean. The interviewee was located in Brazil.

1.2.10 Company J Background

The interviewee was one of the founders of the company. The person had been working with agile teams and agile software development for more than 10 years. The interviewees described the founding of the company as having been a group of geeks wanting to change the way software is built. The person had been very much involved in the agile community and had arranged conferences and help many companies with their cultural change towards more agility. At the point of the interview, the person was mostly involved in the company's consultancy services and in charge of the sales department. The company offered two separate services to clients; one being training in agile processes and practices and the other one being consultancy services. They worked with one large vendor and provided software development comprising of both the customization of, and delivering new, software. The interviewee was at the point of the interview the Vice President of Sales handling sales and contracts. The company was selling mainly agile projects, and the most common client was IT departments that had experienced a failed more traditional project. Such projects had often had low trust and problems

with meeting the goals and delivering on time, and therefore actively sought something different outside of the company and often asked for an agile approach. The company had been founded on the idea that it should be built on agile principles and values. The organizational structure was described as very flat and the only hierarchy that existed was the fact that the owners of the company were responsible by law. They wanted to build an agile company and not just provide agile teams to customers. They did not have a set of practices for everybody to follow, they used whatever practices they saw fit for the specific project, and the interviewee stated that it is more about context. They had teams having a three-day delivery cycle, some that use Scrum, however, they did have recommendation for all teams in that they used some form of continuous integration, testing and TDD, and retrospectives as a way to improve. The interviewee was located in Brazil.

1.3 Chain of Evidence

Below is a summary of the interviews conducted sorted into the three themes and their respective categories with associated quotes (see Tables 1 – 10).

The column called “initial category name” comprises the first categories given to the quotations during the coding process. The third column called “final category name” is the category created for a set of similar initial category names to be used in the paper.

Table 11 shows two categories that were assessed as out of scope for the study, namely Communication and Staffing problems. Communication and staffing problems are evidently related to leadership, and, obviously, leaders need to communicate and find staff. However, the participants who mentioned communication and staffing problems discussed them as general issues and not directly related to effective agile leadership.

Table 1: Dynamic Team Leadership – Team members that drive the work forward

Theme	Initial category name	Final Category name	Example Quote	PID
Dynamic Team Leadership	“team members share responsibility”	Have team members that take initiative and responsibility	“Another guy said, ‘well you won’t have the time, so I’m the Scrum Master now.’ And that was it. That was the decision, and it was very natural, so they don’t see the scrum master as a person, they see it as a role that they all can take. Take the weight off someone else’s shoulders and help out.”	I1
Dynamic Team Leadership	“team members don’t drive work”	Have team members that take initiative and responsibility	“To be totally honest we also in the beginning made staffing decisions based on that. Where we said: ‘This is just not working out’, with someone who is just passive, and does not create this active work-mode. Then of course, they were not happy and they said, ‘oh, we don’t want to be on that project,’ and then we happily let them go. And then tried to rearrange.”	G3
Dynamic Team Leadership	“manager dependence”	Have team members that take initiative and responsibility	“It’s not depending on if we use waterfall projects or agile, projects do have problems, and when they do, we need to have some sort of leadership in the teams in order to solve some of those problems. That is for us the main challenge; how we get somebody to come from an outside world where the personal always had a manger that she or he can refer to, and when things get stressful there is always someone to tap them on the back and say ‘OK, everything’s gonna be fine!’ While we try to have a company where everyone’s responsible for their own mistakes and they are responsible for their own work. That’s hard! Really hard!”	J1
Dynamic Team Leadership	“no shared responsibility”	Have team members that take initiative and responsibility	“And the ability to basically design things; form and shape things, which also brings me to think of that agile work is probably not for everyone. You need to have people who basically are willing to take responsibility, who are willing to get empowered and to make decisions.”	B1
Dynamic Team Leadership	“focus on collaboration”	Have team members that take initiative and responsibility	“My own anecdotal perspective is that for the teams that are doing it right, and by right I mean that they are embracing the principles and not just delivering things in a short amount of time. They are really thinking about being collaborative and self-organized and all those things. They become passionate about it and really want to do more of it.”	C1
Dynamic Team Leadership	“motivated teammembers”	Have team members that take initiative and responsibility	“I took the project over and it was about 3 weeks behind and we made up all that time. I liken that progress to having used this Scrum framework, because it was just... God! Everybody got awake and in line and moving, and communicating.”	G1

Table 2: Dynamic Team Leadership – Let team members lead

Theme	Initial category name	Final Category name	Example Quote	PID
Dynamic Team Leadership	“listen to team input”	Let team members lead	“Not only regarding stories and requirements, but if they have other ideas of improving teams or whatever, if we talk to them and try to fix it, they really like it. Their input is important. This is the main factor to happiness at work here, as I see it.”	H1
Dynamic Team Leadership	“initiate team-drive”	Let team members lead	“For example, the need to learn TDD so we get together and I teach them and then I feel like, if I stay around they’ll be dependent on me much longer. So I have to step back and disappear for like two weeks and then I get back to the project. I’m more of a consultant in that team than a developer.”	I1
Dynamic Team Leadership	“team members lead”	Let team members lead	“I guess we were just really lucky with the team members we had. This was basically also my objective; careful! Don’t become a project manager, don’t start planning stuff, don’t start assigning or defining tasks. Stay out of that!”	G3
Dynamic Team Leadership	“afraid to share leadership”	Let team members lead	“So maybe we’re killing the leadership instinct in them by exposing them to strong leadership from the beginning.”	I1
Dynamic Team Leadership	“team members lead”	Let team members lead	“The formality there might be the problem. Or it is formal because... well I’ve asked them, and the reason it’s formal is that the two leaders don’t feel like they can leave it to the other people. So they don’t trust the other team members and there is a person there that could be a leader and sometimes the person tries and he dies... like the person’s leadership is not enough. The person’s leadership is not enough to overpower the other ones, so sometimes I sit with the person and say ‘so, I know you see that problem, because I see your face and you are seeing that problem, so what are you going to do about it?’ Then the person gets motivated and tries again and then he... I also say to the other ones to be quiet and just listen. My hope is that it helps in the long term, that that person that has strong opinions and actually fighting for it, will motivate the other people in the team to do the same. And that the two leaders that don’t usually listen to the rest of the team will learn that they should listen more.”	I1
Dynamic Team Leadership	“leadership not shared”	Let team members lead	“There are teams that have a strong leadership, and there the problem is another one which is this whole idea of having someone telling everybody what to do. For me, it’s the leadership will make it the best or the worst.”	J1

Table 3: Dynamic Team Leadership – Step in, if needed

Theme	Initial category name	Final Category name	Example Quote	PID
Dynamic Team Leadership	“leaders intervene”	Step in, if needed	“I could [force the teams to try a practice]. And I did, actually, a couple of times and the way I do this is, I have a plan and then I plan a presentation or a small workshop with the team to show them the problems they have right now. Then I say, well let’s try this other process, and I explain it to them and they will try it for 2 weeks. And if they don’t like it, they’re free to go back to the old one.”	I1
Dynamic Team Leadership	“leaders intervene”	Step in, if needed	“Most of the time we have to interfere as leaders in order to help the team come together and make a better decision, in relation to how to attend a client request. But that makes this whole thing much harder because I need to have independent developers and testers and designers that are able to talk to clients most of the time.”	J1
Dynamic Team Leadership	“leaders intervene”	Step in, if needed	“What’s mostly happening is that they come to me and say ‘what I think I’m seeing is this, do you agree with that?’ They have the sense of that I’m always watching what’s going on.”	I1

Table 4: Social identity – Build a strong social identity across functions

Theme	Initial category name	Final Category name	Example Quote	PID
Social identity	“include more people”	Build a strong social identity across functions	“A new resource from finance for example didn’t use to have much to do with the other functions. Now with these meetings and planning, they are all one team working together and cheer each other’s aspects. So new members quickly become a part of that family, which is a really interesting byproduct.”	F1
Social identity	“broaden their perspective and create a common identity”	Build a strong social identity across functions	“It’s very easy to see that, well ‘my part in the project is just coding,’ but that’s not quite true. They get less cohesive by having a clear separation of roles.”	H1

Table 5: Social identity – Create an IT and business/customer partnership

Theme	Initial category name	Final Category name	Example Quote	PID
Social identity	“dev. and business”	Create an IT and business/customer partnership	“The teams are fairly self-organizing, and the team is composed of business and IT sitting together for dedicated work sessions. So it’s a dedicated team.”	A1
Social identity	“engagement with the business-side”	Create an IT and business/customer partnership	“The business partnership and engagement you create is absolutely tremendous compared to the traditional approach! /.../ I can feel that the people simply like what they’re doing. Yes. Absolutely. And the reason why there is increased job satisfaction is, well first of all it’s working as one team, it’s not us and them; IT versus Business.”	B1
Social identity	“create a common identity with customers”	Create an IT and business/customer partnership	“We say “you are responsible with us for the success of this project.” So we try to have the client as the product owner. Usually, the one that’s responsible for the project, well, that would be a dream come true if all project had the client as the product owner, but that’s not always possible.”	J1
Social identity	“not business versus us”	Create an IT and business/customer partnership	“So they can again, work to be a part of and share the accountability [in agile]. I mean, for a whole variety of reasons that involvement of the business partner as a part of the team, not them versus us, and IT is no longer the scapegoat if they didn’t get what they wanted, or we delivered on time or we ran out of money etc.”	D1
Social identity	“business not included”	Create an IT and business/customer partnership	“Our customer is not easy to get to our meetings. So when we have it, it’s too late. And when we have it, most of the times we get change requests and something to change.”	G2

Table 6: Social identity – Build a strong team identity

Theme		Initial cate- gory name	Final Cate- gory name	Example Quote	PID
Social identity	iden-	“social ceremony”	Build a strong team identity	“My team works pretty well, but the clients are next door, literally. The team can walk and talk to them. Very easy. And even talking to [another city] is only an online chat away. It’s interesting because when we deploy software in the middle of the day, the [people] here actually call the other units and say ”ok, we’re stopping the software for a couple of minutes to deploying. So then everyone stops. We could do a night deploy, but we prefer to do that. Our PO finds out stuff from other units when we’re doing that so.... the PO is from the commercial/business area and is the person who’s been here the second longest. My team is very easy with that. ”	H1
Social identity	iden-	“team ceremonies to build identity”	Build a strong team identity	“The Scrum part takes between 7-10 minutes. Then it takes another 5-10 minutes to fill out the time, and it’s in the spreadsheet, so then I got to the tab that shows the burn down. People wait for that! Like: ‘Oooh let’s see what the burn-down is today!’ And then the third part is just an open forum, an open meeting, and people sort of take care of things that will only take a short amount of time to discuss. If things come up that will take more time then they go ahead and set up their own meetings. So that’s how I extend it to accommodate the distance.”	G1

Table 7: Organizational Cultures – tailored approach

Theme	Initial category name	Final Category name	Cate-	Example Quote	PID
Organizational Cultures	“shield to surrounding”	Tailored approach	ap-	“I don’t know if <i>shield</i> is the right word, but the team doesn’t have to worry. I have a very high-level schedule with milestones that I can show them like ‘this is where we are.’ I have a kind of waterfall-like representation of our sprints and the main milestones and I show that to them. But then I just take care of all the requirements from the organization, you know, at a higher level. The team doesn’t have to worry about that stuff. But if they want to see something I have this nice little schedule I can show them. That’s where I become a traditional project manager. I would say I spend quite a bit of my time in that role, making sure everything fits the rest of the organization.”	G1
Organizational Cultures	“context of solution”	Tailored approach	ap-	“What one individual pilot project starts to practice, you always have difficulty scaling that, because that’s what they were doing and got really good at doing exactly that specific to that project. But that’s not necessarily well translated into practice format across the enterprise. That needs to be more of the fundamentals and the process behind it.”	A1
Organizational Cultures	“make waterfall more incremental”	Tailored approach	ap-	“So one of the things is that either you break a project into smaller pieces to get it done within 6 months and deliver less capability, but the highest priority capabilities. And that’s both for agile and waterfall projects, that the concept is to deliver capability to the business within 6 months, so that the business sees the benefits earlier rather than later. So that is stolen from the agile concept, to deliver incrementally.”	E2
Organizational Cultures	“when agile doesn’t fit”	Tailored approach	ap-	“For example, for the project when we deliver our support package and we are in a test phase, like regression tests. For this period I think agile is not the methodology to use. We have 2 months of which we have our sprint backlog empty, or with just some tasks on quality. We work on internal message we get from our testers. And I think that for that period I don’t think we have to use agile methodology.”	G2
Organizational Cultures	“multiple POs”	Tailored approach	ap-	“Sometimes we run into situations where a team has multiple product owners and that’s very difficult to work with, because then you have to balance your priorities across multiple product owners for your team to deliver. So what we try to do is break our teams into small enough groups that we basically have a single product owner for that capability.”	E2

Table 8: Organizational Cultures – Understand the company ecosystem

Theme	Initial category name	Final Category name	Example Quote	PID
Organizational Cultures	“not just the team itself and its value creation”	Understand the company ecosystem	“Also, what adds complexity is what I call the company ecosystem. So the other areas that you need to work on, like if you need a new environment for example, maybe new infrastructure for the teams. If you haven’t brought those people along in your agile journey, then subsequently you will have that hurdle to overcome because of the different culture and behaviors.”	D1
Organizational Cultures	“tweak agile”	Understand the company ecosystem	“We decided to have a business council instead of a single product owner. On that council I think we are up to 7 people. One from each department. For example, there is one representative for finance, one from marketing, one from operations, etc. These people act as our product owners and we have a 3-week sprint cycle, we meet with them every three weeks and review projects that are currently in process and our first step is to make sure they are still our priorities and we look at the list of priorities that haven’t started yet. /.../ I can’t tell you how many compliments we’ve received from the overall business teams at many different levels. Even though it’s work for them to sit down and argue back and forth on what is important from a company perspective, we’ve knocked down all those silos and force them to cooperate and agree that IT is working on the most important projects for the company.”	F1
Organizational Cultures	“silo adaptation”	Understand the company ecosystem	“To some people it’s a subtle difference and they sometimes have a hard time grasping why we don’t just have one list for finance, one list for sales ops etc. But it has been a key drive for us since we have shared resources, to have one cross-functional list.”	F1
Organizational Cultures	“old-type projects”	Understand the company ecosystem	“I’ve been working with companies that want to ‘install’ agile, like it’s not a cultural change, they think it’s a software like Microsoft Office or something. One thing that actually helps a lot is that even when you’re deciding which project to take on, that project has to have a few principles that will improve the whole group or organization. So if you’re working in a company, or on a project that has been sold as a fixed price and fixed scope project, you won’t be able to really have profound conversations on how to improve as a group, and you’re just running to meet deadlines on scope.”	J1

Table 9: Organizational Cultures – Adapt to customer culture

Theme	Initial category name	Final Category name	Example Quote	PID
Organizational Cultures	“customer culture”	Adapt to customer culture	“Sometime it’s just not responsible or feasible to try to get things into production every two weeks, let’s say. I mean, that’s just wouldn’t make sense. So, how we try to circumvent that, or even from our customers’ perspective (our business partners), often they don’t want changes as often as we could deliver them.”	C1
Organizational Cultures	“customer transparency”	Adapt to customer culture	“The sprint review has been a Godsend because we pull in the stakeholders, and again, they understand much earlier in the process how things are going, what we discovered, and we can set their expectations of what the final packages actually are going to be. They can see it, and they can see it working. So I would say that and the other thing is: I think it does (maybe this sound like a contradiction) but it does nurture discipline, because of this regular rhythm.”	G1
Organizational Cultures	“adapt to project characteristics”	Adapt to customer culture	“We try to set the restrictions so that people know when they are NOT following them. We use to work mostly with start-up companies, and with start-up companies, that’s a big discussion because with a tight budget, why could you have 17 layers of tests? when you instead could have really compact objective test that test throughout the whole business process. So why build this big infrastructure of testing when you don’t know if the company will even exist a month from now? So that’s why we have restrictions and not rules. If they decide on that particular project that they don’t have to have a big focus on testing, they do have to have some tests, that’s what the restrictions say to them, but they can discuss it and decide what’s best for them.”	J1
Organizational Cultures	“change in contracting”	Adapt to customer culture	“Most of our contracts are based on agile principles. Their scope is not defined, or usually, they’re quite loosely defined. We often have team contracts, which is when we set up a team that team is fully focused on that project. We don’t have one person on multiple teams, as you can see in a normal software house. We have full-time dedicated developers for each project.”	J1

Table 10: Organizational Cultures – Adjust “old” behavior

Theme	Initial category name	Final category name	Cate- gory name	Example Quote	PID
Organizational Cultures	“old behavior”	Adjust behavior	“old”	“We’ve trained them over the years that they only have one shot at it. So they strive to get everything in and described, thinking I only have one shot at this, because usually we run out of money or run out of time.”	D1
Organizational Cultures	“difficulty of change”	Adjust behavior	“old”	“What I understood very early was that waterfall approach provides some very familiar and comfortable handrails, called milestones, which everybody grasps and clings to for life. This takes this away, so in the beginning people are... the stress level does go up with people who are not familiar with this, because they felt that there’s no certainty: ‘where are we going? What are we doing? How come we only focus on the next three weeks?’ That the hardest thing I think for people.”	G1
Organizational Cultures	“old habits”	Adjust behavior	“old”	“I mean typical misunderstandings like to what they were used to, they were giving money to IT and of course they wanted to know what they would get at the end of the year for their money. We told them: ‘sorry, we can’t tell you.’ ‘Why can’t you tell us?’ ‘Because we are agile and our backlog changes continuously, so we can’t tell you what you get in the end of the year, but we can tell you that if we all do our jobs right, then at the end of the year whatever you have will be exactly what the end-users need, or at least from their top priority.’ Sure that was new, it was a bit hard to swallow. But then it was accepted and the business organization is now really behind it.”	G3
Organizational Cultures	“behavioral change”	Adjust behavior	“old”	“The biggest challenge for me is the behavioral one. Everyone has to behave differently and with everyone I mean developers, product owners, scrum masters, but also of course business stakeholders, line managers, and I really mean everyone. /.../ Allowing the team to become a high performance team without the problem of having a lot of politics involved in the execution of the project.”	E2
Organizational Cultures	“change in project follow-up”	Adjust behavior	“old”	“We made clear that we don’t work against people’s heads or slides, we work against the backlog and the backlog is prioritized by the product owner based on end-user feedback. And it really worked, so from then on, in these days we have very very good support for the whole thing.”	G3

Table 11: Two out of scope examples – Enablers of leadership but not core findings

Initial category name	Final Category name	Example Quote
“Misunderstandings”	Communication issues	“So sometimes a person that is senior for them is not senior to us. It’s a communication issue, and when they told us this, they began to participate in our interview process here.”
“No communication”	Communication issues	“Another thing that is not usually working in some teams is communication. People have the freedom to communicate, but they don’t feel they need to communicate as much as would actually be good or safe for the project. That is something that worries me a lot.”
“PR to org.”	Communication issues	“We might not be communicating enough so that people are interested in joining a team here.”
“Recruitment”	Staffing problems	“One thing that was simpler at first and now it’s more complex is that of dealing with people we hire from other companies.”
“Career paths”	Staffing problems	“We don’t have a clear growth path, as a career path within the company. We have lost people because of that. We are not sure that we want one, but I guess it is a problem.”
“Hiring”	Staffing problems	“Hiring is always a challenge, especially because we tend to hire for fit, cultural fit, when we hire people. Which takes a lot of time and effort in order to finally hire someone.”