[02:26] RESEARCHER:

Well. Hi, PARTICIPANT 14. How are you?

[02:33] PARTICIPANT 14:

Hello.

[02:33] RESEARCHER:

Hi, PARTICIPANT 14. How are you?

[02:36] PARTICIPANT 14:

I'm good.

[02:37] RESEARCHER:

I'm really sorry. It was a hangout issue, I think.

[02:43] PARTICIPANT 14:

Are you able to hear me okay?

[02:47] RESEARCHER:

Yeah, I hear you very well. Thank you very much. And thanks for your time today. Do you have any questions for me before we start?

[02:58] PARTICIPANT 14:

I have gone through the documents you sent me.

[03:07] RESEARCHER:

Great!

[03:31] PARTICIPANT 14:

Okay that's fine, yeah.

[03:36] RESEARCHER:

Can we start with some introductions? Can you introduce yourself and talk a bit about your experience?

[03:46] PARTICIPANT 14:

Yeah. As you know, I'm PARTICIPANT 14, I'm a PSM certified Scrum master with about five years of Agile project experience. Sorry, my main screen is here. So, do you mind me looking at this side?

[04:05] RESEARCHER:

It's OK. It's a little bit blurry, but it doesn't bother me at all. You can switch off the camera if you like. It's fine.

[04:13] PARTICIPANT 14:

Ok, so I've been working on Scrum projects for five years and in total I have around nineteen years of experience in the I.T. industry. I started off my career as a Lotus Notes developer, but then moved into a system analyst, Waterfall Project Manager, now I am a Scrum master. And other than the Scrum certification, I also have product ownership, ICL Agile project manager, then PMP Prince2 and a few qualifications as well. I have worked on some dispersed teams, projects for around 10 years. So, if you have some questions around that or so, I'll be able to assist you with that. Maybe I can quickly take you through the day to day basis of what I do as a Scrum master?

[05:20] RESEARCHER:

Yeah. We can do that. Go ahead.

[05:22] PARTICIPANT 14:

It would be like starting from product grooming to ensure the team understand what product they are building. What is the product's measurable goals? Which team should be able to reflect back while they build the product increment? That's why the importance of measurable goals. Then clearly define success factors; what success will look like at the end of the project. So, these are the things for us to be defined as what is needed from this project. That is the 'what' part. So, after that, it's how we are going to develop. This is a team exercise, so as a team we discuss. So, what exercise we usually do, we use a business canvas technique. That is one of the commonly used techniques for defining what is needed for the project and for the 'how', it will be a team collaboration exercise where some of the common techniques used around the industry is define sprints, or Sprint Zero, or a story mapping exercise and things like that. So, it will be the whole purpose of the initial Spend Zero or story mapping meeting. As a team, what is required? What are the challenges we'll come across? What are values we have to focus on? So clearly define a sprint and also to get enough detail for the team to develop product backlog and to ensure our team has enough information to start their project work.

[07:22] PARTICIPANT 14:

So, this is what the initial stage is of what we do. And as a Scrum master, my main responsibilities would be to facilitate the Scrum ceremonies, then help the product owner with the product planning techniques and to train the team on the Scrum framework. Then remove blockers for the team, present the team with Scrum of Scrum meetings and provide regular

reports to the higher management, forecast work based on the team's actual performance and to see what the variances are between the plan and how the team is performing against the plans. Risk management also comes into play. So, this is on a higher level what I do on a day-to-day basis as a Scrum master.

[08:11] RESEARCHER:

Fantastic. I do have some follow up questions. The first one you worked in a Waterfall environment and now you are working in a Scrum environment. What do you think in your opinion, Agile has brought to the I.T. teams or to the software development team that Waterfall didn't have?

[08:34] PARTICIPANT 14:

Yes, in Waterfall we already come up with an upfront plan and what team was focusing on to somehow achieve those goals, milestones, what will be in the BRD to make exactly the same requirement and hand it over to the customer. So, for Agile, it is more collaboration with the customers. We are tailoring our product increment or product that we are building exactly for the needs of customer. So, it is more inspect and adapt the product as we build it. So, the main difference would be like in the Waterfall project, the teams were focusing on is to deliver what is agreed upfront. But in Agile we are focusing more on delivering the value, actual value for the customer according to their needs.

[08:46] RESEARCHER:

I'd like to agree on a definition of quality, because the questions are in the context of quality. How do you define software quality in Agile?

[08:50] PARTICIPANT 14:

We need the whole hour just for this question! But, let's make it simple. In software development, it is important to deliver a software that meets business needs and free of defects.

[09:36] RESEARCHER:

Fantastic. How does collaboration facilitate achieving quality in Scrum?

[09:46] PARTICIPANT 14:

In the Waterfall world, what project manager does, he go around collect the requirement. He gets the quality requirement details, project calls to budgeting risk. So, all of these things a project manager was giving direction to the team. He first collects the requirement and comes up with a plan and give direction to the team on what is needed. But for Scrum, what happens, even the inexperienced developer or QA or whoever it is that when we say development team, it consists of all those skills required to develop the product. So, everyone has a say. The team as a group, we are thinking how we can deliver the value and we are constantly checking with the customer about what we are building, "are you okay with that?" So that continuous inspection

and adaption of change, that is what delivers value to the customer. Did I answer your question?

[11:00] RESEARCHER:

Yes. I'm just taking notes so I can follow up with some questions. Can you elaborate a little bit in this continuous inspect and adapt? Because it's a very interesting Agile concept.

[11:14] PARTICIPANT 14:

Yeah. If you see all the Scrum ceremonies, it is built around that. Especially the main focus would be a Scrum master, we provide that to the team. The team performance data to reflect back how are we going, what process changes we can implement to build a product. And also, each meeting, even the standup, we are checking against the sprint goal. How are we progressing against the goal? What changes can we make because as we build the product, we know some challenges, we come across some blockers. And even daily we are reflecting back and seeing what small changes we can make in order to achieve the sprint goal, which we agreed upfront. So, it applies for all the things, all the meetings, even in the sprint review, we are seeing we are delivering what the customer expected. Are we meeting the customer's expectation or product owner's expectation? We are seeing the actual product, reviewing the product, and making constant changes. So, all of these agile ceremonies, I would say is around the inspect and adapt concept.

[12:43] RESEARCHER:

When you inspect, obviously, there is feedback? So, there is a lot of feedback. Do you think that a lot of feedback helps improve quality?

[12:55] PARTICIPANT 14:

Yeah, definitely. In Scrum if you see the product backlog. The product backlog should follow the deep prioritization technique that is derived appropriately, and merge and change. The team backlog should be able to do conjure more of the feedback and we should be able to customize our backlog accordingly to deliver better quality value for the customer. So yeah, that feedback is what makes the biggest difference in Agile compared to the Waterfall project. Inspection and the continuous adaption improves quality. And also, transparency. That is the important bit. We are really transparent in our meetings. As part of a Scrum master that is what I am doing. I provide all the data, make it transparent to the team. The backlog would be transparent to the team. At the end of each sprint, I provide a sprint report to the team to make everything transparent to show this is how we are getting on, are we on target. So, this continuous feedback helps us to build a better product.

[14:22] RESEARCHER:

Oh, fantastic. I'm just looking at my questions. Do you think the Scrum set up you've been describing for me, is it a good implementation?

[14:46] PARTICIPANT 14:

The Scrum ideal set up in my company, it is matured. Like some of the companies I worked with, they already had CI/CD pipeline with continuous delivery, continuous core integration and delivery, and we were releasing almost daily or almost every two days up to the pre-prod stage. It depends. So, when you say the Agile set up what exactly you are looking for?

[15:27] RESEARCHER:

I mean the process, the Scrum process you have in place.

[15:32] PARTICIPANT 14:

Yeah, if it is implemented correctly. And if you buy-in from the higher management and support of higher management, that is a critical bit. Then I would say this Scrum works perfectly for organizations. In some of the companies, what I have seen is a team will work, they'll have a standup, they'll try to implement Agile process, but higher management, they want everything to be in the previous Waterfall way. The reports and all the things, the deadline. So that is the biggest challenge you face. And some of the organizations I work with, we started from the portfolio level planning. Building portfolio level Agile tool. So, it is starting from higher up in the organization and implement till the development team. So, if it is implemented that way, it can work magic.

[16:36] RESEARCHER:

Magic. This is a bit of enthusiasm. What is the magic? Is it quality? Is it delivering value? Is it the combination of both?

[16:58] PARTICIPANT 14:

If you see that the first thing would be the team would be happy. The team is more motivated. They are engaged in the process. It is not someone else directing the team about you have to do this and you have to do this. The team is self-organized and cross-functional. It's a motivated team when they're building product, it definitely brings value and quality we are looking for. So that comes by itself.

[17:34] RESEARCHER:

So, are you truly self-organized?

[17:39] PARTICIPANT 14:

Yeah, that is what my role is when I facilitate the ceremonies and things, I make sure nobody is interfering in the team's decision or direction. Nobody is overly directing the team on what to do, how to do it. We give requirements to the team and give all the support they need, and the team collaborates and build it.

[18:13] RESEARCHER:

You mentioned a happy team. In Agile, what makes that team happy?

[18:23] PARTICIPANT 14:

I think it would be better to see what won't make them happy.

[18:32] RESEARCHER:

Yeah, yeah, that's fine.

[18:35] PARTICIPANT 14:

Because most of the management, I've seen, there are a lot of misconceptions in Agile. Like Agile doesn't need planning, Agile is acute. Some of the managers I've seen, they are expecting all of these and straightaway putting pressure on the team to meet a deadline or deliver or start a project without proper planning. So, I've seen teams end up in doing the proper analysis or proper solution feasibility study before starting a project and end up in total mess. So, I've seen myself. If Agile is done in the proper way with properly conducted ceremonies. Yes, it will be a happy team and you'll get more value out of it.

[19:39] RESEARCHER:

Okay. Fantastic. Let's get onto the core of the things which is quality, obviously, because we want to talk about quality. When you describe the process, I felt like you didn't talk to me about how do you assure quality in that process? How do you make sure that the process delivers quality? What do you do in this Agile environment to make sure that you deliver quality?

[20:07] PARTICIPANT 14:

Yeah. If you follow the Agile best practices, you can start from the backlog. Backlog, I already mentioned about the deep that is derived appropriately estimated and merged into the changes and prioritized. That is a contrary backlog will say, that means it's higher up in the backlog and should have good detail for teams to pick up any time and work on it and lower down would be higher level requirements. So, you may already know about it. Then the next check point would be definition of ready. We have to make sure our team has a clear definition of ready. What do the team feels and agrees to what ready means to them and the definition of done. Then contacting the three amigos to make sure development, QA and the product team is reviewing the story. And we are getting thoughts from all the perspectives and all the different angles.

[21:19] PARTICIPANT 14:

Then clearly define acceptance criteria. So, these are all of the first check points if you ask for a checklist. This will be my first list of checklists. Then do we have a clear sprint goal? Do we have a clear release goal? Then other teams, if it is a mature team, the best practice in the industry is test-driven development. Are we scripting stories into smaller sizes? Some of the teams I have seen is QA waiting till the end of the sprint to start their work. Most of the time with QA just sitting idle. I see a lot of things like that. So, are we trying to implement a [inaudible]

development? Normally what happens, when we start the project, QA will start writing the test script for the initial two or three stories. And by two or three days when development completes their work, QA should be in a good position to straightaway do their work and complete at whatever high level, higher priority, so it is committed in the sprint. So, these are some of the checklists which we can ensure the quality of the product we are delivering.

[22:42] RESEARCHER:

Fantastic. You mentioned something very interesting. I've noticed that the QA are engaged very early in the process. I mean, they are engaged, and they are also in empowered. They are with you in user stories. Yes.

[22:59] PARTICIPANT 14:

That is three amigos. That is the whole purpose of three amigos where we are getting the QA's input, QA's understanding of what is expected. So, all the team that is a QA, dev and product owner is collaborating there at the beginning itself. So that means that gives a good idea to the QA to start the script in the early stages of the project itself and make themself capable for the test scripts and all other work completed by the time dev delivers the code. Ideally, the development team targets to complete the story in one to three days. But yeah, if it is possible to spread that small that, that would be great.

[23:54] RESEARCHER:

Do you think this Scrum process that you have in place delivers quality software?

[24:04] PARTICIPANT 14:

Yeah, definitely, we delivering quality, because as I mentioned, we are reviewing the product again and again and inspecting against the goal we set. What outcome or benefit we were targeting? So, we are cross-checking against it and we are refining the product as we build. So that will definitely ensure that the product building is in the right standard. Good standard and it meet customers expectation.

[24:43] RESEARCHER:

Can you talk to me about the relationship between the team members and especially the QA and developers? And whether it does help in this Scrum environment to assure quality?

[24:57] PARTICIPANT 14:

Yes. The first thing in Scrum we normally try to avoid any differentiation within the development team. So, when you form cross-functional teams, it means anybody should be able to pick any of the work if needed. So that's what we target. Some of my teams were developers who were able to write some bit of ad hoc updates, as well as the QA as well as the development team. Once QA writes the test scripts, some of the developers were able to help QA with some of the test script duties. So, what I'm telling here is they are collaborating very well. They are working as a single unit and closely working together. So that is really important. And I have seen in a

mature team that the difference between QA and dev is going away. They're working really closely and even some teams I have seen, they are like every half a day, they and QA meet together and QA gives them feedback to make sure that feedback cycle is as short as possible, which help to fine tune the product. Rather than waiting for three or four days for QA's feedback and working, then developers builds a product based on their feedback. So, we are trying to avoid that delay.

[26:43] RESEARCHER:

Fantastic. Can you share with me a good story about Scrum and quality in Scrum?

[26:55] PARTICIPANT 14:

Yeah, for that, one example I can think of is I worked as a project manager for one of the projects related to travel. So, I was a Waterfall project manager for that project for one and a half years. My team was dispersed. They were in Philippines, India, and US. So, for that project, we took nearly ten to twelve months to complete the initial requirement. So, by the time we complete the BRD, and we completed the coding, it was six months or so. And by the time the end product is ready, and QA tested it, it went back to dev again to do some fixes. So, it took nearly ten months to complete the initial phase. And that, when the product team reviewed the end product, there are a lot of changes. So, it took another six more months for us to deliver a good product. So, the same project we did the earlier design in Java's latest framework. For that project I was the Scrum master, and it was like [audio breakup] and the customers are really happy. We were able to implement mobile and all of those features, the mobile reminders, and even integrating with the outside travel offices, payment processing, and everything. So, I myself, I have seen one set of requirements, which I managed on the Waterfall project and same set of requirement when we worked using Agile technology, it made a huge difference. Even the end product. And yeah, I would say that would be a great success story.

[29:05] RESEARCHER:

Good story. You've been talking about Agile very positively, which is good. However, it doesn't always go good; it's not always rosy. Can you share with us a negative story?

[29:21] PARTICIPANT 14:

Yeah, there are projects that I've seen in total failure as well, to be honest.

[29:29] RESEARCHER:

We like to hear about them as well.

[29:32] PARTICIPANT 14:

We have to inspect them in order to improve.

[29:36] RESEARCHER:

In order to improve and learn as well.

[29:40] PARTICIPANT 14:

The project which I worked in another company. It was a very big initiative to create a call center for the entire organization. It was a huge organization. So, what happened there was we did sprint zero. We all gathered in the US for one week and had a sprint zero. But the thing is the application was really complex. Now, when I look at it, I say like we could have done a more detailed architecture solution document or architecture, a higher level requirement. But when we go into the development later stages, it happened that some of the data migration was not working or some of the interfaces were not working well together. And the architecture of that application also was really complex. And we didn't get enough time or commitment from the architects. So, in that scenario, I would say like the initial requirement we could have done in more detail. This would have helped. What I would do again, instead of one week sprints, I'd go for two weeks and get more architecture support and to review the things that are more technical. So, I myself, I didn't know much about it.

[31:38] RESEARCHER:

I agree. We go in a little bit fast, which is good. My last question, because you answered all my questions ahead, so which is good. In this question, we tried to be a little bit provocative so we can get your opinion. So, but please don't be offended. So, what do you think of this statement: Agile produces a poor quality software?

[32:17] PARTICIPANT 14:

Agile definitely, if it is not implemented properly, and if there is not support from the higher management, definitely it will be a disaster. Agile means it is collaborative, it is teamwork, it is not about one individual team. It is the entire organization has to support it. Then only will it work because we are working on very complex projects without upfront freezing the requirements so there may be teams that build the product there may be support needed from architects, higher management. So, everyone has to work as a unit then only will it be a success.

[33:12] RESEARCHER:

I agree. Thank you very much. Do you have any questions for me?

[33:19] PARTICIPANT 14:

I would be interested to just read your research material.

[33:27] RESEARCHER:

Yes, of course. I'm just checking if I have your email. It's [Deleted to preserve the participant anonymity]

right?

[33:39] PARTICIPANT 14:
Yeah, that's fine.

[33:41] RESEARCHER:
It will take a few months before it's ready. But once it's ready I will circulate it to you.

[33:48] PARTICIPANT 14:
What research are you doing?

[33:52] RESEARCHER:
Yeah what we do is, my research interest is software quality. I like to understand how software development teams achieve quality using various processes. In my PhD, [Deleted to preserve the participant anonymity] now as a postdoc, I'm interested in Agile. I want to understand how Agile creates software quality. The motivation comes from a gap in Agile itself. The Agile Manifesto is quite abstract. It doesn't make a direct reference to quality. Software keeps failing in large scales, that's not the fault of Agile. But any methodology that is directed to software development should have quality principles. So Agile doesn't. If you look at the Scrum guide, it doesn't either so this made us wonder from a theoretical perspective how software team achieve quality. So, you guys don't ignore quality, you do achieve quality. From this interview, I can tell there are a lot of enablers and there are a lot of attributes and a lot of initiative directed to quality in Agile. So, we wanted to understand that, so this is the manifesto, this is the Scrum guide, and this is how people work. This is how people achieve quality.

[35:56] RESEARCHER:
To be honest with you, academia is very late empirically in studying Agile. Most of the papers are opinion papers. They came from these pioneers of Agile, the first people who conceived Agile, and there is no really empirical work that validates the claims that we hear all the time from Agile people. So, this is what I'm doing. I'm bridging this gap. I'm trying to understand because Agile has become very popular.

[36:42] PARTICIPANT 14:
Another thing to quote here is many teams I've seen, is the customers. They don't have access to the customers or customer opinion. That is a crucial one, so I've seen very few projects where for the sprint demo. Customers come and give their review or feedback. So that gap also is some of the causes of this mismatch in the expected quality. I would say.

[37:14] RESEARCHER:

Yes, of course. What I've noticed from talking to you and talking to other people as well, is that this empowerment of people makes people happy in the team and empirically we know that happier people produce better software. Yeah, so that's what I am doing. And yeah, do you have any other questions for me?

[47:48] PARTICIPANT 14:

Not at the minute. Anyway, good luck with your research.

[47:53] RESEARCHER:

Thank you very much. I will get in touch once I have the paper ready.

[37:58] PARTICIPANT 14:

Yeah, I'd like to go through it.

[48:01] RESEARCHER:

Thank you very much. That is another thing, sorry. We do validation and quality assurance things as well. What we do, we transcribe the interview and I will send you the transcription if you can have a look and make sure that we didn't misquote or that everything is okay.

[48:26] PARTICIPANT 14:

Yeah, okay.

[48:27] RESEARCHER:

Thank you very much. I appreciate your help.