



**Kaunas University of Technology**  
School of Economics and Business

**Managing Customer Trust While Developing an Early-Stage  
Product in a Start-Up**  
Master's Final Degree Project

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**Kaunas, 2022**



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Master's Final Degree Project  
International Business (6211LX029)

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**Kaunas University of Technology**  
School of Economics and Business  
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## **Managing Customer Trust While Developing an Early-Stage Product in a Start-Up**

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Study field and area (study field group): Business, Business and Public Management.

Keywords: customer trust, customer trust management, startup, product development.

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## Summary

**Relevance.** The significant scale of digital and internet technologies made more and more people build businesses online in recent years. As a result, start-ups are created every day and attract considerable funding, which has increased exponentially in the last few years. However, the exponential growth of the start-up's economy is followed by the shadow of failure, as 90% of start-ups fail within the first five years. According to multiple analyzed data sources, the struggle to find the market fit and develop a poor product without a loyal customer base are typical factors that usually impact start-up failures. The early-stage product has to meet the requirements of the chosen market, and only then customers may trust it. Therefore, startup could use the trust-related behaviour of the customer for success. Trust's role in building a successful start-up could be significant as it promotes cooperation and attracts more people.

**Problem.** One factor that makes customers stay with the company and use its product is trust. Based on this fact, it could be stated that there is a need to understand how to build and manage customer trust for early-stage products in the newly established start-up company. So, how to manage customer trust while developing an early-stage digital product in a newly established start-up?

**Object.** Customer trust management in the early-stage product development process.

**Aim.** To provide a model of customer trust management principles that would help start-ups develop early-stage products.

### Objectives:

1. To disclose the reasoning behind start-ups failures and build a base for customer trust development research.
2. To analyse the theoretical concepts of customer trust management in early-stage digital innovations.
3. To build a customer trust management principles model for the startup with early-stage digital product.

**Research methods.** The scientific literature review, empirical research, overview of research results.

**Research results.** The research of literature resulted in customer trust management model for startup with early-stage product. Another customer trust management model was made after empirical study based on qualitative analysis findings. The results were concluded, and recommendations were provided.

Tautvydas Korkuzas. Klientų pasitikėjimo valdymas kuriant ankstyvosios stadijos produktą startuolyje. Magistro baigiamasis projektas / vadovė prof. dr. Rimgailė Vaitkienė; Kauno technologijos universitetas, Ekonomikos ir verslo fakultetas.

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## **Santrauka**

**Aktualumas.** Ryškus skaitmeninių ir interneto technologijų augimas pastaraisiais metais privertė vis daugiau žmonių kurti verslą internete. Startuoliai kuriasi kiekvieną dieną ir pritraukia nemažą finansavimą, kuris per pastaruosius kelerius metus išaugo eksponentiškai. Eksponentinį startuolių ekonomikos augimą lydi nesėkmės šėšėlis, 90% naujų startuolių žlunga per pirmuosius penkerius metus. Tipiniai veiksniai, kurie paprastai turi įtakos startuolių nesėkmėms yra sudėtingas įžengimas į rinkas, nekokybiško produkto kūrimas bei nesugebėjimas sukurti lojalių klientų bazės. Ankstyvosios stadijos produktas turi atitikti pasirinktos rinkos reikalavimus ir tik tada klientai gali juo pasitikėti. O tai ir veda prie sąlygos, jog tik pasitikėjimu pagrįstas kliento elgesys gali būti panaudotas startuolio sėkmei. Pasitikėjimo vaidmuo kuriant sėkmingą startuolį yra itin reikšmingas, nes tai skatina bendradarbiavimą ir pritraukia į jį daugiau žmonių.

**Problema.** Vienas iš veiksnių, verčiančių klientus likti įmonėje ir naudotis jos produktu, yra pasitikėjimas. Remiantis šiuo faktu, galima teigti, kad naujai besikuriančiai įmonei reikia suprasti, kaip kurti ir valdyti klientų pasitikėjimą produktais, kurie kol kas gyvuoja ankstyvose stadijose. Taigi, kaip puoselėti klientų pasitikėjimą kuriant ankstyvos stadijos skaitmeninį produktą naujai įsteigtame startuolyje?

**Objektas.** Klientų pasitikėjimo valdymas pradiniam produkto kūrimo procese.

**Tikslas.** Pateikti klientų pasitikėjimo valdymo principų modelį, kuris padėtų startuoliams kurti ankstyvosios stadijos produktus.

### **Tikslai:**

1. Atskleisti startuolių nesėkmių priežastis, kuriomis remiantis bus daromas klientų pasitikėjimo valdymo tyrimas.
2. Išanalizuoti teorines klientų pasitikėjimo valdymo principus ankstyvosios stadijos skaitmeninių inovacijų kontekste.
3. Sukurti klientų pasitikėjimo valdymo principų modelį ankstyvos stadijos skaitmeninių produkto startuoliui.

**Tyrimo metodai.** Mokslinės literatūros apžvalga, empirinis tyrimas, tyrimo rezultatų apžvalga.

**Tyrimo rezultatai.** Tiriant literatūrą, buvo sukurtas klientų pasitikėjimo valdymo modelis startuojant su ankstyvos stadijos produktu. Antrasis klientų pasitikėjimo valdymo modelis buvo sukurtas po empirinio tyrimo pagal kokybinės analizės rezultatus. Pateikiami tyrimų rezultatai ir rekomendacijos.

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## **List of abbreviations and terms**

### **Abbreviations:**

Assoc. prof. – associate professor;

Lect. – lecturer;

Prof. – professor.

### **Terms:**

**SME** – small and medium businesses

**NPD** – new product development

**MVP** – minimal viable product

**CRM** – customer relationship management

**NPS** – Net Promoter Score

**CS** – Customer Success or Customer Support or Customer service

## Introduction

**Relevance.** The significant scale of digital and internet technologies made more and more people build businesses online in recent years. As a result, start-ups are created every day and attract considerable funding, increasing exponentially in the last few years. Entrepreneurs and investors prefer building start-ups as they are flexible and could provide rapid growth in the early stage. (Weiblen and Chesbrough, 2015). However, the exponential growth of the start-up's economy is followed by the shadow of failure, as 90% of start-ups fail within the first five years (CBInsights, 2019). According to multiple analyzed data sources, the struggle to find the market fit and develop a poor product without a loyal customer base are typical factors that usually impact start-up failures. Despite the ongoing trends to organize the development of new products with customer-centric approaches, the start-up success rate is not getting better (CBInsights, 2021). The general growth of a newly established company is typically measured via user base growth or new billings, and building the growth of both these metrics is a priority for any start-up. The early-stage product has to meet the requirements of the chosen market, and only then customers may trust it, and the trust-related behaviour of the customer could be used for start-up success (Schultz, 2006). Trust's role in building a successful start-up could be significant as it promotes cooperation and attracts more people to it (Francis Fukuyama, 1995). Cooperation is also an essential factor that empowers the new concepts of early-stage product development, which require constant product testing with actual customers (Ries, 2011; Pride, 2018).

**Problem.** One factor that makes customers stay with the company and use its product is trust. Based on this fact, it could be stated that there is a need to understand how to build and manage customer trust for early-stage products in the newly established start-up company. So, how to manage customer trust while developing an early-stage digital product in a newly established start-up?

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**Research methods.** The literature review will be done to collect the theoretical solutions for the problem of the thesis. Logical and comparative methods will be used to summarise the learnings into the model of theoretical solutions. The empirical research will conduct with inductive qualitative approach, the raw data will be collected through semi-structural interviews, which will be recorded and transcribed. Later data will be systematically categorised with MAXQDA program and analysed in detail.

## **1. Problem Analysis of Start-Ups Success Development**

The problem analysis part focuses on a review of start-ups growth in the recent years in Lithuania, Europe, and worldwide. The review is followed by an in-depth analysis of the most common reasons for start-ups failures and research on what is needed to achieve start-up success. The goal of the problem analysis is to identify the grey areas for most start-ups that are on the road to success.

### **1.1. Start-ups in the World, Europe, and Lithuania**

Start-ups are growing worldwide by hitting new revenue and gathered capital records each year in the recent decade and especially in the last several years.

According to Bloomberg (2022), start-ups hit the ultimate record in funding in 2021 by reaching \$621 billion worldwide, more than double the 2020 achievement of \$335 billion. Start-ups in the European market are becoming increasingly important to the economy by hitting \$121 billion in funding in 2021. In comparison, start-ups raised \$41 billion of capital in 2020. According to Atomico's estimate, the total equity valuation of European tech firms in public and private markets crossed \$3 trillion for the first time in 2021, based on data firm Dealroom (2021).

According to Verslo Žinios (2021), Lithuania start-ups collected over 420 million Eur of funding during the first three quarters of 2021. Furthermore, according to the data of Versli Lietuva (2021), in the first half of 2021, the total sales of Lithuanian start-ups amounted to 1.33 billion Eur, and compared to 2020, over the same period increased by 2.6.

The combined enterprise value of Lithuanian entrepreneurs has now surpassed €7.1 billion, up 17 times since 2016, according to a new report published by Dealroom (2021).

To conclude, these numbers prove the significant growth over one year, and the authors of the articles assure that the growth in previous years looked quite similarly impressive.

The European Start-up Association identifies three main criteria for a start-up:

- Operates for a maximum of 10 years;
- Has a high level of innovation or business model;
- It is characterized by rapid growth - the number of employees or sales.

According to the European Start-up Survey (2021), two unicorns are born every day, and there is now at least one unicorn in 170 cities around the world.

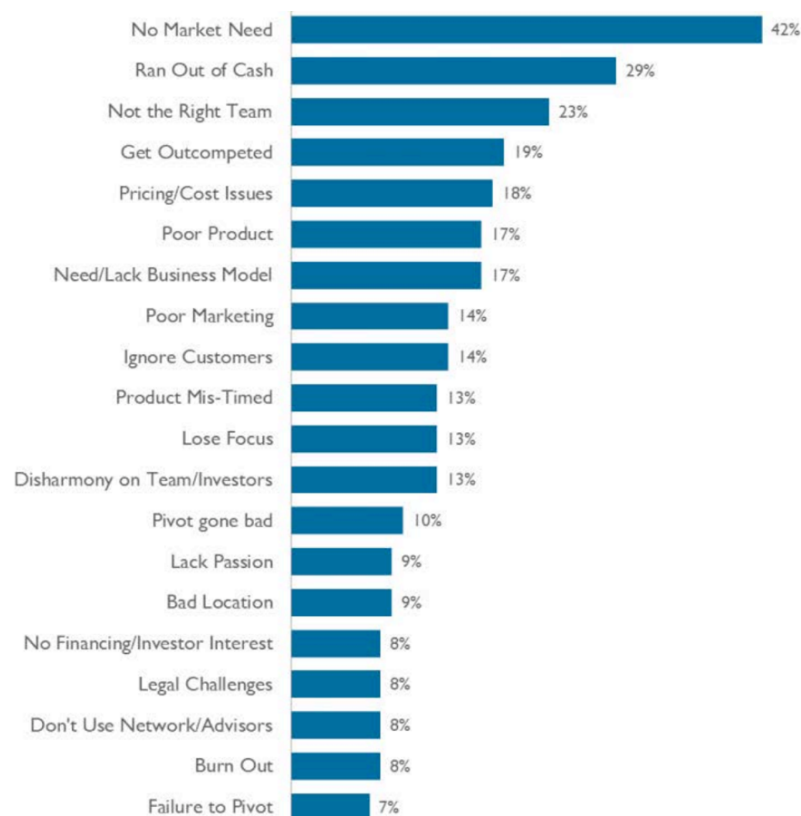
According to the report, the average lifespan of the start-ups surveyed is 2.4 years, suggesting that very young start-ups dominate Europe. 77% start-ups operate in the global market or develop internationalization plans – it can be concluded that a minority of start-ups are operating only in the local market. 67% of start-ups in Europe work exclusively in the business-to-business sector. Start-ups receive their main income from business customers. The main challenges faced by the start-ups being analysed are increasing sales, attracting consumers, developing products or services, and development.

The exponential growth of start-ups over recent years proves that this way of building new businesses could be highly effective and not only a very popular trend. Nevertheless, it is also essential to understand the downside part of start-up economy and review failures.

## 1.2. Customers Part in Early-Stage Start-Ups Failures

The start-up form of business is preferred by entrepreneurs because, despite their limited financial and technical capabilities, this type of business is characterized by flexibility and particularly rapid growth (Weiblen and Chesbrough, 2015). The lean start-up movement could also explain huge investments into start-up growth, which have become trend in recent years. Lean start-up movement is all about iteration concepts and “fail fast” methodology, says Jamie Pride (2018). According to the author, if a business is not successful, the allowance for a product to fail fast could follow, opening the window to other iterations based on what was learned during failure and customer feedback. Paul Graham (2018) comments that innovation is unconscious when most successful start-ups are being created. Best ideas are all about former problems that became important while no one noticed that. However, Giedraitis ir Kasnauskė (2016) notes that a common reason for the rapid growth of a start-up is the creation of innovations.

Despite these two opposite thoughts, not all start-ups survive and become large companies – some of them fail because they do not consider all the factors in the market. According to one of the most popular world business analysis companies, CBIInsights (2019) start-up failures review, there are 20 main reasons start-ups fail, presented in **Figure 1**. The list was made by analysing start-ups post-mortems, and reasons don't add up to 100% as a major part of start-ups included more than one reason.

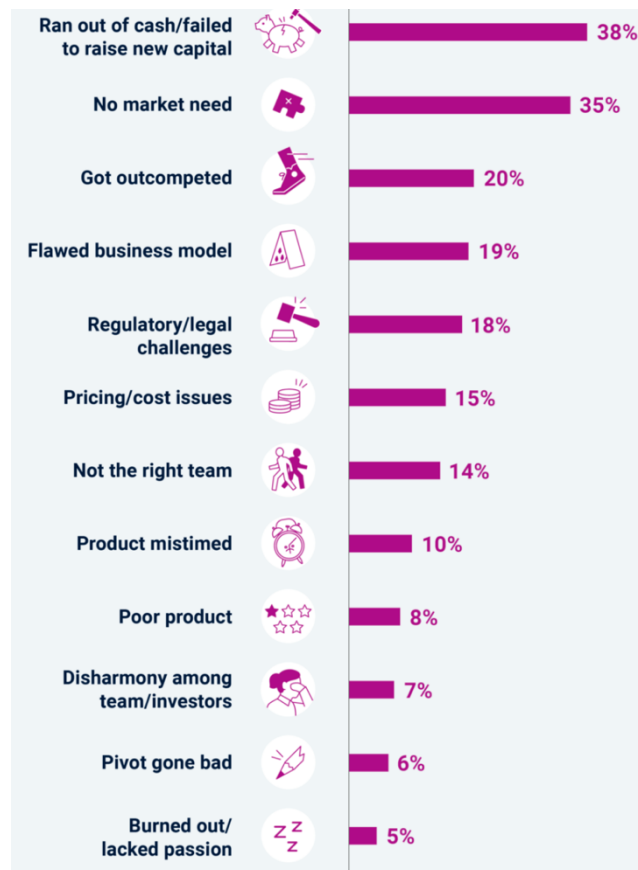


**Fig. 1.** TOP 20 reasons for startups failures (CBIInsights 2019)

As shown in the diagram in **Figure 1**, the most common reason for the collapse of start-ups is that there is no market demand for the product or service being developed (42%). Other important reasons are lack of funding (29%) and the wrong team (23%). Getting outcompeted got 19%, poor product which doesn't create additional value for the customer got 17%. Ignoring clients in start-ups could also be one of the reasons for the collapse, with 14%.

Thus, it can be said that knowledge of market needs and the involvement of consumers is directly related to the success of start-ups. Also, a significant part of start-ups developed products that did not fit the market, which spoils the potential lack of focus on actual customer problems and not enough communication with them.

As the numbers of start-ups funding prove significant growth of money flowing to new companies, it would be beneficial to analyse how failure reasons change over time. According to CBIInights (2021) start-ups failure analysis that was performed with a similar approach as in 2019, there are 12 main reasons for the death of start-ups. The analysis summary is presented in **Figure 2**.



**Fig. 2.** TOP 12 start-ups failures reasons (CBIInights 2021)

The main difference is that fewer start-ups struggle with building a company that fits market need – from 42% to 35%. So let’s dig into several specific reasons for start-ups failures and check how customers influence every mentioned factor:

- **Ran out of cash/failed to raise new capital:** Top reason for a start-up to fail is the inability to secure investments to the growth.
- **No market need:** Vast number of analysed cases of failed start-ups were due to the inability to contribute to actual market need while still solving the exciting issue. A deep understanding of potential customers' problems and building a vision of a scalable solution to the selected problem is the only way to assure successful start-up growth with loyal client base.
- **Get outcompeted:** analysis states that start-ups could be outcompeted if competitors successfully solve customers' problems and assure a more pleasant experience. Also, getting outcompeted is quite a common failure reason. For example, according to CBIInights (2021) data, 5% of start-ups were outcompeted due to building a product that was too hard to use.

- **Flawed business model:** 19% of start-ups from analysis state that having a good business model is crucial. Its quality could drive start-up to success through revenue channels and the ability to get money on the scale.
- **Regulatory/legal challenges:** 18% of start-ups marked legal struggles as one of the reasons for failure. The geopolitics and legal changes in countries could positively and negatively impact business, especially for newly established companies.
- **Pricing/Cost issues:** start-ups need to balance the cost and pricing for successful growth as any other business. Ideas that cost too much and don't make big enough revenue are set to fail. High-end technology could be expensive even in our today's digitalized world.
- **Not the right team:** building a team of specialists crucial for early product and company development is another important aspect. Analysis proves that wrong hiring or empowering people with a poor business model could lead to the company's failure quite quickly.
- **Product mistimed:** setting the product live on a stage that is too early for the launch could knock back some of the customers and make a product that is not trustworthy, mainly if it targets a very niche customer base. That could have a negative influence in the long run as well. And launching a product too late could make start-up to struggle to outcompete others.
- **Poor product:** analysis states that in most cases, marketing and product focus combined make start-up succeed and spending too much only on one of these two could push the company to failure. Building a solid base product is very important not only for general start-up success but also for customers who will start using it.
- **Disharmony on Team/Investors:** 7% of start-ups failure postmortems included the disharmony factor influenced by internal teams or investors.
- **Pivot gone bad:** Pivot in business is understood as a radical or fundamental change of business direction (Forbes, 2020). 6% start-ups from the analysis state that they saw the wrong direction of their initiatives but failed to set new approaches and direction.
- **Burned out/lacked passion:** 5% of start-ups were influenced by the burn-out of the team members. According to CBInsights, the burn-out level was extremely high during the pandemics as people's work & life balance got many new challenges.

The significant number of failures is because start-ups failed to analyse customer needs and fit the market, built products in the wrong direction, targeted not the right customer groups that wouldn't use the developed product, and kept ignoring customers on the go. As customers are the fuel for start-ups growth, start-ups should aim to build a suitable customer base and hold it while it is growing to have the right path for the proper product development, which is also crucial for start-up success.

After reviewing the reasons for the collapse of start-ups, it is essential to check what successful start-ups do to achieve the desired outcomes from business and how they assure their customers' success.

### 1.3. What is Needed for Start-Up Success?

The analysis of reasoning behind the start-ups failures proves the complexity of building a successful company that has a big growth opportunity. The complexity is influenced by the wide scope factors that need to be overseen when building a start-up. Companies need a way to be able to fit the company and its solution to the market as soon as possible, have a successful business and development model that includes customers and that brings early growth, which is crucial for further investments for the company.

One of the TOP entrepreneurs worldwide Neil Patel (2015) highlights the following success factors for start-ups: the product is perfect for the market; the entrepreneur does not ignore anything, especially customers; the company grows fast. As the analysis of the most common reasons for the collapse of start-ups reveals the importance of market needs, orientation to customer and good product factor, it's quite easy to agree with Neil Patel. Customer orientation helps to maintain revenue and keep innovation close to reality while improving, which means creating products or services that meet current customer (and market) needs.

Another serial entrepreneur and venture capitalist Jamie Pride (2018) brings the iteration culture as one of the main must-do things for young businesses in today's digital world that uses the failure and learning on the go models to test and improve product and check market fit. According to author, entrepreneurs usually misguide themselves by applying failure concept in the company level while it should be used only in product development. Developing a minimum viable product (MVP) in which the smallest possible part of resources and effort are invested allows company to check how the current stage product fits market and do customers like it without losing too much of resources. Then, company should keep developing product and repeating of iteration cycle based on learnings and feedback. The big number of iterations decreases the surprise and major failure risk which is high when launching fully finished products.

Morgan et al. (2018) confirms that consumer participation is favourably associated with new product development performance, and this effect is mediated by innovativeness, according to conducted research findings. In addition, active customer participation in new product development is critical for new product success, according to existing research held by Chang and Taylor (2016).

On the other hand, Chang and Taylor (2016) also discuss the opposite: a small number of research imply that incorporating customers into the new product development process may have drawbacks. According to previous research, customer participation may result in inefficient new product development processes and lower overall development performance. Also, customers can be a bottleneck of innovation since they lack innovative ideas, are unable to adequately communicate their demands and could increase the complexity of the start-up's attempt to use collected context for new product development.

Chang and Taylor (2016) concerns for the efficient customer participation in the product or start-up development needs to be overseen, because old and new reasarches prove that today's customers wish to actively participate in development and share their points of views. Based on the characteristics of the modern consumer named by Bhalla (2011), it can be stated that an active user is formed who wants to participate in the process of developing products or services. The customer is particularly valuable in the context of open innovation, where companies seek to collaborate with external sources of knowledge. Thanks to the Internet and social networks, more and more consumers are innovating, which means that companies are less and less confronted with traditional type consumers in the market – they are replaced by modern ones consumers who are more educated, more cooperative and much more creative than traditional consumers. A comparison of modern and traditional consumers is presented in **Table 1**.

**Table 1.** Comparison of modern and traditional consumers (Chang and Taylor, 2016)

<b>Feature</b>	<b>The traditional consumer</b>	<b>The modern consumer</b>
<b>Identity</b>	Consumers, respondents	Real people, creative partners

<b>Role</b>	Passive, value consumer	Active, collaborates on value creation
<b>Sources of insight</b>	Polls, unbiased objective observations	Conversations, stories, enthusiastic interest
<b>Cooperation with the company</b>	Transactions	Interaction and experience
<b>Location</b>	Fixed and invisible, user at the end of the value chain	Adaptive and visible, can participate everywhere and always
<b>Information and influence</b>	Company advertising and other communication, expert opinion	Word-of-mouth feedback, social networks
<b>The concept of value</b>	Standardized company offers	The consumer chooses from individual offers
<b>Primary source of value</b>	Brand, features	Brand applicability, unidentified solutions, and individual experience

Analysing the role of consumers in the innovation process, Piller and Walcher (2006) note that consumer participation in the idea generation phase is no longer limited to consumers, who also become evaluators of innovation. Feedback is expressed by sharing their insights with other users on social networks and other electronic communication channels (Grabher et al., 2008). Von Hippel et al. (1999) argue that innovation generated by enterprises is driven by commercial goals, lacks a focus on consumer needs, and that innovation generated by consumers seeks to meet unmet needs and create greater value. Researchers (Tether, 2002; Kazakevičiūtė, 2003; Vanhaverbeke et al., 2011; Herzog, 2008) suggest that companies can reduce the costs of innovation and increase efficiency during the development process by collaborating with consumers, but in large companies the concept of open innovation can be difficult to control (Chesbrough, 2003; Vanhaverbeke 2007). In this respect, start-ups are significantly superior in making it easier for them to reap the benefits of open innovation due to their flexibility and open approach to innovation (Weiblen and Chesbrough, 2015; Vanhaverbeke et al., 2011).

Majority of analysed researches prove that today's typical consumers profile could be effectively used in the development of new product and could help to achieve start-up success as each customer also represents groups of similar profile people who could become customers at some point.

So as start-ups failures analysis proves that there are many of primary and secondary failure reasons, it could be said that startups cannot succeed without scalable product or service solution to the right market need, poor actions to reach potential customers, failing in building relationships with them. The scope of reasons is wide, so preparing a work that covers all reasons and helps any start-up to succeed is a too complex and nearly impossible task. Thus, the further work will focus on finding the way how companies could build good relationships and trust with customers during main solution or product development process and how it should be organized so that start-up growth would be efficient and include today's modern consumers into the development. Data proves that despite the today's modern consumers willingness to participate in the product development, many early stage businesses fail to use it in correctly for the growth. Knowledge how to do it right would help



significant number of start-ups to get closer to success and would serve not only local, but also world markets.

To conclude, understanding of how effectively use customer trust for product development success and knowledge how to manage customer trust development will increase the success rate of start-ups.

## 2. Theoretical Solutions for Customer Trust Management in Startup's Early-Stage Product Development Process

### 2.1. Digital Innovation Role in Product Development

#### 2.1.1. Digital Innovation Definition

Ciriello, Richter and Schwabe (2018) states that digital innovation drives the large transformation of world economy and society. Traditional product developments are being overshadowed by new business models offered by digital technology platforms.

Three essential properties of digital technology alter the essence of innovation:

- 1) Information could be stored, adjusted, and transferred via digital devices once it is digitized.
- 2) Digital data is editable after the deployment (release) what opens the window for data to be changed and improved with the help of other systems.
- 3) Because digital technologies are essentially self-contained, it should be used to develop digital technologies. This means that current digital technologies are also digital innovations, and the innovation could continue by re-using the technology which became a standard in any given time as a base.

Ciriello, Richter and Schwabe (2018) say that innovating digitally involves developing products, processes, or business models. It could be defined as the use of digital technology platforms as tools or goals in business internally and among different organisations. Fichman et al. (2014) states that a product, method, or business model that is viewed as a novel, necessitates major adjustments from those who adopt to use it, and is empowered with information technology, defines the digital innovation.

Fichman et al. (2014) list four phases of the total digital innovation process: discovery, development, diffusion, and impact. Kohli, Melville (2021) use a bit different naming for the stages which define same processes: initiation (initiation of discovery), development, implementation (implement and diffuse), exploitation (exploit or impact). Even though Chesbrough (2003) has quite a similar point of view, author bolds main two parts of digital innovation: research and development. Tidd and Bessant (2007) share four stages: search, select, implement, capture. Finally, Desouza (2011) has a bit broader structure of digital innovation: idea generation, advocacy & screening, experimentation, commercialisation, and diffusion & implementation.

As the process of digital innovation could be divided from 2 to 5 stages, they are also very generic and only provides the main things which should be executed in each phase. To sum up the clear view, the author of theses re-structured all gathered context about digital innovation to four main process stages:

- **Discovery of the idea and research.** This stage is dedicated to the discovery of ideas for new business models, products, and processes that could be turned into digital innovation development. The major activities of the stage are two: invention, which defines the development of something completely new with the company's internal creative processes, and selection, which is the discovery and evaluation of innovative technology in the external environment with the possibility to develop and integrate. Business model innovators are more likely to engage in invention and selection. It's because innovations usually focus on

the existing ideas that were not developed, but already discovered as opportunities for the future. In contrast, organizational innovators are more likely to engage in selection than in invention. It's because digital innovations grow and open a window for unique ideas development with the use of existing technologies and their integrations.

- **Development.** This stage is dedicated for fundamental technology ideas to be turned into actual inventions. This includes creating and improving the fundamental technology and a packaging effort for product and business model advancements. Packaging refers to integrating and combining the key technology with supplementary products and services that provide a solution that a target adopter may utilize effectively for a specific purpose. This stage of process innovation entails determining which technology attributes will be used, whether they will be used as it is or with variations, how the technology will be embedded with other technology solutions that are now in place, how related organizational components (e.g., hierarchies, practices) will be changed or optimized, and how the organization will capture and use the technology.
- **Commercialisation and diffusion.** This stage discusses the innovation diffuse or distribution throughout a population of potential customers. From the products and business model inventors' perspective, the major task is release of developed innovation, which is defined as marshalling the resources required to allow and make people of business or individuals use the innovation. Deployment is likewise a relevant topic from the standpoint of organizational innovation. Only the relevant population comprises people and units within the enterprise. When a release goes successfully, assimilation occurs when businesspeople and other individual units incorporate the innovation into business daily activities and routines.
- **Impact.** The focus at this point is on the effects of digital innovations on people, businesses, economies, and community once they have spread widely. Within enterprises, digital innovation can have a positive impact on both the cost and the revenue side. Collecting value and value transformation are two key actions in this stage. Appropriation for product and business model creators entails activities such as protecting revenues from suppliers, customers, and imitators by overseeing intellectual property as well as the environment of related services and products. For organizational innovators, value appropriation means constantly modifying technology and organizational structures to use the benefit of new opportunities offered by the innovation. At the market and societal levels, transformations can also occur.

Understanding of digital innovation process phases provides the broader view of how the birth and growth of innovation could happen. Ciriello, Richter and Schwabe (2018) think that it is also crucial to build knowledge about technologies which could be used in the process to support the initiatives in each stage.

### 2.1.2. Digital Innovation Process Specifics

Fichman et al. (2014) share a very clear view (**Figure 3**) of what actual technologies should be used in each digital innovation process stage and estimate them in the context of all several focus areas. Each technology use case in specific focus areas at specific given time of digital innovation process allows to understand the main initiatives which should be executed in each stage.

General Technology Domains	- Discovery -	- Development -	- Diffusion -	- Impact-
Architecture/ Infrastructure	"Maker" movement/desktop mfg	Mobile and Cloud Computing	E-business	
Enterprise Platforms		Product Lifecycle Management	Customer Relationship Management	Enterprise Resource Planning
Data Management		Content Management Technologies	Datawarehouse Technologies	
Analysis and Decision Support	Real-time Question Answering Systems	Business Analytics, "Big Data"		
Communication, Collaboration and Digital Media	Experiential Computing	Social Media	Enterprise Mobility	Virtual Teams

Fig. 3. Digital innovation process estimates (Fichman et al., 2014)

As this thesis discusses the product development challenges in the context of customer trust management, the following theoretical research will focus on development, diffusion, and impact parts of digital innovation process with more bold view to product lifecycle management, customer relationship management, real-time question answering systems, business analytics and Big Data, and all communication channels. Variety of technologies requires skills and knowledge to use them. This is widely discussed by open innovation paradigm.

### 2.1.3. Open Innovation in Digital Product Development

Chesbrough (2003) was the first to introduce new paradigm for innovating – open innovation. The open innovation concept enables the use of internal and external knowledge/context/ideas and internal and external paths to market for business advantage. The same author Chesbrough together with Bogers (2014) discuss same concept as “a distributed innovation process based on purposively managed knowledge flows across organizational boundaries.”

Bandzevičienė (2011) using Chesbrough (2003) as a source, provides structured comparison of open and closed innovation principles (Figure 4).

<b>Closed innovation principles</b>	<b>Open innovation principles</b>
<ul style="list-style-type: none"> <li>• We employ the smartest people in our field.</li> <li>• To profit from research and development, we must discover, develop, and use it ourselves.</li> <li>• If we find out for ourselves, we will reach the market faster.</li> <li>• If we create the most and the best ideas ourselves, we will win.</li> <li>• We need to control our intellectual property so that our competitors do not profit from our ideas.</li> </ul>	<ul style="list-style-type: none"> <li>• Not all the smartest people in our field work for us. We need to work with smart people inside and outside the organization.</li> <li>• External research can create significant value: internal research must absorb part of that value.</li> <li>• We do not have to be the pioneers of a study to profit from it.</li> <li>• If we make the best use of good internal and external ideas, we will win.</li> <li>• We must profit from the use of our intellectual property by others, and we must purchase the intellectual property of others if it is beneficial to the progress of our business.</li> </ul>

**Fig. 4.** Open and closed innovation principles (Chesbrough, 2003)

Bandzevičienė states that open innovations are considered as more successful, promising, efficient than closed innovations in the global business and information technology (IT) development.

The open innovation concepts drive new business development today's world and have already become dominant paradigm that connects technology and markets (Yun et al., 2020). As the digital innovation research proved, the innovation process is covered by many different angles of initiatives which support each other in new digital product birth. The research of methodologies to develop a new digital product by using open innovation concepts will be provided.

## **2.2. Early-Stage Product Development**

There are multiple different descriptions of what is called early-stage product. The main factor for big variation of this terminology is because its description depends on the perspective from which it is understood. According to Yip et al. (2015) early product stage is defined as phase in which the company already has a product development strategy and executes the following steps that are required before the start of actual development process. Authors arguments their thoughts by using traditional type manufacturers where product development strategy is set before the actual work is started. Marion et al. (2009) and Kudrowitz, Wallance (2012) describes product early-stage as the stage in which idea generation for digital innovation is performed. Bjork and Ljungblad (2013) talks about Lean product development strategies in early-stage companies with early-stage products. Authors consider early stage as the phase in which product did not achieve exponential growth and is far from its competitors or covers only the most important need of its customers. The version of how early-stage product is understood by Bjork and Ljungblad will be used in the following part of thesis.

There are many different methodologies for product development and digital innovations. For example, Nysveen et al. (2007) talks about more than 90 unique methods which could be used in the innovation development process. Nevertheless, the main and broad product development

methodologies are only a few – Waterfall and other heavyweight methodologies, Agile collection of methodologies such as Scrum, Extreme programming, Lean, Kanban and others (Dingsoeyr et al., 2019).

Bjork and Ljungblad (2013) states that lean product development is on the spotlight since Ries (2011) book about The Lean Startup. Author brought Minimal Viable Product (MVP) concept to the world that is later applauded by Pride (2018) who mentions MVP approach as one of the key requirements for iteration culture and successful product development. The Learn process has three main steps: preparing the documentation of plan (development plan or strategy), spotting the riskiest sides of the documented plan, and learning about them, testing and re-planning the initial plan on the go systematically.

Traditional techniques for product development were presented to the world a while ago. One of the very first of the bunch is the waterfall model presented by Royce (1970) has been broadly used in various size projects since its introduction and has been considered as successful in many cases. Despite positive outcomes of projects that used Waterfall, it has several flaws, including linearity, inflexibility in changing requirements, and high formal processes, regardless of project size (Awad, 2005). Kent Beck (2001) was the first to present a different methodology which oversee the flaws of Waterfall. It's Extreme Programming that was firstly introduced by author and initiated the birth of Agile methodologies collection. Agile methods include a variety of techniques to deal with unstable and dynamic requirements, creates an environment in which cooperation among customers and developers is not only required, but also could determine project success. It also supports early-stage delivery what perfectly aligns with start-ups.

Engelhardt (2019) based on Dingsoeyr (2008) to compare main Agile project management (APM) and traditional project management (TPM) factors is showed in **Figure 5**.

	<b>TPM</b>	<b>APM</b>
Assumption	Systems are fully specifiable and predictable	Continuous Design Improvement based on rapid feedback and change
Management	Command and control	Leadership and collaboration
Knowledge Management	Explicit	Tacit
Communication	Formal	Informal
Development model	Life-cycle model	Evolutionary, iterative
Organization	Large, mechanistic	Small, organic
Quality control	Heavy planning, late heavy testing	Continuous Control of requirements, continuous testing

**Fig. 5.** TPM and APM comparison (Engelhardt, 2019)

Agile methodology could be applied for product development that requires to build digital products that could be developed in a fast way and wouldn't require a lot of testing (due to time saving reasons). For example, for minimal viable product (MVP) – the product version which requires the least effort from the team but works well enough to allow collect all possible feedback from customer (Lenarduzzi, 2016). Heavyweight approaches are applicable to projects that require correctness and safety. The methodology that is going along with slower processes, but more in-depth development and testing could bring very high-quality products in slow speed. The process is slow due to the need to meet all requirements of knowledge and resources before the actual development, while in comparison Agile allows to gather resources and learn on the go. Learning on the go could provide some unexpected findings, so Agile is also supporting frequent change in requirements and process.

Also, Agile pushes its users to be customer-centric and continue the development after analysing customer feedback. Such approaches provide a lot of dynamic for Agile users and less flexibility for Heavyweight users, but different projects have different requirements and require different methodologies.

Agile organizations follow the principles of Agile methodology in their activities are presented in **Figure 6**:



**Fig. 6.** Agile Manifesto principles (AgileManifesto, 2001)

The Agile Manifesto principles are perfect for customer-centric companies as its first principle talks about the importance to focus on the customer needs and align them with business goals. Agile methodology perfectly suits innovation development as it allows change of environment at any stage of product development process (Rigby et al., 2018).

The Agile Manifesto principles also bold the importance of cooperation between organisation and customer instead of corporate communication. Customers could make significant impact for the whole development process as the final product is made to fit the consumer needs (Rigby et al., 2018).

The conditions in which methodology of product development could succeed are shown in **Figure 7** (Engelhardt, 2019).

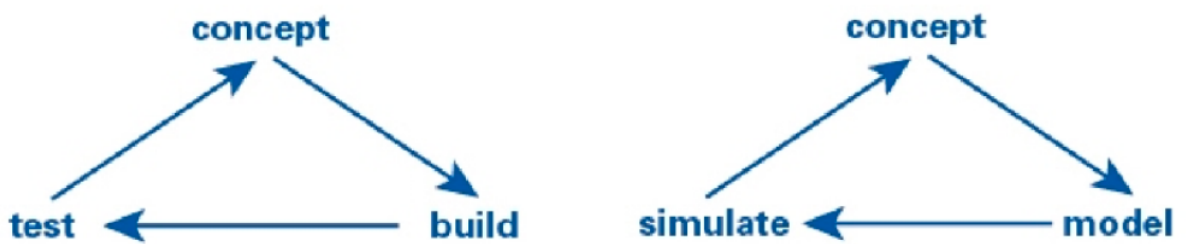
<b>Characteristics of project</b>	<b>TPM</b>	<b>APM</b>
Criticality	Extreme	Low
Developers Experience	More Junior	Senior
Product requirements	Stable requirements and specs	Change often during project
Project team size	Large	Small
Company culture	Demands order	Responds to change

**Fig. 7.** Best conditions for Agile (APM) and Traditional product development (TPM) (Engelhardt, 2019)

It is worth to notice that customers participation in Agile product development is important and is one of the success factors. Sutherland and Takeuchi (2016), Cram, Newell (2016) and Paluch et al.

(2019) state that Agile development is all about collaboration with customers and changing on the go while product is being developed. Blank (2013) talks about the importance of “build – measure – learn” loop use case which came from Lean company principles and suits Agile development as well.

Agile is highly used in the Lean movement that was presented earlier. Lean is the concept of iteration (Pride, 2018), or as Bjork and Ljungblad (2013) states – the customer development and continuous development. These concepts are realised by using Agile product development methodologies which allow to do small iterations to the existing product and evaluate the progress after each iteration is delivered. So, the customer development helps start-ups to define the next scope and direction for product improvements, while Agile makes iterating easy while developing product. Main concept of Lean methodology is presented in **Figure 8**.



**Fig. 8.** Lean concepts (Ward et al., 2014)

These customer centric principles conclude the most popular product development methodology over worldwide start-ups. As customers are one of the key factors for Agile development, their participation in business life is crucial. This bolds the need to have knowledge about methodologies for businesses to assure active and loyal customer participation in product use while it is being developed.

### 2.3. Customer Trust for Early-stage Digital Products in Start-ups

#### 2.3.1. Trust Definition

Trust is an interdisciplinary study object. Although trust is analyzed in many social science disciplines – psychology, sociology, economics, and management – in general, trust can be described as a relationship between two or more parties where the expectations of one party are met by the actions of the other.

The work of Chen and Chou (2012) analyzes attitudes that divide trust into three categories based on the insights of personality researchers, sociologists and economists, and social psychologists. The differences between these three trust categories are presented in **Table 2**.

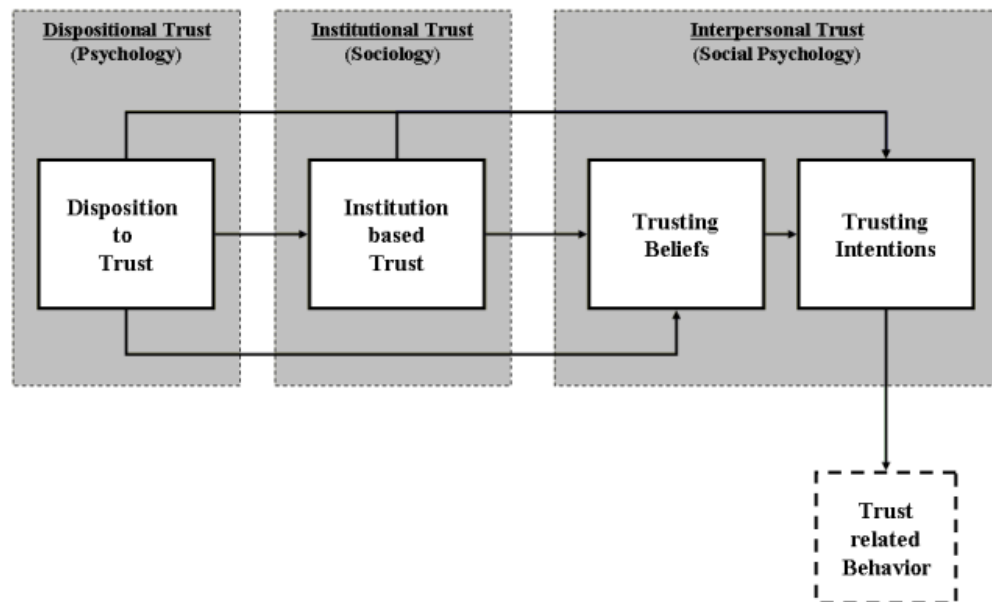
**Table 2.** Trust categories (Chen and Chou, 2012)

Trust researchers	Trust category	Conceptualisation of trust
Personality researchers	Personal trust	Trust is the beliefs and expectations that exist deeply formed as personality traits. Confidence is formed through personality experience.
Sociologists and economists	Public trust	Analyzes trust between personal and institutional levels. Trust is formed when a person has trust institutions, organizations, or social structures such as the courts, education system.



Social psychologists	Relationship-based trust	Trust is one person's desire to increase his or her its vulnerability to perform certain actions; it, which the person cannot control. The decision to trust is a personal decision that depends on the individual expectations of the individual.
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Summarizing the distinguished categories of trust, it can be stated that the trust analyzed by personality researchers and social psychologists has commonalities and is fundamentally different from the public trust that is associated with the institutional level. According to Schultz (2006), an individual's trust can also be different in various context. First, a person has a certain attitude or tendency to trust and only then can he feel trust in the representative of the organization (manager, cashier, etc.) or in the organization itself (its management, employees, etc.). Based on this logic, Schultz (2006) distinguishes between dispositional, organizational, and interpersonal trusts that are based on the sciences of psychology, sociology, and social psychology, respectively. The author bases this interpretation of trust on an interdisciplinary approach, the essence of which is revealed in the information presented in **Figure 9**.



**Fig. 9.** Trust concepts by Schultz (2006)

According to Schultz (2006), the consumer's tendency to trust stems from personality psychology. Reviewing the essence of the interdisciplinary approach to individual trust proposed by Schultz (2006), it can be stated that the result of dispositional, organizational, and interpersonal trust is reflected in the behavior determined by personal trust, which may vary depending on the situation. One of the possible forms of consumer behavior is loyalty, which characterizes consumers' loyalty to a certain brand or seller.

Josang et al. (2005) state that trust is a relationship of two countries (people, animals or entities) with the direction in which one party is trustor and the other is trustee. Authors bolds that trust has a scope with the goal, purpose, or domain in action, what is important to understand when defining trust.

Mcknight and Chervany (1996) share that the materials of literature form trust definition with different definitions. A contrast between context independent trust (which is referred to as "reliability

trust") and context dependent trust (which is referred to as "decision trust") can frequently be recognized in the literature, even though it is not often clearly stated in those words. As the name implies, reliability trust may be defined as the capacity to rely on something or someone regardless of the context in which they are used, and the following description offers an example of how this can be stated in more detail:

**Reliability Trust.** Trust is the subjective likelihood that a person expects another individual to do a certain action on which his or her well-being is dependent; it is measured in percentages. When it comes to trust, according to Reliability Trust definition, it is essentially defined as an assessment of the trustee's reliability (as in context of likelihood) and incorporates the idea of dependency on the trustee. In this definition, it should be highlighted that the circumstances aren't really taken into consideration.

Trust, on the other hand, may be more complicated than story suggests. For example, Josang et al. (2005) acknowledge that having a high level of (reliability) trust in an individual overall isn't sufficient justification for deciding to place oneself in a position of dependency on that other. According to authors, threat may appear to a reason for an unbearable danger.

Let's imagine the situation in which individual is running from aggressively acting person, who is trying to catch the individual and do some harm. Let's also imagine that the road is ending, and the only way out is to take a big jump over the high fence that is crossing the end of the street and is the barrier for the following road. In such dangerous situation, people would take the jump despite the risk to get injury. The reliability trust for the jump over high fence is totally same in both situations, but the decision trust changes according to the list of options that are available at the moment.

Here's how trust is defined in relation to its surrounding environment:

**Decision Trust.** A party's willingness to rely on something or someone in a particular scenario with a sense of safety and stability, even though negative outcomes are probable, is defined by their level of trust.

This definition emphasizes a person's readiness to place his or her faith in another person's objective, as well as the trustworthiness of that person. It is implied (in the definition of Decision Trust) that case study provides usefulness of alternative outcomes, environmental considerations, security systems, and risk mindset are all included in the definition.

Defining trust could take a great effort, as there are many different aspects to consider. But as the thesis focus on customer trust management in digital field, the further literature research will analyse the trust place in business, and further – in online environment.

### **2.3.2. Trust Understanding Between Two Parties in Business**

Francis Fukuyama (1995) considered trust as a "social capital" which makes massive impact for economic and political phenomena. The idea of author was not completely new, as Arrow (1972) also stated that the success of economy could be aligned with the amount of trust in society. So, according to these two thoughts, it is believed that trust could be an important player in any organisation's progress. In addition, Glaeser, Laibson et al. (2000) refers to Putnam (1993) and Knack and Keefer (1997) define trust as one of key factors for any country economic growth. Such wide views do not

completely analyse the trust role in specific niches but discuss the overall positive impact for organisation or country levels.

Francis Fukuyama (1995) argues that trust role in building successful business could be significant as it promotes cooperation and attracts more people. These thoughts perfectly align with discussion by Friedman, Kahn and Howe (2000) about how trust works and how it could be broken. The hurdles to trust are least restricting when the possible harm is modest and the other person doesn't have bad intentions, according to common sense (such as when loaning a small sum of money to a close friend). Barriers to trust, on the other hand, arise when there is a considerable risk of harm and considerable number of good intentions from the people we trust (such as when loaning a large sum of money to a stranger).

Ackerman (2007) shares that "the goal in today's business environment is to create win-win relationships between all players, building long-term trust".

All social links would fail or work poorly if there was no trust (Leninkumar, 2017). In general, trust is possible when one individual believes and expects that the other party's word is true. In the business world, consumers may result in providing ideas, emotions, or behaviours if they trust the business and believe in its trustworthiness.

These analysis of trust fundamentals could drive the online trust understanding. Friedman, Kahn and Howe (2000) think that people faith in technology, is limited. It is impacted directly by the individual knowledge about IT platform's reliability and safety.

Based on different interpretations of the concepts of trust, it can be argued that expectations and vulnerabilities are essential aspects of the concept of trust.

Recently, trust as one of the key factors of long-term relationships has expanded into other fields of science, such as information technology, and has become particularly prevalent in management science, such as marketing, accounting, or eCommerce business.

Trust for online business in marketing theory: According to Lou and Yuan (2019), Buateng (2019), the role of trust in the discipline of marketing is constantly increasing. Trust in marketing is usually analyzed as an aspect of relationship marketing (Chen et al., 2012), the essential purpose of which is to build and strengthen long-term relationships between consumers and the company. Traditionally, trust, along with commitment, communication, and satisfaction, are considered key elements in relationship marketing theory.

As the importance of trust in marketing grows, the content of the virtual environment is rapidly transforming its content, as consumers increasingly use electronic means to purchase goods and services. According to Hu and Krishen (2019), trust is a key factor that reduces uncertainty and complexity in decision-making while using online services. For example, consumers read and analyze feedback from other consumers before purchasing goods or services electronically. Majority of product or business reviews platforms divide user feedback into three groups: positive feedback, negative feedback, and the percentage of positive feedback. Consumers tend to trust organisations with a higher percentage of positive reviews.

### 2.3.3. Trust Impact for Customer Loyalty

Trust is considered as fuel for client loyalty according to many studies (Gul, 2014). Loyalty to a business company could be appear when the customer trust company and its products. The customer also must feel the value in using company's services and that customer's interests won't be harmed because of active relationship with the business company. This contributes to general brand loyalty as well (Morgan and Hunt, 1994).

Value of customer loyalty is discussed because of its positive impact on long-term profitability. As a result, building a loyal customer base is critical for internet businesses. Few organizations, however, appear to be successful in establishing e-loyalty, and little is understood about the mechanisms involved in generating online client loyalty. Customer loyalty is considered as a critical factor influencing the competitive advantage for any company in today's world market. Oliver (1999) shares that, loyal customer does not leave business and its brand products or services for other competitors offers and is also willing to purchase or renew the products that are established by the company to which customer is loyal. In other words, loyal customers don't have overwhelming doubts for purchasing additional products for the same company, what is also very beneficial for the company itself.

Customer loyalty could also be a boost to word-of-mouth marketing or referral program, in which existing customers of the business refer company's products to other people and increases the possibility for them to start using same company's production as they possibly trust the person more than company what assures the credibility of the service.

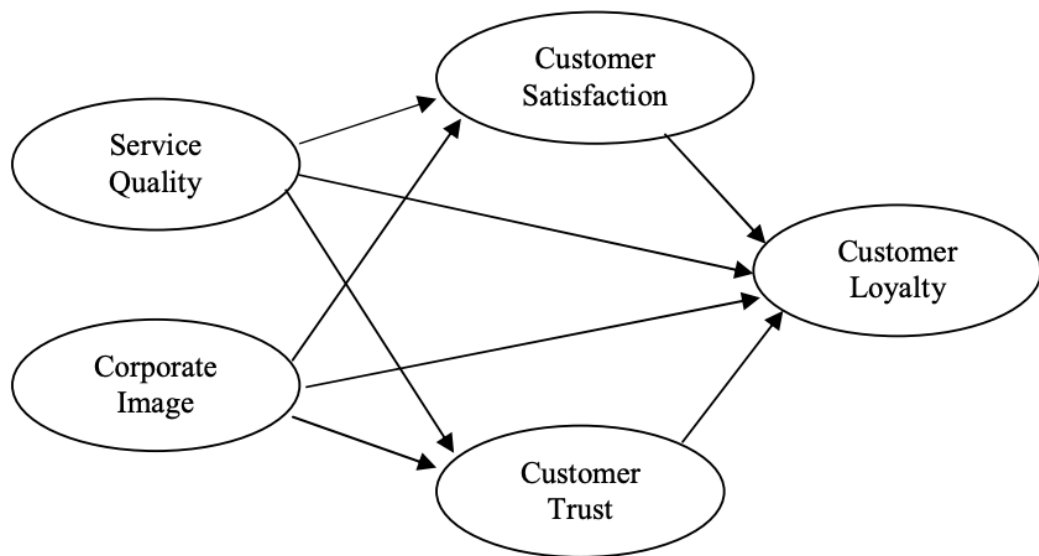
Yunus, Ibrahim et al. (2018) provides the concise view of how customer loyalty is impacted by customer satisfaction because of quality and other aspects, and customer trust for the product and company. The service quality aspect is very important factor for customer satisfaction and could highly impact it if customer receives more benefit while using product than it was expected the before the start. The expectations and the quality are controlled by company and its corporate image. Also, it is shared that Dauda and Lee (2016), Amin, Isa, and Fontaine (2013), Lee and Moghavveni (2015) found a link between company image, loyalty, trust, and customer happiness.

- **Corporate image.** The organization's beliefs, ideas, and presentation are part of its corporate image. A corporate image is the individual's opinion (not precisely of existing customer) about company's essence, existence in the market, and delivery in the specific niche in which a company specialises. According to research, customer satisfaction is most typically driven by company image. As it was stated before – the corporate image has direct connection with satisfaction and loyalty of the customers for the business.
- **Customer Trust.** Customer trust steps in when customer share willingness to allow company's product or people from any organisation provide the value to initial person. In normal circumstances, product must meet the requirements and if business is organised in a right way, expectations that were set before.
- **Customer Satisfaction.** The fulfilment or overachievement of a product's or service's expectations and reality by the quality requirements triggers customer satisfaction. Satisfaction is merely a consumer view of anticipated and acceptable. According to the notion, customers might be satisfied if their expectations are met on their chosen products or vice versa. Furthermore, the buyer always expects to witness a product's best performance. In

agreement with this viewpoint, it could be also noted, that customers want to feel customer satisfaction and may expect it from the company from the beginning.

- **Customer Loyalty.** Customer loyalty could be defined as not just a commitment but also a pattern of buying behaviour that can be construed as a dedication to a product's trademark. Gremler and Brown (1996) share the same viewpoint. Customer loyalty can be defined as a service provider's repeated purchasing behaviour, good sentiments about the provider, and the expectation that such service providers will be there in the event of a need. As a result, consumer loyalty can be defined as the incidence of repeated purchases of a brand of product, or firm.

So, several things can influence the willingness of customers to use service providers and all of them are presented in **Figure 10**.



**Fig. 10.** Customer Trust role in loyalty development (Dauda and Lee, 2016)

The marketing literature analyzes the different determinants of consumer trust in an online environment. Chao-Min et al. (2009), when studying the determinants of consumer behavior in a virtual environment that encourage repurchase, single out five factors that shape consumer trust:

- Fulfillment of promises or expectations;
- Privacy;
- Systemic availability;
- Responsibility;
- Communication.

According to authors, **the fulfillment of promises or expectations** which were set before is one of the most important elements that determines consumer decision-making and opinion about the quality of services or goods in the online environment. It is especially sensitive factor for early-stage companies which have not a fully developed product. Customers attitudes and subsequent decisions can be shaped by many different factors that are directly related to the continuation of promises. For example, if a consumer has a reasonable expectation of professional service 24/7 and this service has not been provided when the need arises, the customer may question the competence of the company and feel deceived. Therefore, to gain the trust of consumers, it is necessary to offer them such services

or products and to set such expectations that the company can extend according to the available capabilities and the necessary competencies.

The **privacy** factor on the security and trustworthiness of the company product/website is highly influenced by the need to protect the private data provided by the user, such as name, email, phone number, bank account number, etc. Roghanizad and Neufeld (2015) argue that a lack of privacy inhibits the behavior of some potential consumers who are willing and able to shop online because consumers fear that their personal data may be transferred or sold to third parties without their consent.

**System availability** refers to the full and timely functioning of a website. In the case of website accessibility issues, such as a website often being unavailable or down, it can be expected that potential users will not be encouraged to buy, and such a website will not create a sense of trust.

**Responsibility.** Another important factor in determining consumer trust is the company's ability to respond quickly and accurately to problems that arise and the way in which they are presented. It is particularly important that the consumer be provided with the information needed to resolve the problem in the shortest possible time. Timely and prompt response to inquiries reduces the consumer's sense of uncertainty and shows that the company is customer centric what is also very important in today's digital world which is full of modern and active consumers.

**Communication.** Another factor that builds trust in an online environment is the ability to contact the customer service team by phone, get in touch via email or live chat, other channels. This factor is especially important because users tend to get annoyed quickly if they have questions or problems using the site but are not able to quickly troubleshoot these issues.

It is right to think that customer loyalty is what many businesses tries to achieve, but customer trust could be problematic especially in early stage of the product. The understanding of how to attract and keep customers with the trust development could have major impact for customer loyalty.

#### **2.3.4. Customer Trust Management**

Josang et al. (2005) used Luhmann (1979) to argue the fact that reliability trust and decision trust are founded on a trustor's favorable confidence in the object on which he or she is reliant for his or her own well-being. People have these kinds of ideas about practically everything in their environment, and they wouldn't find a way to function properly if they did not have them.

Working with such wide scope would possibly end up with abstract trust management model, that would connet with every bold aspect from life. To avoid such result, the more specific scope is required. As the thesis focus on online environment, this scope will be used to show the trust management definition and influence for internet innovators.

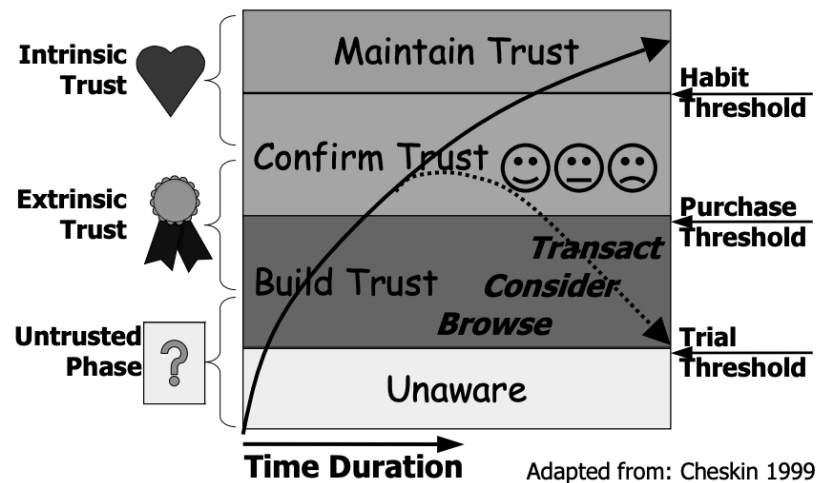
Customer Trust Management definitions from literature review:

- Josang et al. (2005) defines (customer) **trust management** as the process of developing systems and methods that allows dependent parties to analyze and make decisions about the reliability of potential exposures also allows players and system owners to improve and accurately reflect the reliability of themselves and their systems.
- Ferrari and Thuraisingham (2020) share that the role of trust management is to enhance mutual trust and provide a foundation for secure collaboration.

- According to H. Noor et al. (2013), trust management is a significantly important topic in online (cloud) environment which must be embraced before getting busy with business related matters. Important note should be made that authors made this statement after diving deep into the matters of cloud service security, privacy, customatisation and scalability issues.
- According to Fan et al. (2020), trust management is an assisting tool for human or organisations decision making to ensure mutual collaboration.

To conclude, it could be stated that trust management is a process with methods development and their execution, that aim to specifically influence other related individuals' trustworthiness over the focus object.

As trust needs two countries and should be seen from both sides. The Trust transition model in **Figure 11** was prepared by Josang et al., 2005) based on the performed research about trust management in the online environment. Authors state that great number of methods for building trust used by online world members could fit this Trust transition model.



**Fig. 11.** Trust transition model (Josang et al., 2005)

Authors found out that firstly person should meet the service provider at any form so that it would be possible to create and maintain trust with the person. Various information attributes could take care of this. That's how extrinsic trust is developed and managed. Extrinsic factors which influence customer attraction are more deeply analysed in signal theory and initial trust development sections.

When person makes the desired action which is usually a purchase, the extrinsic trust is already developed at that stage, and the following responsibility to confirm the created trust goes to user experience. Intrinsic trust could be developed if customer gets the pleasant experience while using the service and the desired outcome from it. The intrinsic trust factors and methods to manage it are analysed in the following thesis sections.

### 2.3.5. Initial Customer Trust Development

What could be trusted in online world? Roghanizad and Neufeld (2015) say that interactions on the internet are a complicated mix of human actors and technology systems. People who have aims for their online presence in which other people (consumers) are included, should understand how to make their activities look trustworthy.

The fundamentals of trust development in digital innovation are widely explored by Friedman, Kahn and Howe (2000). It is obvious for them that humans possess consciousness and agency. Authors research founding states that Computer Science use the terms "trust" and "trustworthy" to define systems that operate as expected across several aspects:

- Correctness;
- Security;
- Reliability;
- Safety;
- Survivability.

For example, if technological part of the Internet (such as a remote server) would fail to work as intended, that would cause some loss, such as time, information, or privacy what would potentially impact end-user trust on the system. But these factors mostly influence the existing customers of business, who align personal goals with the value which is being delivered by specific product. Another question is how to build initial customer trust for the company and its deliverables.

Initial trust development topic is required to attract new people (leads, that are not yet registered or active customers of the business) to company and convert them into active users. Konya-Baumbach et al. (2019) considers that initial customer trust for online business (product) could be achieved with a valuable piece of information. In today’s world, start-ups must elicit initial faith in their products to increase user acceptance. Start-ups can indicate trustworthiness through certain business model design methods. As people are looking for products that look reliable, secure, safe and in good quality, that should be clear when checking business representational information.

It is important to note, that as Bhalla (2011) proved, the modern consumer is not only a customer, but also an active collaborator to business, who could support company growth with open minded feedback and spread the word about business. Today’s consumer is willing to search for information about company or to accept information through specific channels as the modern consumer profile (**Table 2**) fit the description of mentioned methodologies. Today’s consumers are very self-aware persons who use social media channels to check business trustworthiness and share their feedback. They value the experience that they gain and the experience that was gained by their network.

**Table 2** Modern consumer profile (Chang and Taylor, 2016)

<b>Feature</b>	<b>The modern consumer</b>
<b>Identity</b>	Real people, creative partners
<b>Role</b>	Active, collaborates on value creation
<b>Sources of insight</b>	Conversations, stories, enthusiastic interest
<b>Cooperation with the company</b>	Interaction and experience
<b>Location</b>	Adaptive and visible, can participate everywhere and always
<b>Information and influence</b>	Word-of-mouth feedback, social networks



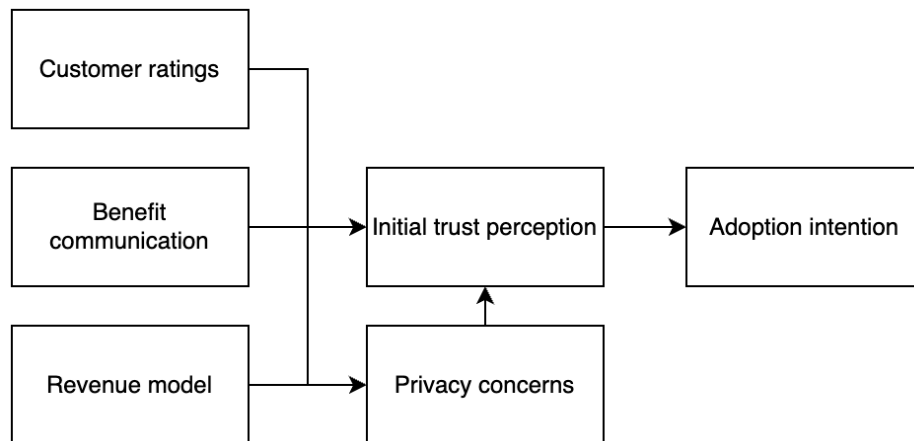
<b>The concept of value</b>	The consumer chooses from individual offers
<b>Primary source of value</b>	Brand applicability, unidentified solutions, and individual experience

There are two main techniques for reducing information asymmetry between start-ups selling online products & services and potential customers and by doing this unlocking the conversion rate of the company (Kuester et al., 2017):

- Business (start-up) can signal customer about products or service’s quality or other indicator which positively impacts trust. If customer would successfully catch the signal, it could drive the decrease of uncertainty.
- Customers can look for signals and indications of business trustworthiness by themselves. In this way customers try to reduce uncertainty with the context which they can collect with their resources.

One of the biggest signal organisation goals is to develop a “consumer's expressed desire to purchase a new product soon“ (Arts et al., 2011, p.135) which is also called Adoption intention and has an important place near initial trust perception.

The product ratings by its customers, benefit communication about product and other important factors presented in **Figure 12** that contribute to initial trust and finally to adoption intention was presented by Kuester et al. (2018) and more researched analysed by Konya-Baumbach et al. (2019).



**Fig. 12.** Adoption intention framework (Kuester et al., 2018)

Konya-Baumbach et al. (2019) studies both methodologies – business signals for customers and customers research for signals what is the sense of the whole framework that is presented in Figure 8.

**Business signals to consumers. Benefit communication.**

- When an origin-based benefit is signalled, initial trust assessments are higher than when a digital benefit is signalled.

- More broadly, communicating an advantage connected to the product category's origin, such as being personal, enhances initial trust perception. As a result, entrepreneurs should articulate origin-based benefits to overcome low initial trust impressions.
- However, by failing to account for early trust perceptions as a mediator between the conveyed benefit type and adoption intention, start-ups may be misled in their advertising campaigns' concentration on benefits.
- Early trust perceptions have a significant impact on adoption intentions, start-ups should not overlook the power of perks that communicate the underlying advantages of the digital service's origin. Focusing on the product category's roots and giving an origin-based advantage might assist start-ups in overcoming their early distrust of product, which subsequently boosts customers' willingness to test the product.

### **Consumers search for signals. Customer ratings.**

- The amount of favourable customer reviews is a digital business model design approach that does not affect consumers' perceived initial trust or adoption intention.
- Consumers appear to place a higher value on the average favourable review than the total number of ratings (De Langhe et al., 2016).
- As a result, displaying favourable customer evaluations, regardless of the number of accessible ratings, has proven to be a successful signal for communicating a start-credibility.
- Displaying good customer evaluations versus not providing any has an indirect effect on adoption intentions via initial trust assessments.

To conclude, Konya-Baumbach et al. say that trying to become successful (business) start-up requires overseeing both methodologies of signalling customer and preparing context for customer signals' search to assure positive early trust and increase rate of people who test the provided product.

The business strategy to prepare a good context of product trustworthiness which is searchable is more deeply analysed by Basri and Siam (2017). Small and medium businesses (SMEs) and start-ups due to multiple factors such as lack of knowledge, resources, team size, usually must choose between product quality and higher revenue as it could be hard to grow both in the same line. Also, lack of resources and funding could impact the start-ups failure to build a brand due to low knowledge about successful investing into the company promotion over the market. Usually, entrepreneurs state that business will not prosper until clients know its brand, standards for the products which also must be well-known to the customer. That could affect marketing costs. For example, investing into product promotion in the market in which there is no other similar product could end up in failure as possibly customers won't be able to understand the value of the product. But the word-of-mouth marketing expanded in the recent decade which is driven by social media platforms such as Facebook, Twitter, Instagram or any other (Basri and Siam, 2017). Social media could be a huge contributor in letting people know about company's products and services. It is highly suggested to launch social media strategies in favour of additional communication channel that could be used communicate company's goal and mission to the world.

The classic strategies to escalate an easy search of product benefits to customers presented by authors:

- **Brand awareness.** The development of brand awareness is a crucial goal for any strategy of social media. Start-ups find social network platforms a suitable venue for introducing a brand

to potential customers and then posting material to engage, communicate, and push the brand later. If a brand's content goes viral, social networks tend to follow it. Nearly three-quarters of small businesses and start-ups used social media to recruit new clients. It is often argued that a company's website can only indicate whether a brand is available. In contrast, its social media presence establishes whether the brand is active. The same new consumer who hasn't heard from the company in a few months may believe it's closed or inactive.

- **Active marketing campaigns.** Another reason businesses use social media platforms is to boost their sales and profitability. Appropriate social media marketing and well-established brand recognition via media platforms legitimize a business and help to enhance sales immediately (Basri and Siam, 2017). The active marketing campaigns also provides a proof of business activity and holds the main benefits of product (if communicated in campaign).
- **Customer service.** Social media provides a place for company's customer service to take place. It's responsiveness, quality of service, empathy and knowledge of product and market could provide good quality of customer education what highly impact customers trust for start-up (Suh, Greene et al., 2015).
- **Content distribution.** The distribution of content and dissemination of information about their brand is a good approach that most start-ups associate with their social media presence. All social media networks are clogged with referral traffic from users looking for specific material to share with their friends and family. This empowers word of mouth marketing as the information is easier to share and talk about.

Over the time as digital innovations grew, majority of businesses moved to online environment and their websites became as main platforms to signal consumers about product benefits. Nilashi et al. (2015) did research about digital security, digital commerce design and its content quality factors and how they influence customer trust in mobile ecommerce.

All these strategies contribute to initial customer trust development that is required to convert leads (non-users) to customers (users) and to assure the extrinsic trust. Once it is done, the trust development for product should follow with the goal to keep customer, offer pleasant customer experience while proving that service overcomes the expectations that were set before and include customers into further product development process.

### 2.3.6. Principles to Build Customer Trust and Assure Customer Loyalty

The factors that let manage and increase customer trust will be widely researched in the methodical solutions section. Nevertheless, analysed literature included several methodologies that are used to assure good relationship with customers and keep them loyal. It is a great challenge to build a good customer relationship for many businesses and organisations in quickly growing digital innovation world.

Chiu et al. (2009) studied customers behaviour in the online environment while using digital services and list five factors which were found during the research: order fulfilment, availability, privacy, responsiveness and contact.

**Order fulfilment** is one of the most important factors which impact customer trust for the service and further behaviour. Usually, companies use already analysed signal theory, marketing tools to attract new customers by showing the value of the product and by setting specific expectations for

the consumer about the service or product that they are purchasing. Order fulfillment factor states that the company must meet those expectations on the product-level if they were communicated initially. For example, if company communicates that digital product will include knowledge or tutorials base and customers finds it unavailable, user could feel deceived and lose trust for the company.

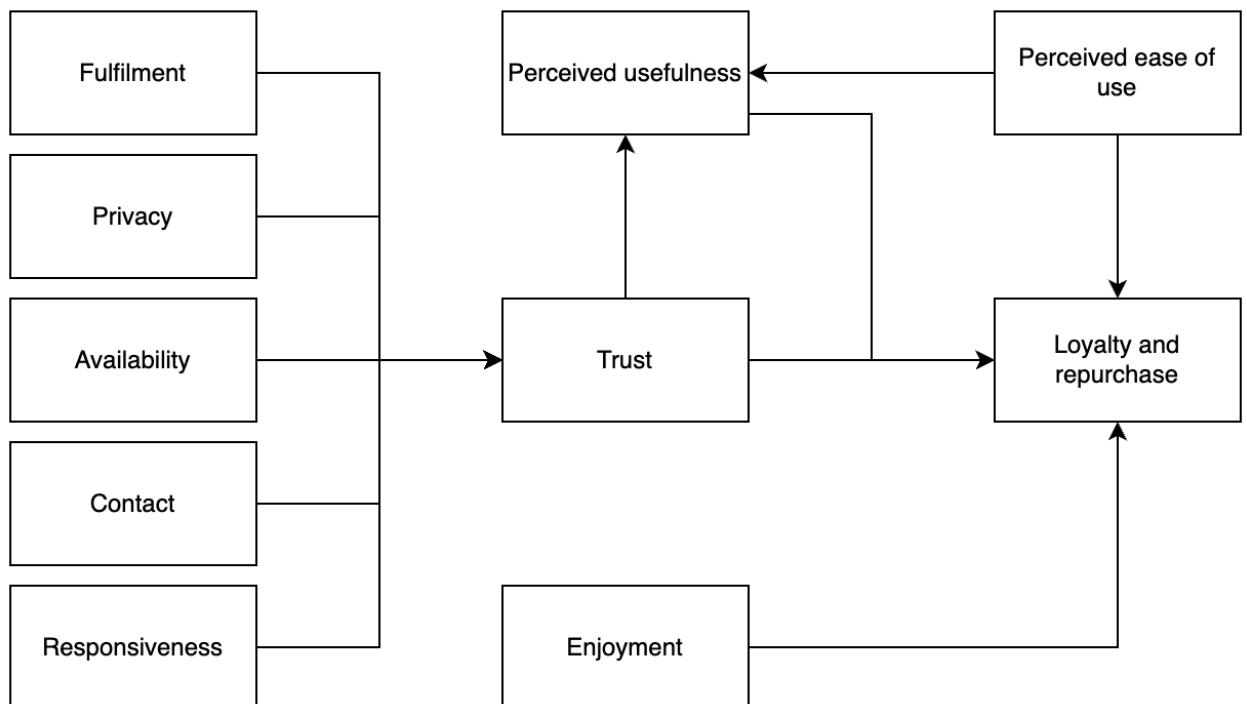
**Availability** of the service or product is crucial factor which impact customer trust and impact not only initial customer trust, but their further loyalty. Digital services must operate online without big issues to look stable and trustworthy. Also, crashing websites could lose customers data.

**Privacy** factor is also bolded by authors. It is stated that online users judge product by the speed of representative websites, their security settings that are applied and by the competence to secure personal data that is usually collected during registration to service or its purchase. Some users could be concerned about how their personal data will be used and avoid sharing it and continueing using service. Great example of this would be a fake eCommerce website which requires bank account login credentials for registration, what is not a normal practice.

**Responsiveness** is the third important aspect that is required for online customer trust. It represents competence to react to the reported issues and solve problems quickly. Fast first reply from business and helpful assistance could not only prove the legitimacy of the service, but also show customer-centric values of the company, which are valued by any customer.

Possibility to **contact** business through several different channels is another factor, which could influence customer trust. It is important in cases when customers require some additional information about the service and then possibility to contact company through the most convenient platform or tool could be a big benefit for the consumer.

All five factors and their impact for customer trust, behaviour and loyalty are presented in **Figure 13**.



**Fig. 13.** Customer trust factors and customer loyalty formula for online businesses Chiu et al. (2009)

One of the main research objects of Chiu et al. (2009) study is customers willingness to continue using the same service after any specific period or repurchase intention. Authors also include user experience factor as another influencer for customer willingness to repurchase. According to authors, pleasant experience, and the easiness to use selected service could create enjoyment for the service and have positive impact for intention to continue using service in the future.

From all five factors which were analysed by Chiu et al. (2009), only the availability factor is not impacting customer trust while the other four (order fulfilment, privacy, responsiveness and contact) influence customer trust positively. Customer trust has a direct connection with customer's willingness to use and purchase more of the service in the future.

Abrar et al. (2017) agrees with Chiu et al. (2009) that enjoyment has a positive connection with customer's willingness to use service in the future. Authors study results prove that consumers are encouraged to purchase more of the product if the user experience is pleasant, product is easy to use, also if the website of the company is informative and attractive.

Research by Tivedi and Yadav (2018) show slightly different perspective to customer trust and loyalty determinants. Authors share that easy of use and privacy are very important, but also considers **security** factor. Authors state that to achieve user trust, companies must implement security protocols to their digital service such as encryption, two factor authentication and others.

Hasan et al. (2019) study the role of product knowledge in the consumer decision to stick with the service. According to authors, customers (consumers) product knowledge is very important in understanding the benefit of service or product that is being sold by the business. This understanding could be formed from previous experiences with similar products and expertise about the given benefit of the product. This factor is not only important for initial trust development, but also for already existing customers.

Alam et al. (2021) share completely different perspective to customer trust development. Authors research analyses the ways to build good customer relationship, which would assure not only customer trust, but loyalty as well. According to research findings, customer trust has a moderating role between customer loyalty and knowledge. In the research which analyses the impact of customer relationship management activities to customer loyalty, customer knowledge is presented as one of the most important factors. Having a good knowledge about customers, unlocks the possibility to respond to customer issues more quickly, and allows to understand customer needs way better. Some findings in the research prove that good customer knowledge could help company to prepare the digital product by their customers product knowledge (Hasan et al., 2019). Alam et al. (2021) also add that customer orientation and customer advocacy in the company level initiatives impact customer relationship development positively. The statement is also supported in research performed by Aburayya et al. (2020), Kopalle et al. (2020). The already analysed authors Rise (2011) and Pride (2018) saw customer orientation as one of the key principles for any modern organisation, which is building digital innovations.

The research of literature shows there are multiple different versions of how customer trust could be managed, and customer loyalty achieved in the digital environment. The factors of customer trust could be divided into several groups: **company approach factors**, **technological factors**, and **human support factors**.

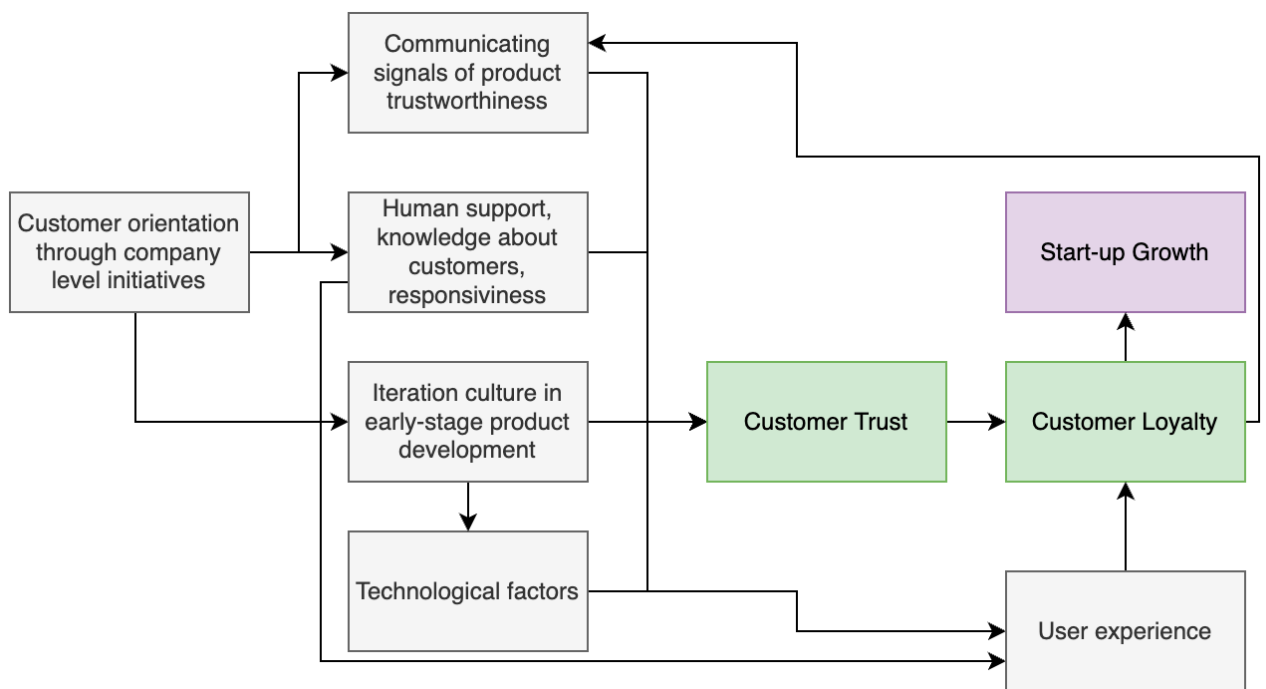
Company approach factors group includes: order fulfilment and meeting the expectations that were set for consumers initially, customer orientation through company level initiatives, good customer knowledge and customer advocace. Also, overall the aim to create customer enjoyment could be included in company approach factors.

Technological factors include privacy, security, easiness to use and availavibility.

Human support factors group could be formed from fast and high-quality responsiveness, also good customer knowledge to assure the quality-of-service support, clear communication which make company information understandable.

#### 2.4. Customer Trust Management Model for Start-Up to Achieve Growth Through the Expansion of Loyal Customer Base

To answer the thesis question with the help of reviewed literature, the model of customer trust was prepared by thesis author. The question about how to manage customer trust with the aim to achieve start-up with early-stage product growth and avoid its failure is presented in **Figure 14**.



**Fig. 14.** Customer trust management principles model for start-up with early-stage product to achieve growth through the expansion of loyal customer base (created by author)

Start-ups and their digital products could grow fast if they are developed by customer-centric agile methodologies and the high-level iteration culture is integrated in the company.

Signals (from signal theory) about product trustworthiness highly contribute to initial customer trust and willingness to test the product. It is important to set expectations that company meets. There are also two types of signals, the ones which could be found manually by consumers and the others that signal consumer's attention in outbound principle.

Customer loyalty is positively impacted by customer-centric development, general company approach, technological and human support factors, customer relationship management initiatives,

and iteration culture (which brings quick improvements of product in customer-centric start-ups and allows companies to pivot).

By achieving customer loyalty at the early stage, start-up also assures fuel for further product development (feedback, data), as current user base could be used to gain more feedback and point of views for product expansion.

According to problem and literature analysis, constantly growing base of loyal customers is one of the success factors of start-up.

### 3. Research of Customer Trust Management Principles in Lithuanian Digital Innovation Start-Ups with Early-Stage Products

#### 3.1. Context About Segment of Startups in Lithuania

According to last Unicorns Lithuania (2022) data, there are 738 registered startups in the data base. According to the association requirements, startups can develop and operate in all high value-added sectors, including information, financial technology, biotechnology, e-commerce, hardware, and software, mobile, communications technology and more. According to Verslo Žinios (2022) research, Lithuanian startups paid 191 mln. Eur taxes to the state budget, and this number is more than 50% bigger comparing with 2020. The number of people working for Lithuanian startups is bigger than 13,300 with average 3,100 Eur salary. During the last year, more than 6000 people were hired by startups, but some of them just changed their positions in the sector by migrating to other companies. Only 625 employees got their first job in Lithuanian startups sector.

Research was done with cooperation of four start-ups, which specialise in internet technologies field and represent themselves as innovators of new new solutions or user experience. The initial wish was to conduct research with more start-ups, but several companies refused to share their know-how. Also, goal was to interview only CEOs of companies, what made it even more difficult to organise the meetings with such important people. Nevertheless, companies which agreed to participate contribute to open innovation paradigm, which pushes open and transparent knowledge sharing. Every start-up, which was invited to participate in the interviews could be considered on its early stage. In other words, all start-ups are still developing their digital solutions, experimenting a lot, and looking for their perfect market fit. Start-up A is creating solution for digital marketing professionals, Start-up B is creating online tool which would allow people to be successful online, Start-up C is creating online solution which would be used in eCommerce and Start-up D is creating innovative tool which could be integrated in various website development tools. More detailed view to each start-up is presented in **Table 3** and in the following descriptions. The information was obtained from interviewed managers of their startups.

**Table 3** Start-ups comparison view done by author, 2022

<b>Start-ups / Parameters</b>	<b>Startup A</b>	<b>Startup B</b>	<b>Startup C</b>	<b>Startup D</b>
<b>Activity</b>	Digital innovation development	Digital innovation development	Digital innovation integration into existing digital product	Digital innovation development
<b>Start-up launch</b>	2020	2019	2021	2021
<b>Digital product stage</b>	Early-stage, running, already has customers	Early-stage, running, already has customers	Early-stage, running, already has customers	Early-stage, running, already has customers
<b>Number of employees</b>	55	105	24	12
<b>Has parent company</b>	Yes	Yes	No	No



Team	Intrenational, main base in Lithuania	International, main base in Lithuania	Local, based in Lithuania	Local, based in Lithuania
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**Startup A** is creating an online tool for digital marketing professionals, which would empower them to combine big data and various specific statistics for better judgement of consumer activities. Start-up was started by its parent company, which has very good know-how in the related field. Startup is used know-how for the quick start and now is operating completely individually as the team of top tier IT professionals is already built.

**Startup B** is aiming to create a platform which would empower people from all the world to build their business or organise other activity online successfully and without deep understanding of internet technologies. Main audience for this product is IT beginners. This start-up was a spin-off from other existing and successful start-up, which is operating internationally for several years. Start-up used only the finance resources and know-how for initial start, and now is operating separately. Company also has artificial intelligence team, which level-ups the innovations with which startup is working.

**Startup C** has a vision to help people who are doing their business online to unlock the accessibility for their customers in digital purchase process. Startup has a significant user base growth during very short period and is experimenting a lot to create completely new, safe, and innovative solution with very easy use cases and pleasant user experience.

**Startup D** is creating a separate solution for online business owners which could also be integrated into existing website or eCommerce development platforms and should make it easier to for IT field beginners to achieve online success. Startup D has quite similar goal as Startup B, but operates in smaller scope, as it hasn't so much financial and human resources, but has very experienced managers leading the team.

### 3.2. Methodology

The third part of thesis will describe the methodology. The descriptive case study method was chosen. The main aspects of trust management and real-life context will be presented. It is planned to collect data by doing interviews and observations. The essence of this research will be to study via qualitative approach the main factors of customer trust management which could influence start-up success while on its early stage. The results of study will help to improve customer trust management principles for new digital innovation products while on their early stage.

The empirical research **aims** to to investigate the trust management principles which impact Lithuanian digital technology start-ups success and growth over their early stage and how product development is organised to support trust management and make the model based on research findings.

The in-depth interview method will be used for the qualitative research part. The organised interviews will cover main predefined topics and questions, but also will have space for individual questions that could be added depending on the situation and specific start-up. The interviews will be held with start-ups that are being studied.

Interviews will be organised remotely and live depending on the location circumstances in which interviewer and start-ups CEO will be on interview's day and time. The interviews are estimated to take around half of hour as all main questions will be prepared in advance to assure clear structure of the meeting and its efficiency. The interviews will be post-processed and transcribed to save full data. Later, the research will structure the gathered data by using MAXQDA program.

Four digital innovation-based start-ups were interviewed to collect context for the research. Only the managers of companies were interviewed. Decision to talk with company managers was made due to aim to collect company level and not team/department level context. The analysed start-ups are presented in **Table 3**.

All the collected information and data will be secured by GDPR policy, and only the factors which are important for the problem question of the thesis will be included into the research. Each start-up will be more deeply analysed by using publicly available information in the research part.

**Research sample.** One of the differences between Qualitative and Quantitative research methodologies is the size of the sample used for actual research. The qualitative research is more dynamic, and does not require such clear structure as quantitative, but has more strict requirements for the sample of data. Based on this, the sample of data was prepared in regard of research goal to investigate to investigate the trust management factors which impact Lithuanian digital technology start-ups success and growth over their early stage and how product development is organised to support trust management. Only CEOs of chosen startup companies were interviewed as managers has the widest view of each initiative which is running in the company and could combine full company level context into one sample. The chosen startups were founded in Lithuania, but all of them target not only local country (Lithuania), but also other countries. Also, some teams in several startups are already international. Another requirement for the participants of the research was to run a startup and its product in digital technology field, and preferably be an innovator of already existing solutions or practises. These requirements were set to find entrepreneurs who work on products with new and unique methodologies, which will be more common only in the future.

**Research instrument.** Qualitative interviews aim to obtain data that meet the objectives of qualitative research. The basis of qualitative interviews is open issues are expected to be as broad, comprehensive, more open-ended responses formulated and presented by the research participant himself or herself, reflecting his or her perspective. An interview an informal, flexible conversation. It is evolving at a time when going on. The researcher usually has the purpose of the research and knows from pre-arranged interview direction, has developed interview guidelines, however, there is always a response to the research participant's input and related context (Gaižauskaitė and Valavičienė, 2016). This means that despite the preparation of interview questions, they should not be strictly used and could be reformulated, expanded, and narrowed depending on the situation.

The author prepared a list of abstract questions which contribute to the research aim and seek to open a window for wide answers from the interviewed person.

- How did the beginning of your activity look like?
- How do you measure growth of the startup and its product?
- How do you measure the loyalty of your customers?
- How do you manage to keep and grow your user base?
- How do you build relationship with your customers?

- What were the main mistakes that you learned while managing customer trust?
- What are key things that start-up should do to emphasise the trustworthiness of company and its product?
- What are the main principles of your product development methodologies?
- Is there anything else important on the topics that we discussed that was not asked, but it would be worth to talk about it?

Each interview was transcribed into raw text, which continued to be analysed in the next research part.

**Qualitative inductive research.** It was decided to do qualitative inductive research, which concept is purpose is “to allow research findings to emerge from the frequent, dominant or significant themes inherent in raw data, without the restraints imposed by structured methodologies.” (Thomas, 2006)

According to Thomas (2006), qualitative inductive approach is perfect for pulling key things into clear summary from completely raw data and for preparing a model of key things which were taken from raw data format, categorized, summarized, and investigated.

Thomas (2006) writes that when raw data is collected (for example via interview process) and qualitative research starts, the inductive approach use should end with a model of practises or things which were acknowledged. Qualitative inductive analysis must include several main aspects:

- Should have categories with titles;
- Each category must have clear description;
- Data should be assigned and presented along with each category;
- Categories could have links with other categories;
- Model in which categories are placed.

The process of raw text analysis:

- Preparation of interview transcripts (data);
- Data reading;
- Data segmentation into categories which are created on the go;
- Refining categories and structuring the similar ones into higher level categories.

Thomas (2006) text coding principle is presented in **Figure 15**.

Initial read through text data	Identify specific segments of information	Label the segments of information to create categories	Reduce overlap and redundancy among the categories	Create a model incorporating most important categories
Many pages of text	Many segments of text	30-40 categories	15-20 categories	3-8 categories

**Fig. 15.** Coding process (Thomas, 2006)

Finally, the refined categories were detaily presented by following the requirments of qualitative inductive research and placed into the model. For the discussion of the research, research model was compared with theoretical solutions model.

**Ethical principles.** All participants of the research were introduced to thesis goals and agreed to share their professional experience about the topic. The privacy was assured by renaming startups names to the list of letters (A-D). The names of participants are also not included into the research analysis. The citations were included based on KTU Code of Academic Ethics and by avoiding plagiarism.

**Limitations.** Several limitations have impact for the study. Initially, it was planned to have interviews with more CEOs and startups, but the struggle was to organise the meetings with all desired CEOs or for them to find a time slot for an interview. All startups operate in the similar fields of technology and their markets are some similarities. It was decided to do the research on the scope of four startups and do not try to expand it with more participants from other lower positions or with less experience and possibly with smaller context to not harm the quality aspect of data.

### 3.3. Research Result Analysis

The aim was to investigate digital innovation-based start-ups activities and product development methodologies towards loyal customer base creation and its growth. The activities which contribute to early-stage product development and customer trust and loyalty management could be wide depending on the niche in which startup operate, its resources and competences. The collected context was categorized into specific two layers segments which are presented in the following part. Each table below represents category which includes categorized quotes from CEOs of startups (data) and has descriptions with discussions. The discussion and comparison of customer trust management factors and product development methodologies from empirical research and from theoretical solutions will be conducted by the end of research section.

Before getting deep into the actual topic of research, CEOs shared their perspectives at yearly stage and confirmed that they are at that stage with their product and start-up itself (**Table 5**).

**Table 4.** Early-stage product

	<b>Quotes</b>
Early-stage product	<p>“This is the early stage, until we have a million or many millions of users. We’re still testing and trying to see what works best for us and still trying to discover who that user is.” <b>Startup C</b></p> <p>“An early-stage product is one that does not fit market yet. It’s still an experiment. It is when you are making a product, but there’s no guarantee that it will ride.” <b>Startup D</b></p>

Startup D is emphasising that start-up is on the early stage if it is already available for purchase, has existing user base, but doesn’t have stability in new customers’ acquisition: “*an early-stage product is one that does not fit market yet. It’s still an experiment. It is when you are making a product, but there’s no guarantee that it will ride.*” Startup C adds that experimentation and search for the perfect audience is a sign of early-stage product: “*we’re still testing and trying to see what works best for us and still trying to discover who that user is.*”

**Table 5.** Startup growth indicators

<b>Sub-codes</b>	<b>Quotes</b>
Brand awareness	<p>“We watch how people remember us as a brand, how many of them are looking for it. Growth could be measured through brand stability and awareness” <b>Startup B</b></p>

New users	<p>“Personally, for me, the growth of the company and product is the user base. Basically, we need to build a larger base of users, and work with them, gather feedback to improve the product, and then move on and spread to all the other countries to get to even more people.” <b>Startup A</b></p> <p>“The first stage, as soon as we started our activities, our main growth indicator was the users. Attract as many new users as possible.” <b>Startup B</b></p> <p>“Also, another important metric of growth is new users, attraction of new users.” <b>Startup C</b></p>
New billings	<p>“Right now, we're not counting revenue, maybe we'll start counting more soon, but we surely track new billings” <b>Startup A</b></p> <p>“The second phase, much less than half a year later when we already had a database of new users, was efficiency and new billings. This meant we needed to effectively plan our billings, our pricing, our spending on marketing, and at the time, our growth was measured by billings.” <b>Startup B</b></p> <p>“Billings is the main metric to measure startup growth.” <b>Startup C</b></p>
Customer churn	<p>“How would I measure customer loyalty? We check our loyalty metrics daily. We check if customer stays or not. In other words – we measure churn.” <b>Startup A</b></p> <p>“Retention of customers is an important part of the company and especially for the start-up, because in the short-term, three to five years after the start, it is the consumers who remain and make up the biggest part of the billings.” <b>Startup B</b></p> <p>“The point is that the user may be with you but may leave after a while. Not necessarily a newcomer may churn, but one who has been for a few years or so can. You need to understand that data, that metric. For example, users might churn because of X reason. We need to react to this immediately.” <b>Startup C</b></p> <p>“It’s a very simple thing, just how many users come back the same day. Simply a bounce rate. Because if user comes to a product and if something doesn’t suit user, he immediately leaves” <b>Startup D</b></p>

Startup A, B and C measure product success and growth through new billings and new users metrics, all startups track customer churn and Startup B also takes priority for brand awareness metric.

Startup A consider new users metric as main product and startup growth metric: *“the growth of the company and product is the user base. Basically, we need to build a larger base of users, and work with them, gather feedback to improve the product, and then move on and spread to all the other countries to get to even more people.”* According to Startup A, new user base growth is important not only because it helps new billings to grow, but also because product team needs bigger user base to test product improvements and set up new iterations based on customers’ feedback. Startup B had same goal from the very beginning of new product launch: *“The first stage, as soon as we started our activities, our main growth indicator was the users. Attract as many new users as possible.”*

New users metric parallelly aligns with new billings, which describe the amount of received money for the services or product which is being sold to newly acquired or existing customers. Startup B bold that new billings is important tool in measuring the effectivity of marketing campaigns: *“The second phase, much less than half a year later when we already had a database of new users, was efficiency and new billings. This meant we needed to effectively plan our billings, our pricing, our spending on marketing, and at the time, our growth was measured by billings.”*

All startups agree that on product early-stage customer churn indication is the metric with which they work the most on product team level. *“It’s a very simple thing, just how many users come back the same day. Simply a bounce rate. Because if user comes to a product and if something doesn’t suit user, he immediately leaves”* (Startup D). Knowledge about customer churn numbers and reasons for that drive product teams to improve their product based on the collected feedback: *“You need to understand that data, that metric. For example, users might churn because of X reason. We need to react to this immediately”* (Startup C). According to Startup B, measuring and focus on lowering customer churn is important from long-term perspective as it contribute to new billings of startup on the following startup growth phases: *“Retention of customers is an important part of the company and especially for the start-up, because in the short-term, three to five years after the start, it is the consumers who remain and make up the biggest part of the billings.”*

**Table 6.** Market research

Sub-codes	Quotes
Market research	<p>“At the beginning a lot of customer feedback was collected from related field companies, and the need was identified. Various channels, five golden questions, NPS, feedback forms, client support. Also, around 10 thousand people from USA were interviewed to elect our brand.” <b>Startup B</b></p>
Connecting with partners	<p>“We are localized enough in one country, without very strong competitors in our market, but we need to know what is going on in the global world. Therefore, partners like our customers, who work with global players can tell us how the global market is evolving. And we can also adapt the product and communication according to all those trends.” <b>Startup B</b></p> <p>“We have big roadmap for the whole company towards where we are moving and we are constantly updating it as well, because as we are an early-stage startup, we change a lot and we need to keep a close eye not only on consumer needs, but really keep up with market trends.” <b>Startup C</b></p>
Analysis of competitors	<p>“We have done a lot of market research to know what is relevant to consumers and where we are going.” <b>Startup C</b></p> <p>“There is an analysis of competitors at the beginning. You need to gather several competitors and the ideas which they are developing for the same problem. When you gather four or five competitors and see their different solutions, then you start start looking in which direction you would like to go.” <b>Startup D</b></p>

Startups B, C and D bolded the importance of market research. According to Startup D it is a good practice to not try to invent something new at the beginning but to focus on competitors’ review: *“There is an analysis of competitors at the beginning. You need to gather several competitors and the ideas which they are developing for the same problem. When you gather four or five competitors and see their different solutions, then you start start looking in which direction you would like to go.”* With the context, which is gathered, startups can work on their own product vision and roadmap. Startup B shared that market research could not be a one-time thing, as digital innovations are rapidly improving and changing, so it is important to be aware of new trends: *“We have big roadmap for the whole company towards where we are moving and we are constantly updating it as well, because as we are an early-stage startup, we change a lot and we need to keep a close eye not only on consumer needs, but really keep up with market trends.”* Finally, Startup B also added that close connection with partners who also cooperate with global leaders who are working in the same field could benefit

startup's success by giving a view to the market's growth direction: *“Therefore, partners like our customers, who work with global players can tell us how the global market is evolving. And we can also adapt the product and communication according to all those trends.”*

**Table 7.** Product development

Sub-codes	Quotes
Product roadmap	<p>“We have a product roadmap where we put together what’s important right now. Then we plan quarterly what’s important to develop. Having roadmap open for anyone serves us a tool to build trust with customers.” <b>Startup A</b></p> <p>“Customer feedback helps us to improve our current product, but also it is important to follow our roadmap, in general push to the direction where our product needs to move.” <b>Startup B</b></p> <p>“We tried to make a product roadmap from the beginning. We have big roadmap for the whole company towards where we are moving, and we are constantly updating it as well” <b>Startup C</b></p>
Iteration culture in Agile teams	<p>“We use our user base as a fuel for further iteration to the product, it really works.” <b>Startup B</b></p> <p>“We work according to Agile methodology. Every team is empowered to deliver things, has a lot of freedom to deliver those things. And we don’t have process in which we would have done one, and then would continue to do another. We cover this as a whole and the team is responsible for delivering the result through constant iteration.” <b>Startup C</b></p> <p>“It takes us two weeks and we see what the problems were. We then check how to be better, how to make the sprint more efficient. And here we can iterate. There is a lot of iteration with the process, while with the product you do something in three months, then you know you’ll get feedback in two more months, and then you continue to work on other planned things in the meantime.” <b>Startup D</b></p>
Building MVP product	<p>“We still have to develop the fundamental functionalities and make them work. And we’re focusing more on this right now” <b>Startup A</b></p> <p>“First two years of operation have been focused solely on the product. Firstly, we started assembling a technical team that started developing a startup and developed our product two years ago, only then after two years would we have something to sell. Without paying attention to the general UX, user already could have created an account, use the basic required functionality. Our tool was far from competitors from scope perspective. However, our customer could have already got main functionalities.” <b>Startup B</b></p> <p>“Often customers want everything here and now. And because the product is still very new, we often face challenges when it comes to creating a certain feature for the user so that he can use only what he needs to meet his needs.” <b>Startup C</b></p> <p>“You need to spread the idea in the beginning, because the image of the product will impress user for maybe the first three seconds. If there are no features, that's all. If you develop nice product, then you move slower. Product had to be realized with an even worse design than was prepared.” <b>Startup D</b></p>
Re-use best practises	<p>“We started to get an extensive overview of the existing tools, took some things from others.” <b>Startup C</b></p>

	<p>“I found an already existing product, which we took as initial example, we saw that its model is very suitable for us. And then you start to develop from the same, settle down, watch as they do. The biggest problem here not to get bogged down in new inventions.” <b>Startup D</b></p>
Prioritising customer needs	<p>“Here are the foundations with which my team have to start working and then dive deep into the customer segments, analyse each of them, and then you see what you need to do next.” <b>Startup A</b></p> <p>“I would say that without feedback from our customers, our product team would have nothing to do. We are segmenting the most important things that our product team should continue to do. And the product team usually releases features or enhancements according to the needs of our customers.” <b>Startup B</b></p> <p>“Customer Success team segments needs by tags, puts everything together. It's not like that we have document where all the problems are listed in order. We have a nice segmentation, those called tags, which product team prioritises in product iterations.” <b>Startup C</b></p> <p>“You need to extract information from the feedback about what your users like, what they see as value, and then take that into account and improve the product.” <b>Startup D</b></p>

Analysis shows several important aspects of product development which are applied in customer centric startups processes. Startup A, B and C brought Product roadmap importance into the spotlight. According to Startup C, Product Roadmap was one of the first things which team did after initial market research: *“We tried to make a product roadmap from the beginning. We have big roadmap for the whole company towards where we are moving, and we are constantly updating it as well.”* Roadmap serves as a vision and up to date plan for further product development. Startup B says product roadmap should be constantly updated according to refined customers’ feedback: *“Customer feedback helps us to improve our current product, but also it is important to follow our roadmap, in general push to the direction where our product needs to move.”* Product Roadmap could be a great tool not only for internal team use, but also could be shared with customers, to show the upcoming product improvements. *“Having roadmap open for anyone serves us a tool to build trust with customers”* says Startup A.

Startup B, C and D confirmed that iteration culture is being pushed in the product teams from the very beginning, but startups apply it differently. Startup C empowers every product team to take responsibility for the product part which they are developing, organize the workflow, measure the results of each new iteration which was released and the decide how to move forward: *“We work according to Agile methodology. Every team is empowered to deliver things, has a lot of freedom to deliver those things. And we don’t have process in which we would have done one, and then would continue to do another. We cover this as a whole and the team is responsible for delivering the result through constant iteration.”* The only important aspect here is to follow the main roadmap goals as well. Startup B supports this iteration culture and adds that customer feedback is the main source for the birth of new product iterations: *“We use our user base as a fuel for further iteration to the product, it really works.”* Startup D has a bit different iteration culture, product team works according to the roadmap, which is updated quarterly, but also reflects on the workflow every two weeks and tries to improve development process with iterations to it: *“It takes us two weeks and we see what the problems were. We then check how to to be better, how to make the sprint more efficient. And here*



*we can iterate. There is a lot of iteration with the process, while with the product you do something in three months, then you know you'll get feedback in two more months, and then you continue to work on other planned things in the meantime."*

According to Startup D, *"you need to spread the idea in the beginning"* because developing a full-scale product could be an overwhelming task. Also, according to Startup A it is important to start from the key features *"we still have to develop the fundamental functionalities and make them work"* and only then move to product improvements by iterating of each fundamental functionality. MVP product approach perfectly fits iteration culture and could drive product to the direction which is aligned with customer needs. Customer needs are checked constantly by all startups which participated in the research. Startup C also comments that working only on MVP functionalities could be hard, because usually customers want the wide scope of things, so it is important to follow the roadmap and focus on key features which are required for early-stage product: *"often customers want everything here and now. And because the product is still very new, we often face challenges."*

Startup D shared that re-using solutions from competitors is a way to good to speed up the development process: *"I found an already existing product, which we took as initial example, we saw that its model is very suitable for us. And then you start to develop from the same, settle down, watch as they do. The biggest problem here not to get bogged down in new inventions."* Main argument for this is that new product cannot hope to quickly invent something better than market leaders who are already working for some time and knows how to solve specific problems already. Startup C applies "copy with pride" methodology as well: *"we started to get an extensive overview of the existing tools, took some things from others."*

During the whole development process based on iterations, it is also important not only to do customer research and update roadmap constantly, but really prioritise customer needs. All startups assured that this could be crucial for short and long terms company success. It seems that Startup B chooses to develop product towards main customer needs: *"I would say that without feedback from our customers, our product team would have nothing to do. We are segmenting the most important things that our product team should continue to do. And the product team usually releases features or enhancements according to the needs of our customers."* Startup D also holds that it is important to not only be aware of main product issues reported by customers which should be improved, but also know the good things with which users are satisfied to not break them during the iterations: *"you need to extract information from the feedback about what your users like, what they see as value, and then take that into account and improve the product."*

**Table 8.** Customer research

Sub-codes	Quotes
Customer behaviour analysis	<p data-bbox="451 1715 1509 1827">"We investigate why users decide to refund their services, why do they churn. We also have a dedicated person who deals with these matters and analyse more. Also, talks with those users." <b>Startup A</b></p> <p data-bbox="451 1839 1509 1912">"In our company it is very popular to do various sessions with users, various tests of their observation, A / B tests" <b>Startup B</b></p> <p data-bbox="451 1924 1509 2027">"We have general data where we can see customer behaviour aspects, so context come not only from the customer success team, but also from our users' own data graphs. For example, we can see from which product part did customer bounced</p>

	<p>off. This also helps a bit, because having a database with users makes it easier to accomplish certain things and know biggest product struggles” <b>Startup C</b></p> <p>“If consumers drop out, then you need to analyse why they left. Usually, you can’t do it without additional effort for feedback collection. It is crucial to know why did customer leave. Another thing is that if you see a segment of customer that remains to use the product, then start analysing why they remain. You need this to not break something what is already working well.” <b>Startup D</b></p>
Customer feedback	<p>“We also have NPS, users can write how they feel after using our product, evaluate by the number. So, we see such trends, temperatures, what is good, what is bad. Another very good thing which works for us is collecting feedback for each bigger feature separately. We have customer feedback forms for each feature where user can leave a note, leave a like or dislike.” <b>Startup A</b></p> <p>“We try to listen and ask questions well, because when we interact with our new users as well as with partners as customers, we don’t have to talk most of the time. They have to express their feelings and complaints about our products, and we have to listen and communicate those things to our product team. So important thing is to listen well.” <b>Startup B</b></p> <p>“You need to get feedback to make important decisions for further development. Are we moving on or are we iterating? I support “shift fast” myself, because while you are wondering if everything is done, a lot can happen at that time, a lot of changes, and the user may no longer need that thing. The key is to get feedback and then watch what decisions you make.” <b>Startup C</b></p>
Analyse customer conversations	<p>“Customer Success team delivers data about most frequent queries, issues and feature requests from our users” <b>Startup C</b></p> <p>“We analyse customer service team conversations with customers” <b>Startup D</b></p>

All four startups bold that customer research has important part in early-stage product development process. Startups use it not only for setting the new roadmap of the product, but also to push product improvement iterations and identify ways how customer trust could be achieved through user experience (UX) and communication. There are main three different initiatives in customer research field.

Startup C shared that they collect data about customers activities so that it would be possible to identify when did customer succeeded or is satisfied with the product, or when do they decide to leave: *“We have general data where we can see customer behaviour aspects, so context come not only from the customer success team, but also from our users' own data graphs. For example, we can see from which product part did customer bounced off. This also helps a bit, because having a database with users makes it easier to accomplish certain things and know biggest product struggles.”* Product team from startup C works with the collected data and makes product improvements based on findings. Startup D uses very similar practices and additionally bolds that working on finding the reasoning for customer churn is crucial to achieve customer success: *“If consumers drop out, then you need to analyse why they left. Usually, you can’t do it without additional effort for feedback collection. It is crucial to know why did customer leave. Another thing is that if*

*you see a segment of customer that remains to use the product, then start analysing why they remain. You need this to not break something what is already working well.*”

According to startups A, B and C, it is also important to collect feedback from customers directly. Feedback collection could be automated on the product end as Startup A shared: *“We also have NPS, users can write how they feel after using our product, evaluate by the number. So, we see such trends, temperatures, what is good, what is bad. Another very good thing which works for us is collecting feedback for each bigger feature separately. We have customer feedback forms for each feature where user can leave a note, leave a like or dislike.”* Another way to do it is with human effort by manually getting in touch with customers and asking for honest feedback, as Startup B does: *“We try to listen and ask questions well, because when we interact with our new users as well as with partners as customers, we don’t have to talk most of the time. They have to express their feelings and complaints about our products, and we have to listen and communicate those things to our product team. So important thing is to listen well.”* All this needed because customer centric product development requires direction for further development: *“You need to get feedback to make important decisions for further development. Are we moving on or are we iterating?”* (Startup C)

Startups C and D also *“analyse customer service team conversations with customers”* (Startup D) to understand users better, and then prioritise development of product features which got the most queries from customers: *“Customer Success team delivers data about most frequent queries, issues and feature requests from our users.”* (Startup C)

**Table 9.** Aspects of customer trust management

<b>Sub-codes</b>	<b>Quotes</b>
Constantly improving product	<p>“I think it’s important to make the user feel that product is improving, share information about new features, newsletter, to have a dashboard of notifications. Then users can spot releases of new features that they’ve been waiting for.” <b>Startup A</b></p> <p>“We run non-stop emails and newsletters about product updates. It's important to be able to segment users and information and send that information only to the interested group. For example, if they have one product category and we release updates for that category, you can choose which users to send to. By not beating everyone, but by sending it to only a few people who needs it.” <b>Product B</b></p> <p>“We are launching new functionality into the production every day. It’s not like we put together a bunch of things and then just give it to the user. We give right away even when we have a small thing. That sets us apart from other companies and makes users trust the growth of the product every day.” <b>Startup C</b></p>
User experience	<p>“The first impression when it comes to the product really makes a big decision for a user whether he will stay with us and move on, whether he ends up in a month or so” <b>Startup A</b></p> <p>“Our goal was and still is for users to have a smooth service set up. Our customers are mostly beginners. Those who have never used such service, so it’s clear that the website where the product is offered means a lot, but they don’t always understand why a fast-running website, a fast-loading website, makes sense. Loading speed, website quality, localised content, working buttons, etc. bring confidence in the brand and product that it is not some kind of scam.” <b>Startup B</b></p>

	<p>“I would like to start from the fact that our product is easy to use. This is important reason why our current user base decides to stay with the product. It is easy to create a website or a store in our platform. That ease of creation for the user himself drives our product. It gives him some satisfaction that he can do it himself. At this point we give the user a great sense of confidence that he or she can ask for our help right away. This is one thing that really keeps customers.” <b>Startup C</b></p> <p>“One of our biggest advantages is the speed of product. And the fact that the product is not overflowing with functionalities. There are those essential features that you will create and work for you.” <b>Startup D</b></p>
Customer Success Team	<p>“If any user is not sure about something, he can turn to our customer service team. We help instantly. I don’t know a better way to build a good relationship with customers.” <b>Startup A</b></p> <p>“We have internal data which we use in communication with customers. We can recommend to them which plan of our services is best for them, perhaps directing them to more targeted or faster success. For example, if they want to do something what is Objective A, and the plan doesn’t even have that functionality, then users can move on to another plan in consultation with our professionals and realize their goals there.” <b>Startup B</b></p> <p>“We have a strong customer success team, elsewhere often referred to as support. This team is very helpful to the users and develops relationships every day.” <b>Startup C</b></p>
Customer education	<p>“We try to educate our users. Because the first part is to buy our service, but it is really step. However, a person will only be happy and will want to stay with the company if the company helps him achieve his goal. Our primary goal for a new user is to be successful online. Therefore, as a product, we need to give him materials on how to be successful online. Provide webinars, lectures, conferences, pdfs, e-books with advice on the latest trends. That is what we are trying to do.” <b>Startup B</b></p>
Accessibility	<p>“We are a startup, so we offer a lower price than other competitors” <b>Startup A</b></p> <p>“It is important to make a product accessible to everyone. I would mention the price. We have a good market price.” <b>Startup C</b></p>
Actual value from the product	<p>“In order to make customer purchase services, we must create them. Because we have to sell all in solution, so that users wouldn’t have to go anywhere else.” <b>Startup A</b></p> <p>“This one thing is the real value you get.” <b>Startup D</b></p>

According to interviewed startups, there are multiple factors which they recommend taking care off to manage customer trust successfully.

One of the important factors which make users trust product is the general feeling that product is getting better. Startup A expressed this as main aspect in trust development area: *“I think it’s important to make the user feel that product is improving, share information about new features, newsletter, to have a dashboard of notifications. Then users can spot releases of new features that they’ve been waiting for.”* The way to do it by not only actually improving the product via iterations, but also by communicating product updates to customers who are interested in that as Startup B does: *“We run non-stop emails and newsletters about product updates. It’s important to be able to segment*

users and information and send that information only to the interested group. For example, if they have one product category and we release updates for that category, you can choose which users to send to. By not beating everyone, but by sending it to only a few people who needs it.” Startup C shared that delivering product improvements quickly and releasing them every day made their customers base happy, even though that required big package of technical competences: “We are launching new functionality into the production every day. It’s not like we put together a bunch of things and then just give it to the user. We give right away even when we have a small thing. That sets us apart from other companies and makes users trust the growth of the product every day.”

All four startups confirmed that user experience aspect also has role in achieving customer trust. According to Startup C, the smooth experience for user while using product impacts his decision to use or leave the service directly: “I would like to start from the fact that our product is easy to use. This is important reason why our current user base decides to stay with the product.” Startup B shares that not only easiness of product impact user experience, but also its quality, localisation and loading speed of the online tool or website: “Our goal was and still is for users to have a smooth service set up. Our customers are mostly beginners. Those who have never used such service, so it’s clear that the website where the product is offered means a lot, but they don’t always understand why a fast-running website, a fast-loading website, makes sense. Loading speed, website quality, localised content, working buttons, etc. bring confidence in the brand and product that it is not some kind of scam.”

Startups A, B and C see that huge benefit for a startup is to have a dedicated Customer Success team so that startup could have a channel for users to ask help and get assistance quickly: “If any user is not sure about something, he can turn to our customer service team. We help instantly. I don’t know a better way to build a good relationship with customers.” Customer service also servers as a process which develop close relationships with customers via 1 on 1 communication: “We have a strong customer success team, elsewhere often referred to as support. This team is very helpful to the users and develops relationships every day.”

Startup B also added that customer education is important to help customers see the value of the product they are using and to unlock it: *Our primary goal for a new user is to be successful online. Therefore, as a product, we need to give him materials on how to be successful online. Provide webinars, lectures, conferences, pdfs, e-books with advice on the latest trends. That is what we are trying to do.*”

Finally, Startups A and C shared that good pricing could be an important aspect when making customer decide to run the business with the product that is developed by their product teams: “We are a startup, so we offer a lower price than other competitors” (Startup A)

**Table 10.** External communication

Sub-codes	Quotes
Perceived value	<p>“We try to communicate openly with users. It is our basic rule to communicate the product very clearly and not raise expectations that we have no way to prove later.” <b>Startup A</b></p> <p>“Sometimes it seems that our marketing goes one step further.” <b>Startup C</b></p>

	“There is that perceived value. For example, we could write that a website is running fast, and users are beginning to believe that it is running faster. They don’t know what the real speed as they don’t see it.” <b>Startup D</b>
Word of mouth	“We build relationships with customers and try to achieve loyalty so that they would recommend us. This is also one of the better such marketing tricks here.” <b>Startup A</b> “A loyal user is extremely important for us because a loyal user, the one who is satisfied with the service, he will spread the word of mouth, will recommend our service to friend.” <b>Startup B</b>
Success stories	“One of the goals of our startup is to make our customer successful online. This is exactly the communication we do with the client 1 by 1, we have dedicated calls during which we try to find out how our clients are doing and finally describe their success stories on our blogs, thus spreading the message not only about our clients' businesses or projects, but also building credibility for future consumers who have come and are not sure to buy our service or not, we are a real brand or a fake one. Then they can go to our real users, read their success stories, click on their projects, make sure they are real.” <b>Startup B</b>
Product reviews	“We use the most popular review channels in the world, such as Trustpilot, where we try to encourage our customers to leave feedback, both good and bad, based on their experience with us. And it is the same reviews that we integrate into our home page. So, when consumer is coming to the main page of the company, usually at the top we show the credibility signs, let's say we are trusted by a trustpilot.” <b>Startup B</b>
Partners communication	“We tell our partners about the product improvements, then they write about us.” <b>Startup A</b> “We say that our second clients are our partners, with whom we work precisely with those external communications who talk about us, who recommend us. We are recommended by big and famous news portals who work with us and trust us. This gives the end user the reassurance that it is not some kind of phishy or fake company and promotes trust.” <b>Startup B</b>
Transparent communication is social media	“Possibility to leave a feedback or comment is important. You know, when it’s sometimes hidden or companies turn off their comments or reviews, then it is not good. We encourage open communication with the customer so that future users, through the experience of our previous customers or existing customers, can decide whether we are the right brand for them.” <b>Startup B</b>

To make startup and its product look trustworthy, it is important to organise good and transparent external communication. This is typically done by marketing specialists.

The word of mouth is the hardest factor to achieve, but also the most effective marketing channel which spreads the trustworthiness in the most solid way. According to Startup A, their teams *“build relationships with customers and try to achieve loyalty so that they would recommend us. This is also one of the better such marketing tricks here.”* Customer loyalty is an important aspect here as well, because only customers who already trust the company and value which is delivered would recommend service to the close people according to Startup B: *“A loyal user is extremely important for us because a loyal user, the one who is satisfied with the service, he will spread the word of*

*mouth, will recommend our service to friend.*” So, startups could grow their user bases by focusing on customer loyalty with product development and external communication initiatives.

Startup B found a brilliant way to spread the trustworthiness for the product via real users success stories: *“we try to find out how our clients are doing and finally describe their success stories on our blogs, thus spreading the message not only about our clients' businesses or projects, but also building credibility for future consumers who have come and are not sure to buy our service or not, we are a real brand or a fake one. Then they can go to our real users, read their success stories, click on their projects, make sure they are real.”*

Another thing that is implemented into Startup B workflow is focus on product reviews: *“We use the most popular review channels in the world, such as Trustpilot, where we try to encourage our customers to leave feedback, both good and bad, based on their experience with us. And it is the same reviews that we integrate into our home page.”* So, when consumers come to the website of the startup, they can see the links to public reviews and get familiar with real users' experiences. This could help them to decide if the product is a fit for them.

Finally, if the startup has enough resources for partnering with famous and popular partners in similar field, their recommendations for the product could be another positive sign of trustworthy product. Startup B is already working with partners closely to communicate the value of the product: *“we say that our second clients are our partners, with whom we work precisely with those external communications who talk about us, who recommend us. We are recommended by big and famous news portals who work with us and trust us. This gives the end user the reassurance that it is not some kind of phishy or fake company and promotes trust.”* Startup A warns to be transparent with the communication and to not set bigger expectations than the product could provide: *“we try to communicate openly with users. It is our basic rule to communicate the product very clearly and not raise expectations that we have no way to prove later.”*

### **3.4. Foundings of Qualitative Research**

Startups can grow if they are successful in many different aspects, including building a loyal customer base. Combination of implemented customer trust management factors and customer centric product development process could positively influence the growth of any startup. The semi-structured interview method was used to analyse the practical success stories of startups and to check what key aspects of startups focus on customer trust and its management or development do they bold. The interviews happened with four digital innovations startups, which are founded in Lithuania and already have loyal customer base. The interviews were transcribed and then coded with MAXQDA program. The analysis of collected data resulted in 6 main categories with 27 sub-codes which were used to code 206 citations.

The qualitative research reveals the main aspects of customer trust management, the product development process specific and its role in customer trust management, market and customer research importance for the success of product development, external communication impact for customer trust development and how growth of the startup and its product is typically measured during the development process. Interestingly, all four startups shared their practises for all six categories, but the scope of their experience and the actual number of initiatives running in each category are different. So deep analysis was needed to collect main practises of each startup. As the **Figure 16** shows, Startup B operates in the largest scope of activities, measures the biggest number of different

growth indicators, and focus on external communication on the early stage of product and startup itself. Startups A and C look quite similar from the number of things which they are doing, but Startup A is more focused on finding their true customer and develops product carefully, while Startup C focus on product development with the biggest available resources while also building relationships with their customers. Startup D has a radical focus on product development at their early-stage and digital technology experts from the startup do not rush themselves into the customer research or relationships development because their product still needs to catch up with fundamental industry standards and grow their user base a bit.



**Fig. 16.** Categories of customer trust management while developing early-stage product specifics and important aspects

The qualitative research brought a wide scope of factors which are required to be analysed and then moved into the desirable output of the whole research process. One of the challenges was the difference how startups organise their activities in specific areas, even though they all do it in a big number of aspects. To not miss any important aspect mentioned, each sub-code was reviewed and main takeaways made for each of the sub-code. Some of the citations were coded with several sub-codes. This allowed to draw relations between every sub-code, what later resulted in the final model.

The detailed view of each category, its sub-codes and startups focus level over each aspect is in **Figure 17**. The following discussion reviews each sub-code separately.

All four startups operate in **Market research**:

- Competitor analyses were performed by the beginning of each startup and are being performed while their product is still developed. Startup D, which has a radical focus to product development works on this the most. The competitor analysis helps to follow up with the newest trends, be up to date how other products solve the same problem and could be a good context for “Product roadmap” and could hint Product team how to move forward with specific initiatives. Also, some markets have companies which are working on their products way longer than a newly established startup, so context from market research could be a good base for “Re-use best practises” initiative.
- Only Startup B and C started to cooperate with the partners to gather the bigger context about their needs and how global players understand the market. Startup A focus the most on their customer base and the feedback from that area and gives the smallest amount of effort towards market research. Startup B shared the experience about the benefits from cooperation with popular and trustworthy affiliate websites and people who run them. Various product reviewers who work with the product from the similar field has a wide context of different product improvements, so cooperating with such partners could bring knowledge about where the whole market is moving. Nevertheless, cooperation with big partners could require big number of resources and not all early-stage startups has them.



**Product development** methodologies was one of the most important areas to explore during the research:

- Startups C and D shared that they tend to re-use best practises from the market which are already implemented and are working for existing players (products from other companies). The context about already well working solutions could be gathered with “Competitor analysis”. The main argument for copying with pride from other companies is the fact that other older companies which operate in the market has already dedicated enough resources to find the best working solution for the problem, so it doesn’t make much sense for an early-stage startup with small team to dedicate additional effort for finding the solution which already exist. According to startups, it’s better to dedicate time on improving solutions which already exist with the help of loyal customer base and try to innovate if existing solutions doesn’t work well. Also, “re-use best practises” initiative perfectly aligns with open innovation concept, which encourages to use not only internal, but also external knowledge, ideas, and solutions (Chesbrough, 2003).
- Startups A, B and C has a Product roadmap, which is used as a vision for all product teams. Roadmaps are constantly updated according to customer needs which are more explored with customer research. Product roadmap could serve as an extended strategy or focus plan for product teams. Also, there is a nice practise to have not only the internal roadmap, but also to have a public one, share it with customers base to explain them how the product will get better. It could be a game changing thing according to Startup C because it helps to build customer trust for the early-stage product.
- Product teams are working by iterations (“iteration culture in Agile teams”). Each new focus is taken from the roadmap, but the feature development and improvement process are organised with small iterations. Also, teams could have a freedom and responsibility to operate independently. This could bring speed for the development process which is crucial while product is still on its early stage. The Agile Manifesto (2001) principles discuss the importance of the freedom for individual IT professionals. The iteration culture importance was also brought by Pride (2018) as one of the must have things for any successful startup in digital innovation field.
- Teams from all four startups also learned to develop MVP features and improvements, which with require the minimal amount of effort to be implemented, so that then product could be - tested and re-worked if needed. Pride (2018) talked about MVP product approach along with iteration culture as MVP approach has an important role in iteration culture success.
- Even though Startup B is collaborating with partners a lot, it is more done for external communication and better market knowledge, while Startup C and D tries to prioritise partners feature requests and feedback when creating product development strategy and working on iterations. This initiative could thrive if “Connecting with partners” initiative is already running. Startup B priorities partners needs and includes their feature requests into the product roadmap to develop a close relationship with partners, push company up in the partners listings of similar field products what could result as an improvement for “External communication” initiative.
- Partners needs got only the symbolic place in the whole focus area for each startup as all four companies confirmed that the biggest priority is to prioritise customer needs when developing the product. The impact of each newly implemented iteration is being measured with growth indicators, customer feedback is collected through various channels such as automated queries

or with customer service help, and the decisions for further product development are done when biggest product problems are identified. And it is an always running process in all four startups. Prioritising customer needs aspect perfectly aligns with Sutherland and Takeuchi (2016) thoughts about the need to include users into the product development process.

- Startup D only shared a bit different approach to iteration concept, Startup suggested to not only iterate on the product (or even develop it by product roadmap only), but also iterate on the development process.

**Customer research** initiatives are running in all four startups as well:

- Startup C shared that they track customer behaviour in the product with various product automations, each user action is logged in internal data base and then presented in visual charts, which are available for product team. So as a result, team has an extensive view to the customer journeys and can spot tendencies in customer activities, identify bottlenecks. The bigger focus is dedicated in analysing the behaviour of customers who decided to leave the service. Startup D shared that they focus on reasoning for customer churn identification and improvement by analysing the behaviour of customers. Startups A and B work on this as well.
- Startups A, C and D analyse conversations of Customer Success team with users to identify main product problems. As they seek to build a perfect user experience for the product, startups see that by simply improving product areas from which customers have questions, bring better results in the long run and helps to decrease customer churn rate and make customers trust products which they are using. Startups refine queries from users, add feature requests to roadmap and solve reported issues with bigger priority in product development initiative. This initiative is a very practical suggestion from startups, as literature review did not suggest collecting context about customers struggles through customer service.
- The final important aspect for customer research is to collect and analyse customer feedback for product. Feedback could be collected with customer service team efforts, organising 1 on 1 live sessions with users and by requesting for specific feedback about product or its features separately in product end automatically as Startup A is doing it. As Startup B expressed, without customer feedback their product team wouldn't know how to move forward, so collecting thoughts about product features, quality, experience is crucial. The collected and refined context is later segmented, and product improvements are registered in product roadmap.

Startups agreed on the importance of majority of **aspects of customer trust management**:

- All four startups agree that user experience is the key factor which impacts initial customer trust for the product and impacts willingness to keep using the digital service directly. The experience when visiting the product is crucial, and many factors could impact it: website speed, product quality, easiness, and clarity how to use product, localisation of the product to the native language of user. Chiu et al. (2009) talked that general flow how the product was purchased, set up, and then used contributes to customer enjoyment, which is a parallel word for user experience. Customer research initiative could help to identify main factors which impact customer experience for the product and then startup could handle it with product development iterations.
- Startups A and B brought customer education factor to attention, as some product may require more specific knowledge to gain full value from the digital innovation. Customer education

through educational content, additional startup efforts for onboarding, webinars and extensive tips for product use could lead to customer success, trust, and loyalty as a result.

- Startup C nicely expressed that their team consider constantly improving product factor as the one which makes their users to stick with the product. Startup A and B shared that constant effort to notify users about their desired product improvements creates a close relationship with customers and shows them that company cares for them. Products do that with newsletters and notifications about updates on product end. Startup C also added that a huge game changer for their company was the process of releasing every small feature every day without waiting for bigger release days, this made customers feel that product is getting better almost every minute.
- According to all startups, Customer success team is a must have thing for every startup. It not only serves as a guarantee for customers that startup cares for users, could help anytime, but also could work as a perfect channel for collecting feedback, informing users about product updates and most importantly for building close 1 on 1 relationships with each customer. Hasan et al. (2019) would only add that it is very important to have a good technology and product knowledge among customer success specialists, which could level up the assistance for any user of the product.
- For the accessibility factor only, the pricing was mentioned by Startups A and C. Companies shared that smaller price is important for arly stage products and helps to control the expectations for users about the product.
- The final factor from trust aspects category is actual value from the product that customers are receiving. Product development initiative must ensure that customers who purchased the service get the product which was desired and was expected. Customer loyalty happens if product makes people life better in any form, so product team has a responsibility to assure this as number 1 thing.
- Interestingly, startups did not bring privacy and security factors, which has an important role for customer trust according to Chiu et al. (2009), Tivedi and Yadav (2018).

**External communication** factor has a role in customer trust development:

- The most desired marketing channel for any startup is word of mouth, as it is the factor which could be achieved with great amount of effort, but also could be a free marketing channel at some point. The most important thing about word of mouth is that it comes from loyal customer base only and helps to spread the trustworthiness about the product, what could result in growing new users base and their trust for the product. Word of mouth spreads through people who are using product already and are happy enough with it to share about their experience with their close circle of people.
- Product reviews is another thing to oversee. Startup B encourages users to leave open feedback in public reviews platforms about the product and embeds reviews in main company website, so that it would be even easier to find them. In other words, it is a good practise to push people talks about product and then bring those experiences into the spotlight.
- Startup B had another great alternative for product reviews, which is success stories of their customers. Startup dedicated additional effort to identify the most successful loyal customers and then shares their stories in company blogs and startup marketing campaigns, by pushing the trustworthiness for product with the help of real people.

- Partners external communication about the product could be another great sign of trustworthiness according to Startup B. For example, people who follow an expert of the specific field would listen for expert's thoughts about specific product or its features. So, partnering with people who has audiences which fit the product could benefit to increase the new users. This works from the opposite side as well, as users who are checking the product could check the recommendations from other recognised companies or experts.
- Startups A, C and D shared that transparently communicating the actual value which could be received from the product is very important part when spreading word about the startup. When the product is on the early stage it is crucial to not set higher expectations than product could deliver, because this would make new users feel tricked and would make them leave the product immediately. Chiu et al. (2009) also bolded the need to set very clear expectations, because order fulfilment has its role in building customer trust.
- Finally, Startup B bolded the need to communicate transparently in social media, so that company would look open, honest and ready to talk with anyone. Possibility to leave a comment or ask a question and get honest help from them team in the social media could help people trust the company and is a positive sign for trustworthiness.

Startups shared four **startup growth indicators** which is a good practise to measure and treat them as indicators of success or failure.

- Customer churn rate is being tracked by all four startups and could be considered as main metric for product team. Also, customer loyalty metric is the opposite for customer churn rate. The smaller customer churn rate is, the better. Product teams does customer research to identify the reasoning for it, and then develops product accordingly to eliminate the biggest problems. Customer churn could be tracked weekly, monthly, yearly or by cohorts.
- New users' metric shows the number of new sign ups and service purchases over selected period. This metric is highly used to measure the trustworthiness of the product. Metric is significantly impacted by word of mouth and all trustworthiness signals that startup manage to develop.
- New billings is another metric which represents the amount of money which were paid for purchasing new service or renewing the existing. So, loyal customer base could impact this metric same as new users' base.
- Brand awereness is the least important metric in product development field, but at some point, could help to measure the word of mouth. According to Startup B, brand awereness serves as a tool to check well do they do with external communication which aims to develop initial customer trust.



Fig. 17. Sub-codes of customer trust management while developing early-stage product specifics and important aspects

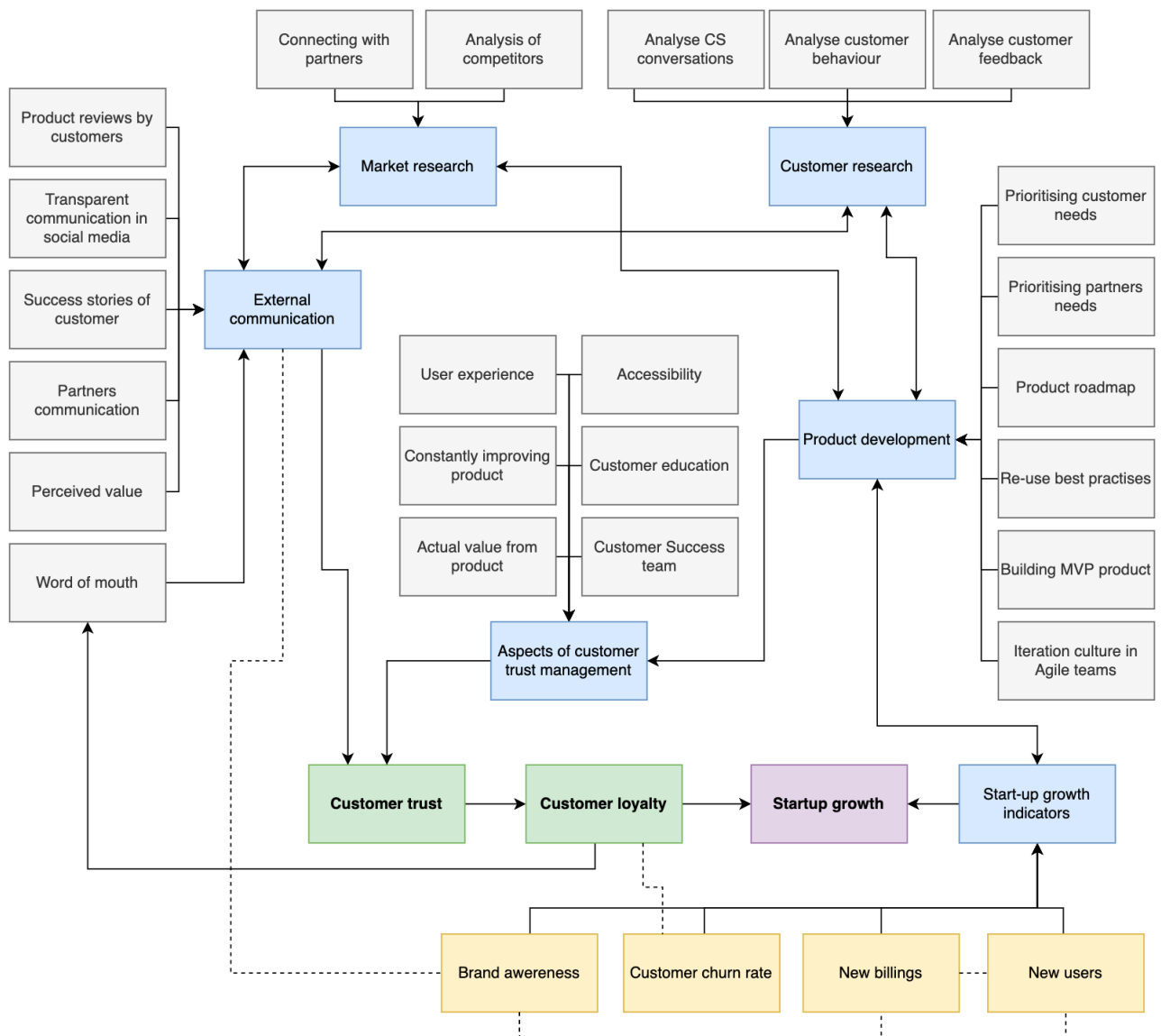
### 3.5. Customer Trust Management Principles Model for Lithuanian Digital Innovation Start-Ups with Early-Stage Products

The scope of the research findings is quite wide, so to summarise the learnings it was decided to create a model for customer trust management and product development role in achieving customer loyalty and startup growth (Figure 18).

The review of model relations:

- Startup Growth is directly impacted by customer loyalty.
- Customer trust is required for customer loyalty. Customer loyalty could be measured by customer churn rate.
- Aspects of customer trust management and external communication impact customer trust directly.
- External communication requires market research and customer research to be organised well, and could be measured with brand awareness metrics, which usually relate with new users and new billings metrics.

- Product development contributes to aspects of customer trust management and could be even considered as major factor in building actual value which could be received from the product and user experience. Product development requires constant customer research and market research, especially for iterations and roadmap. Product development also uses startup growth indicators to measure the growth of the product. Customer churn rate could be considered as number one metric for any product team.
- Startup growth could be measured by four main growth indicators: customer churn rate, new users, new billings and brand awareness.



**Fig. 18.** Customer trust management principles model for Lithuanian digital innovation startups with early-stage products to achieve growth through the expansion of loyal customer base

## Conclusions

1. The growth of worldwide investments into the startup economy proves the efficiency of this type of company. Analysis showed that investments in newly established startups more than doubled every recent three years. A similar situation is happening in Lithuania. Also, the billings of startup companies keep increasing in Lithuania, hitting 1.33 billion Eur in 2021, which is 2.6 times more than in 2020. However, according to the European Startup association survey, the average life cycle of startup takes up to 2,4 years, which indicates that most startups fail to grow and fit their markets. The main struggles for startups are attracting new customers, effectively developing products or services that would fit the market and helping keep a loyal customer base. The struggle to build a loyal customer base for an early-stage product is a big challenge, mainly because the newest product development concepts require customer base cooperation in the product development process.
2. The theoretical solutions show that customer trust is a critical factor in achieving customer loyalty, which directly contributes to startup growth. The company has to be customer-centric and organize the communication about the trustworthiness of the developed product for potential customers to build initial customer trust. The startup also has to dedicate resources to building knowledge about its customer base, have a customer service team, and respond to users' concerns. The startup should organize the product development process with iterations empowered in typical Agile product development methodologies. The theory also holds the importance of user experience, which is highly impacted by the development product's technological factors and the company's knowledge about its customers and responsiveness to reported problems. A loyal customer base could also be fuel for trustworthy signals about the product in question, as successful customers could contribute to the product reviews and word of mouth.
3. The qualitative research results allowed the development of the customer trust management model for startups with early-stage products. The results show that customer trust is one of the critical factors for customer loyalty. A loyal customer base directly impacts startup growth. The identified customer trust management aspects and external communication impact customer trust directly. Product development has a role in customer trust management, especially in building the product's actual value that users could receive from the product and user experience. The startup should continuously perform customer and market research in product development initiatives and when organizing external communication. Product development also uses growth indicators to measure product growth, primarily via customer churn and new users, new billings, and brand awareness metrics.

## Recommendations

The research findings include essential principles that startups could implement in practice, so several suggestions will be presented to Lithuanian startups seeking to develop new products and grow their companies. It is important to understand that successful customer trust management is not a list of initiatives. It is more like a bunch of focus areas with specific principles included. If executed correctly, it could align with each other and help a startup build customer trust for early-stage product, achieve loyalty, and assure startup growth.

Early-stage product development:

1. One of the hardest things to achieve is to build a base of loyal customers for the new product as early as possible. Customer-centric product development based on small iterations requires the

usage of new features and feedback. Startups should invest time into developing products, building the customer base, and developing communication channels with them through email, chat, phone, social media, or public review pages.

2. It is highly recommended to measure product and company growth by growth indicators. It is recommended to take customer churn rate as the leading product growth indicator and use new users, new billings, and brand awareness to track its growth and initial trust development results. A startup could measure customer churn by calculating the rate of customers who initially purchased the service and renewed it after a specific subscription period.
3. Startups should invest time in researching competitors' products to take the best working solutions, re-use them in the newly developed product, and be aware of how the market moves forward. Market research is a critical initiative at the beginning of new product development and should be done regularly when the development of an early-stage product has already started.
4. The product development should start after extensive research and an already built roadmap which the product team could make based on best practices from the industry and competitors. It is recommended to organise early-stage product development work by developing new features based on the MVP approach, which requires doing the working feature with minimal effort. Each iteration should be tested by the internal team and users as well. The company should take the feedback via any available channel. A dedicated person could speed up this process, and startups could consider having a customer service person to develop a good relationship with customers and have an excellent channel to talk about new features.
5. It is recommended that product teams have an up-to-date roadmap of further product growth for internal alignment and focus and share publicly with customers. The internal use of a product map could help organise sprints in Agile teams, while having a public roadmap could attract more customers and help build close relationships with customers.
6. When a startup already has a starting base of customers, it is suggested to check what actual value the product receives from the end-user and learn about it. According to research, customers will trust the product if they feel its constant improvements, which could be quickly delivered by working on small iterations, and if the usage of a product is as smooth as possible.
7. Startups should constantly do their customer research and align findings with the product roadmap and upcoming product development iterations. Depending on the startup's growth strategy, the product must focus on solving the biggest struggles of existing customers or the potential ones. A product team could do customer research by tracking customer behaviour by integrating automated tracking tools into the product, analysing the customer feedback collected through various channels listed above, and analysing the conversations between users and the customer service team (if there is one).
8. It is suggested to think about customer education as early as possible, especially if the early-stage product requires specific knowledge. The educational content could be placed directly in the product and represent the main principles of successful product use cases.

External communication about early-stage products:

1. The initial customer trust development is required to attract new users to the product, as consumers do not purchase products which look as not trustworthy. It is recommended to have a page on the most popular industry product reviews platforms, allow product reviews there, and push existing users to leave a review for an early-stage product there. The product ratings could also be included on the company's website home page.



2. It is also recommended to write success stories of customers who are already happy about the product and use this material in the company's blog, the home page, and marketing campaigns.
3. It is also suggested to organise communication about the product and startup through partners (for example, influencers on social media and affiliates from product review platforms). Such external communication could help build a bubble of information about the company that would be easily accessible to any consumer and could contribute to the trustworthiness of the startup.
4. It is recommended to be careful with communication about the value received from early-stage products and not set expectations about the product too high because this would break initial customer trust for new users.
5. It is also suggested to value the word-of-mouth impact driven by a loyal customer base. Happy customers could refer the product to their friends and work as a free marketing channel. Word of mouth could be encouraged with referral programs. However, the central aspect is still the product's success in solving users' problems, creating a pleasant experience, and developing loyalty.

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