**Interview 1**

**Interviewer:**

And can you see my screen or not?

**Interviewee:**

Yes, I can.

**Interviewer:**

Yes. Okay, good. So I'll just state a little bit what this is about, the background very quickly, and then we can go towards the question. So what I'm trying to achieve here is, I have this term or this kind, of course setting called Startup driven software engineering course. And I want to intersect it between experience-based learning with multidisciplinary teams, growth based startup practices, and innovation boot camps. So these three components should come together so that the course that is motivated through startup context should be something that be part of the software engineering curriculum. I have proposed a model for this and the framework. And the idea is about experiential learning, yeah.

**Interviewee:**

It's experiential learning. I'm now doing a study. So I have studied quite a bit about the different pedagogical, so I'm doing the adult education certification this year, this has brought to me with the similar, but very good choice. Very good background. Yeah.

**Interviewer:**

Yes. And then, yeah, and here, I proposed the framework, which has been sort of published and in frontiers in education, and there are some results there from some insights with some questionnaire. But I need to get the insight from the most experienced researchers and lecturers and professors in this case, if the things that I'm claiming are at least reasonable, and they fit with the expectations that one should have. So the way I try to validate this is with a set of questions, the framework has a conceptual part, which is the teaching of design and some theoretical with called group dynamics, and some practical aspects which relate to the interaction of the different stakeholders or learner or whatever learner instructor and everybody who participates and the tools that might be used in this case. And within the framework itself. This derives from a multidisciplinary course we have here at NTNU experts in teamwork, they use a lot of experiential based learning. And it's basically using, yeah, different villages with, as you might already know, different villages with multi disciplinary setting. But the village I used to run was focused on software engineering practices and startups. So we have to, well, we can pick the theme at least, and early on, I came up with a model that could fit with the framework proposed later on.

But this is all sort of the past. What I want, which is a bit boring to me now but what I want to emphasize is how can I validate this framework? And this is the future and the opinion that you might have on this. So basically, I've put the framework in a sort of way that answering some questions, and I can move these things for you. But you just have to tell me, there are some sticky notes here. And based on the question, you have to tell me maybe where this fits. So I hope you have a screen that you can see this. Well, because some of the writing, I noticed and it's a bit small. So the first question would be like, what student skills can lean startup or growth phase startup, experiential learning and innovation bootcamps impact when working on software projects. And when I have this list of students skills, it's more like integration restricted way sort of soft skills, technical skills and project management skills. And what I hoped from your side is to tell me which of this for instance, soft skills, technical skills would be influenced, for instance, by experiential learning, innovation bootcamp and all growth phase startup. So yes, I think the soft skills, so where would you put it and why?

**Interviewee:**

Okay, thank you for the introduction. I start here by saying that I have spent quite a bit of time in the past 10 years since we taught projects. So I feel predominantly all my teaching has been project based teaching. For many years, I have not had an exam. My only exam time was in NTNU, where the curricula, we were not able to change it quickly enough. Because for some hallucination reason, NTNU is the only university who still want to do exams. A cheap way to test for that, what you think you know. So coming from this, so the hard thing for me to provide the simple answer to anything is that, frankly, I don't know. So the less you know, the more you think you know, in this kind of learning business. Frankly, I don't know what the students learn or are we able to even, what are the circumstances for some sort of learning to happen? And in a way, I see that what you are installing here are important components that would enable this startup driven sophistry course. So that there would be a place for that learning to happen. an experiential learning and the others is clearly the way, I have no idea what is innovation bootcamp, perhaps is something that you do in the beginning sort of a hackathon or thing.

**Interviewer:**

Yeah, similar.

**Interviewee:**

And then I don't know, I have no idea what is the growth phase, as the startups that they work are. They are fairly far away from the growth but perhaps there is some kind of a feedback loop or something. So I'm now at the stage, because this is the first time I see this. So I'm more in a confused state, but in a positive way, because I'm very intrigued by this. And yes, so when you ask me that, where are the soft skills learned in this? So this means that skills that are related to people interacting, I think that they are and so that they would be in all of these phases. So only learned when you do something, they are learned, I mean, the whole innovation activity, hackathon activity is about communication and software engineering is about, there are only three problems in software engineering, communication, communication, and communication. And that is social skills. So as the only thing you have to fix, and then the rest follows.

**Interviewer:**

Yes, that's nice. When it comes to technical skills, do you think, you said you have a lot of experience with project-based learning and courses. So do you think students are actually if they are in a multidisciplinary setting. Are they learning a lot from a software engineering perspective skill that this is what I call tactical skills here? Or they use what they know already?

**Interviewee:**

Well, I think that the students, it depends how the course is organized. So if the course is organized in a way that you have, is the classical, so that there are lectures and then there is the coursework or the exercise is a project, for example. So I know it's five credits or so, seven and a half credits, the students have only a very few hours a week to actually do the work. But how they do is that they divide the work, they meet and they divide the work and they come together and they try to integrate somehow, there is no teamwork. So we are missing the whole teamwork element. But if the students can use dedicated time that I assume that in this context you would have, then the students actually work together. And then it comes to the skill level. So if you're mixing students with different skill levels, and there's more research on this, so that then you have a better that, if nobody knows about programming, you put them in together in the same team, because they will jointly advance and they will learn about also technical skills, because they have to deliver.

But if even one person goes into that team that knows, then he or she will do everything, and the others don't do anything. So that one person doesn't really learn. Because there is no room for learning, you only learn where there is space for it. And if you have to, like hold the project together, you use whatever skills you have, and most likely, perhaps, perhaps you learn a bit but it's one out of the four that actually learns. So technical skills are learned in practice. So this the experience based learning, you don't learn technical skills in the boot camp and technical skills are not touched upon at lean startup practices either.

**Interviewer:**

Yes. I say good because it starts to fit with what I have predicted. Yeah, when it comes to I don't want to influence or bias. So when it comes to project management skills, you say that they have to work as a team and we usually have them try to use the gyro practices such as scrum framework, maybe not as much XP, but we tried to tell them to use this kind of approaches in software engineering. Now, even though the scrum framework can be used with whatever cross functional team, so it doesn't have to be few software engineers still work with that. So basically, it's project management, do you feel there is something that they learn?

**Interviewee:**

Well, Scrum is a project management framework that is based on iterations as both sprints and there is nothing technical, people around churches with Scrum in US. So in that sense, you learned again, you learn in practice and this growth, It's, I don't know, I have no idea. I think that everything you learned in practice, but what does the startup practices teach you? Well, somehow, they teach you the manage the project. And in this mini school, where innovation comes upon managing the outcome to a very short timeframe, wrote something about that as well. Yeah, so because you have to deliver in maybe one day or over the weekend, or you have to actually be, somebody has to run the show. Yeah, I'd say the big thing that is missing here is that is always missing is the thing that they should learn to build their process, they should devise their own process, they should be in control of what they do, they should learn to be in control. When we impose them a way of working, we are imposing them things to do. We are not teaching them or giving them freedom, that they should come up with a way that fits the context.

**Interviewer:**

I have to take it back a little bit what I said earlier, I don't impose them. But I just tell them because this is experience based learning. And I didn't tell them, you do this, you do Scrum, you should do Scrum, I just stay the options, that Agile is one way of doing things. And Scrum is a potential framework you could use but it's them who decide the practice. So I agree with you in a certain way, what you say now.

**Interviewee:**

I go even further. So you will tell them that you should live in a house. And there are certain types of houses, there's a brick house, there is a house of that sort and there's a third type, you have to decide which houses the best for you guys. What I'm saying is that they should learn to build the house. Because that certain house doesn't fit into the contest. We say, Well, you take the Scrum and then you tailor it. But what does it mean? What does tailoring mean? And people with little skills or experience, they don't know what to do. That's why giving something as a framework actually is better than saying that you come up with your own way of working, because they don't have any framework against which they can, like think if this makes sense. Anything makes sense. I mean, if you tell them that they have to do coding under the table, they are going to ask why? Why would we want but you know what, if it's something else, or they don't have they are just inexperienced and inexperience is a specific place when you are learning.

**Interviewer:**

When it comes to realistic projects. So now explain a little bit about this. In the innovation bootcamp, we invite stakeholders from the government, from the industry. And of course, there are some nonprofit organizations and the academic setting. So we've invited stakeholders to bring the students not with problems but with challenges they have. So it's not like a customer driven course that we have here where the guy comes, the industry guy comes and tells them, I want to build this and he has the requirements. Now, in the innovation bootcamp, the purpose is to explore areas and the stakeholders come with challenges and the students come up with innovative ideas and trying to implement them with a lean mindset, of course. So when it comes to realistic project setting, where does this fit in the picture? Like, let's say, we are trying to do the innovation bootcamp, we are using experience-based learning the person-based learning, experience learning theory, and then some lean startup mindset. So does this fit? Is the same, I didn't want to replicate this allistic project can go in all three of them or yeah, one of them.

**Interviewee:**

I would say rather predominantly put it in the first two categories because that's where they are mostly present. We have some project while I don't see, you know maybe that's enough. So I will.

**Interviewer:**

And just students get sort of an innovation mindset, if we use this kind of approach and the innovation mindset itself, how does that fit? Like, we are doing this bootcamp, they try to innovate, without try to tell them use Lean practices, a bit of practices from…

**Interviewee:**

innovative mindset at best could come from the innovation boot camp, and then from the startup stuff.

**Interviewer:**

Yeah. If we have a multidisciplinary team, I don't want to make the question, is it better or worse, but this is more like what are the benefits of having the multidisciplinary team context?

**Interviewee:**

Well, the argument is that, diversity is good in today's world. So multiple different viewpoints. People with different understanding on temporal, what is the perception of time? Are we in a hurry? So all these, the people have different view skills, understanding makes the team somehow better in many ways. So it's good for the innovation, it's good for the doing, and it should be good for, essential for starters, I would say that it's the benefits, which I'm not, I mean, this would be a great paper. So that we say that for engineering students, this delivers a worse outcome than that, that there's one engineer, there's a biologist, there's a God and there's a Jesus. And then you put those two together, and then happens magic. So that would be good to challenge that, because I think that we are like too easily saying this in every place.

**Interviewer:**

And, yeah, I sort of agree. So that's the purpose of this startup driven software engineering course. The funding opportunities, would there bring any benefits if we had some funding opportunities? Like how this would impact the ability to embark in a startup formation, this is also the term that comes with the fact that that's why startup is there. Like if we provide some funding to this multidisciplinary team.

**Interviewee:**

Startup to me communicates that we are developing a product to a customer that we don't know. With the technology that we don't yet understand. And technology, with requirements that we don't know yet. So we don't know any of these three basic angles. And that's a very difficult situation to do anything reasonable. And the first, everything of the stock startup viewpoint is that the only thing you want to find is you find enough money, so that you can understand, know what the customers would be willing to pay about. So it's about writing, trying to find the runway and making it as long as possible. So yes, it's definitely has to be there. As everything comes down with the money and understanding. So it's a fundamental understanding that the money matters. But in an innovation bootcamp, it doesn't matter. It doesn't matter in experts-based learning either. It matters in the startup, like startup, it's a startup thing that comes into place. But people will remember if you say that we run out of money, and the course is over now, they will remember that for the rest of their lives. So the course was ended because we run out of money.

**Interviewer:**

No, it's funding opportunities actually, we have two kinds of reports they usually write in this course. One is the project report, one is the process. How they built the software or the solution. But I am a bit skeptical with the project report, I would have them apply for funding rather than write this report that only me and some other guy reads. And the realistic setting there is that they can apply for funding to innovation. Norway, for instance, the Norwegian Research Council, they have 1 million problems, I think for student entrepreneurship. So they have all these opportunities and those forums I really did well structured. Anyways, they ask a lot of interesting questions that students can try to field. That's why I say funding opportunities, not the fact that we bring money, actual money to them, but they try to be sustainable themselves.

**Interviewee:**

I have an idea that I use in my courses. And it's a document that we come in. In this startup driven course, they don't write a report, but they write. They write a scratch book. So it's basically a scrap book. And I can give you an exam. So it's like, it's a 100 page, scrapbook about your project, okay, 100 pages or requirements, that describes everything you do. So if it's not in the scrapbook, it doesn't exist. Everything you do in the project, you must document or take a picture, you want to make it visible, we don't have any other form of reporting. Or if they do a questionnaire, if they do whatever, find some data, they put it in this, we call it scratch books. And I will share you the link, you can download a sample. And I put it here, so you can take it and then you can have a better time you can. And we published a short paper at except last year about it. And we are now publishing a journal version as we have done it for four years. So yes, go with the link. So then you will see what happened in this. So this is anonymized version, so I can share it. So then they see it. What not only. Yeah, there, you can download that. Nice. So there you see that not only what happened, but why?

**Interviewer:**

Yes, it's a large document, I think.

**Interviewee:**

Yeah, but this is what comes out of projects, projects have a lot of things happening. But when you read the report, not so many things happened.

**Interviewer:**

Okay. It sounds, I'll go through this, and it sounds interesting to me, as well. But I'm still in the idea. And I started this that they had to apply for funding, because that's a very realistic thing they'll do all their lives.

**Interviewee:**

I like that idea. I like that I would do that, I would go ahead. And I would make them do a real funding application from innovation, Oregon. And that would be great outcome.

**Interviewer:**

Thanks, external stakeholders involving external stakeholders, we usually do that through the innovation bootcamp setting. So when it comes to involving all this, you should do it also at the all.

**Interviewee:**

It belongs to everywhere, because it's so crucial to get the understanding on, you know, where are you going and be communicating with your clients? So it's really yes. And you don't understand how to do that, because it's a skill that you have to learn how to do how to interact with people who are not part of the immediate.

**Interviewer:**

I agree, and we keep them along the course. It's not that we introduced them only in the boot camp in boot camp. It's more intensive days, like hackathon, but then it goes along with the course, startup formation and you angles. If we propose the students, at least we asked them to tackle some young goals, who does bring some value to the startup formation? I mean, also to the fact that you are building studies.

**Interviewee:**

What is the UN goals?

**Interviewer:**

United Nations Sustainable Development Goals/ Like those 17 goals about, yeah, whatever in tackling issues about…

**Interviewee:**

I think students think they're saying they say things like, whatever. It's like, you know, clean water for everyone happy days. So it doesn't have any impact anywhere. So you can work forget that anywhere you put it doesn't happen, because you have to make it unless there's a you and Mr. Customer. And Barack Obama is interested in the research results. You don't get them into.

**Interviewer:**

And going, keeping ourselves still in the theoretical part. If we use this experiential learning theory about group dynamics and experiential learning, do you feel that software engineering students are expanding their skills? And this skill expansion can happen also, in the other setting, but starting from the experience of learning. If we take this software, I think you mentioned this we take the software engineering students, are they expanding their skills? Are these teams better with other backgrounds and so on?

**Interviewee:**

Alright. So if you have students that are software Israel students, and they are doing yes, of course they are. Others are not learning, but the students are. So, students are, of course, they did, they don't know, in software engineering, you'll never repeat what you did before. So, you have to always learn something a little bit of new. So, students, of course, when they understand of course, that has people from different disciplines, they are there to deliver the job they are intending to do, which means that they are, the intent of the course is not to teach them new, perhaps new software engineering techniques or like automated testing. In startup revenue, there should be no tests, zero tests, because you are wasting time in something that nobody will ever pay. So, you should do a rubbish system that nobody likes, but it runs, it shows the funding people that it works. And this is our branch and the other students are 16. Transactions, software engineering was the Greenfield model for startups.

So there has to be also the, see the kind of startup pressure, which was not mentioned here, that you don't have the kind of the insecurity in place startup startups, however, which makes them like deliver differently than if it startup driven, I would love to see a bit more. Maybe you just didn't emphasize kind of the startup elements. Because startup is a very efficient way of getting crappy software out. But it's crappy only until you get the money. And then you can hire very good engineers, and then you get really good team together. And Chief Architect, everything goes well, but you have to be able to get the money. So, I was I was thinking regarding the skill set that perhaps they don't expand. When the other team members are depends on if the domain is known. If they know the domain, they can apply the knowledge they have if they don't know the domain, they need to learn new skills, they need to learn new things about the domain and bring some.

**Interviewer:**

Yeah, when it comes to this startup pressure, I just added it to the notes here. To me, startup formation setting is something that brings the pressure in a way. Because if you ask students, you build an MVP rapidly. And I have some questions about tools and practices later about this. If you build the minimum viable product prototype rapidly, you apply for funding. And you have to do this with a challenge that some external stakeholder really has, and you're trying to solve this problem. There is some pressure there, they have some deadlines, fix deadlines, they have the opportunity to research the market with lead by business commerce model, during the boot camp to explore with the stakeholders, and then try to get funding and get it done. Get it out in the market. So there should be this kind of pressure, even though I didn't quite mention it straight away in the beginning, but maybe you have something else in mind, we'll start that pressure as well, you have more than that.

**Interviewee:**

Well, if you are saying them that they are proposing an idea they do a prototype, you say nobody in the course typically says it's a no goal. This idea has to be thrashed, you come up with a new idea. I brought Professor Tommy Mekonnen in Italy. And he took students ideas, and he took a paper like this, I said this, Georgia is your idea. Now it's in the trashcan. What is your next idea? And George has been with a team working with the idea for three weeks already. You could see they're almost tears in the eyes. I don't want to bring tears in their eyes. When you talk about realistic environments, realistic pressure. The startup driven cannot feel the same as a typical project course, where you are given an assignment, save the world and then you deliver it in smaller sprints, and then you come out. But there has to be kind of this. Can we continue? Are we allowed to continue? Do we have internal startups in a big company that they're constantly being evaluated whether they can continue, can they or they go in the right direction? If you bring this fresh you are not going to be, let's say, the most celebrated teacher in the university. But they know that they feel the learning happen? Yeah. It has to be done in of course, in culturally, I mean, God, I may God build a way, so that it doesn't create bad. But it is that you cannot hold on, I see often that the students hold on to their idea. And we are so gentle that any idea goes to the end always.

**Interviewer:**

I am a sort of a rigid person. In this case, I want them to be graded in a way if they are not graded, but they need to try to innovation, Norway, and we know that innovation, Norway, for instance, rejects lots of applications. And this is the trashing part. I don't want to do it. I'm nobody to say, this is not good project. Yeah, but still startup formation, to me, at least from a theoretical standpoint, and you bring up some very interesting points here is the pressure that I want to see, like try, like startups apply for a lot of fundings. It's like throwing this arrow to this board in many different directions and see what happens. And then this is fail a lot. And as this is your learning curve, this is the way you learn for me. And this is how the course may be should be built. So learning outcomes here. Introducing this external activity bootcamp activity. Do you feel that learning outcomes would be somewhat? Yeah, with integrated with the application for funding and so on and lean startup mindset? Do you feel this learning outcomes will be you mentioned this a bit will be sort of impacted in a way?

**Interviewee:**

If you think about your own university times, when you did the university studies, you don't remember anything from the courses? You remember one course here one course there. So if I remember one thing about this course, as an author, but when you ask, what do you remember? You remember things that you did, I did that, I remember I was there. And so here you have a window of opportunity to create, maybe more moments to remember than otherwise. And I think that those are connected to these learning outcomes, because things that you remember, you are likely to. So it plays an important role. And it's in, but we cannot exactly we can wish that they learn certain types of things. But what they actually learn, then it's really at the at the hands of the learner because they control the process. But for example, if you set a clear goal, whatever happens, innovation, org application comes out. And, we are successful, and you get money out of this. Yeah, that's great. So that's what they remember, they remember how they did that somehow. My scratch book provides them a diary about what happened in detail, so they can go back and see some of the things that they did. So that's kind of the idea as well.

When you do something great, you have you have well detailed history, how that was done. And, I think that when they are inspired, in another project setting, I had a company who said they pay 1000 euros for the basic project. And there were 15 projects. Even those guys who didn't have too many soft, toma software skills. They, they were able to deliver the MVP, the company wanted to see it was fully functional, it looked terrible, but it did what they wanted to pitch in because they got excited. And then the best guys, of course, were really outstanding. So, we have a bit of price setting there is that we are and I think this innovation Nautica thing brings like no. Because it's a practical skill that you need. So I've been around those themes, the learning will happen.

**Interviewer:**

Yeah. Okay. But I leave this three here, unless you want to tell me when I think they are part of this at least the startup division course. This is my perception.

**Interviewee:**

I don't know what to do with them. Should I be on this place?

**Interviewer:**

Yeah, if you don't know, you don't know, that's fine. But do you perceive at least that they should be part? Like the expansion of the scale startup formation with pressure like you mentioned, and learning outcomes that can be remembered? I, will they be part of the startup driving courses, which is our object?

**Interviewee:**

Let's start learning. You have to have some sort of learning outcomes. So yes, absolutely. Do you have to have a vision, what you want to build startup formation is, for a startup driven is an essential because otherwise you don't have the tools to do with expanding skills. I would say that you cannot achieve this unless you have UI, every team member is expanding their skill sets. Okay. Because otherwise it doesn't happen.

**Interviewer:**

Yes. And there is only one question here about the interaction actually, which of these three that we see here? Or yeah, all these three? How do they impact the learner student interactions, learner, instructor, teachers, teaching assistants and learner content, we give them a compendium or some materials, and finally, learner’s stakeholder? So if you take all these four here, sorry, all these four here, do you feel that they are impacted by these three areas like experience or learning innovation, bootcamp and growth? A startup? What's your perception?

**Interviewee:**

Well, I will say that the experience based learning is I will say mostly about learning to learner viewpoints. And then this is perhaps let's leave that to last one. Learner content is something. It's, I would say scores with the experience as well. Because when you are working, you need information to get stuff done. Then you study. But perhaps it's more with practices than steel is that it actually comes with do we have to look at the practices so maybe we put the learner on the toes of the practices, learner, external stakeholder, well, that probably innovation both come and then learner instructor. I guess that's in the middle, because it's the whole thing.

**Interviewer:**

If it's in Oldham.

**Interviewee:**

Yeah. I would say since you are there as orchestrator, you are, you aren't you orchestrate the show. So if you play a role in every part, yes, somehow.

**Interviewer:**

That's a good thing. And finally, where's your band?

**Interviewer:**

Yeah. No, I agree. I agree. It's that I am a facilitator there rather than together with someone sitting but this facilitation role that takes over. That's true. So tools and practices. This is something that some tools and practices we have used, I have the experience there. But of course, there might be many other tools and practices. Like you said, don't tell them what to use, but was which house to pick but build their own house. I agree. So I don't want to limit this. So it's pretty open. If I say lean business Canvas model, Scrum XP from agile, lean approach is customer journeys. But this lean business commerce model, this was something really asked from innovation. Norway, for instance, I make a quick example, when I asked them to come and see the streaming projects and have them, help them with the applications. First question they asked, did they build a lean business commerce model?

**Interviewee:**

You are missing here. A component called maybe we just call it presentation. You have to be able to pitch and you have to have an explainer video. Every idea has to tell you those two things. Otherwise, you are not coming again. And every time you have different links, you can do this in 60 seconds to five minutes. Then you will have…

**Interviewer:**

I'm sorry, I had forgotten that. We did that. But I had forgotten some good points. We did the pitching and presentation both of them. So 60 seconds. Yeah. 60 seconds pitching and presentation. 20 minutes. So thank you for bringing it up. So all these things know, like business, lean business, Canvas model Kanban boards, whatever. MVP is with low code with our builders. I don't want them to exaggerate with programming practices, but I want them to build a rapid solution.

**Interviewee:**

We are now publishing in Africa some engineering so it takes a bit of time but we are now we have a building start up cards that are patterns that we introduced per episode. We don't introduce practices, we introduce patterns, you'll better understand this His model is super heavy, no Kuhn every model, so that in a complex environment of software engineering and startups, you don't do things like step one and step two and step three, I mean, things happen in, there are always more things happening than just 123 steps. So, we want to teach them that part. So how to make a simple example. If I tell you that your origins, you have to throw the best party next weekend, first, ever in the world party, for better will also participate. I know 100 students, and then you start thinking that how to do a best party ever. And but you don't do that. I mean, you could do it. So that, okay, step one, we have a nice welcome on the door. And then step two, everybody goes in and has an enjoyable moment. You see that, and then we measure that, okay, if danger was this moment, enjoyable, and then we improve, you can see that it might be It sounds quite complicated, but it will how you organize the parties that you have.

You may, maybe really the dancing area, people like to dance, maybe we carve out there plays for people who have to say, maybe we need a PlayStation, or virtual reality game plays for people who like that part. And maybe we did, I don't know drinking table for those who like, you know, a bit of beverages. So, in a way, you are creating these spaces inside this party. And in that way, you are or you are controlling where the pod is operated? And there are no and you did this without any certain practices, you create this activity spaces is these things like happen here. So, for example, Caerau is actually quite complicated, they will start to look at so that what are the activity spaces that you can create in this is what we have been like working on, is that small activity spaces inside this context, so that they can, you know, improve their pitching or presentation competency. So, it's like multitude of things they have to do is not only one thing.

**Interviewer:**

Yeah, it's sort of stages, setting the stage and sort of a framework setting for us.

**Interviewee:**

Yes and then clear boundaries. So that if you give them drugs and alcohol, you know that if things go in the wrong direction, you can take it out of control that. That's also an important element of that. Of course, none of these are easy. None of these are easily organized. But still, probably you get the idea that's why the whole practice business in software is misleading, because software engineering is very complicated activity as such. It's cognitive, as always, it's always the startup driven software is equally, because you add things that are not beneficial to, for example, for the team dynamics.

**Interviewer:**

Yeah. I fully agree. There is a lot here too, for my site to learn as it goes, because I have iterated a couple of times, and then or at most three times, but I can't say I know everything how this can be staged.

**Interviewee:**

I like the way you put the kind of the, you are shaping this out. So you're systematically improving it. I have been more like I have improvised for years. And only now after many, many, many years. We start to publish about that. So, I think that it's nice that I see that you are figuring out your idea. So the model, the theoretical lens that you are missing is no Dan Davis, Snowden Kouwenhoven model, so I put it here.

**Interviewer:**

Yeah. Thanks. I'll just add it as part of things too.

**Interviewee:**

And you can download that and that's been great work. There's Harvard Business Review article. 2008.

**Interviewer:**

Yeah, I know. This is about the complicated complex reveal in chaotic world, right? Is it not? Yeah, it is.

**Interviewee:**

When you start thinking, when you see something interesting there.

**Interviewer:**

Yeah, I agree this is taken also in the agile practices usually as something that once you understand that the world is complex rather than trivial or chaotic or whatever.

**Interviewee:**

Then you have some other things you have, you can introduce this type of concept we're all second funnel, it's for, for services that understand how the customer flow can be organized.

**Interviewer:**

I know you're dealing with this.

**Interviewee:**

So there are these. Now, I'm now working on sustainable growth principles. And now my teaching a course on that. So for me, the way to learn these days is that I start teaching and then over some years, I started to understand what the hell I was doing there.

**Interviewer:**

Yeah, I agree. I know about the sustain this growth hacking funnel, you’re advertising it some sometimes I receive some of the mails. So I've noticed that and I was hoping you'd bring it up. And this otherwise.

**Interviewee:**

No, I mean, I don't mark it that so much in my course. But I think it's just that we have a big toolbox, and it's growing. But still at the end of the day. Key is that they are, that there is so much. I mean, if the students that are forming a startup in my startup courses, if they follow this course get through that some 100% never startup, but if it's a real startup, they swing around, they do. Sometimes they do different thing that we give an assignment, because they felt that they have to do this now. And they are and the biggest difference that they have always made things from week one, this meeting with real startups, they are meeting other folks. Yeah, meeting other mentors, other and it's not like they go into they tried to see if the field is greener on the other side. They are just constantly seeking for input.

**Interviewer:**

Yeah. I have two last important actually, just one important. And the minor thing is, do you feel this, all this that I have presented here go into the purpose of this course, plus the ones that you have already stated? Because I filled it in? And there was a question mark on purpose there. I don't know a lot of things I wanted to learn. And I've actually learned so all these things here do you perceive there? They could be part of the whole picture here.

**Interviewee:**

Well, if I just quickly go through that. Of course, business modeling is key. So Canvas, yes. Scrum XP is not necessarily mean persona. It's user design. Not necessarily presentation. Yes. Customer Journey. Yes. Both M babies with local. Yeah, I've been very good to know that their stuff and then gone been why not? But no, it's you have to have some kind of way to manage the world.

**Interviewer:**

Yeah. And one quick clarification, apart from the presentation that we have in the course. And I just added because I had forgotten this lean business Canvas model, Scrum XP, MVP is customer journeys, Kanban boards. All these things, I noticed they were part of the growth phase startups I have interviewed, it's not a huge, but there's still a certain amount of startups I've interviewed. This is sort of my last question. I was in doubt when I started this research to have early-stage startups practices to bring in or growth phase startups to bring in. And then I realized from the literature, there was a lot about early phase, but not so much growth phase. Then in the growth phase, there is more stability in this. They know what they are doing a bit more. Because when you go to early phase, people say, I don't know how I'm doing this. I don't know I'm doing that. And you cannot go to a course by telling students but we know nothing. How early-stage startups do you think so you shouldn't know anything? So, I was kind of leaning towards the growth phase because it sounded like they were doing some good.

**Interviewee:**

It took for this long to understand I liked the arguments. Because early stage is tough because we happen to find many early stage startups and are still looking for funding. Those with funding are more interesting, because then you have actually a target. I need to go to another meeting now starting a meeting. And hey, I thank you for this has been great.

**Interviewer:**

For me to, thank you so much, Becker. It has been really great. We'll talk soon. Bye. Thanks a lot.