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Jaakko Taskinen

**High-skilled freelance platforms:
The impact of trust building mechanisms on attracting
top freelance software professionals**

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Supervisor: Professor Robin Gustafsson

Thesis advisor: Mikko Viikari M.Sc. (Tech.)



Author: Jaakko Taskinen

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Abstract:

Freelance economy is growing and platforms intermediating freelance workforce are increasingly utilized in organizations. The market is booming especially in high-skilled services, such as in software development and design, which enable talented freelance software professionals to charge higher prices than they would earn in traditional employment. Therefore, increasing number of highly skilled individuals work as freelancers either independently or through different platforms. Moreover, freelancing provides e.g. better work/life balance, flexibility and autonomy. Freelance platforms are approached due to their ability to provide enhanced matchmaking and build trust between freelancers and companies which is in general, difficult for individual freelancers to do on their own. However, current research has mainly focused on low-skilled freelancing and large online labor platforms that intermediate relatively cheap remotely performed high-skilled freelance work. Additionally, the crucial role of trust building on freelance platforms is lacking comprehensive academic research.

This thesis approaches the identified research gap by focusing on providing better understanding of current trends in high-skilled freelance markets and the strategical significance of trust building mechanisms and factors on high-skilled freelance platforms focusing on the top talent. The literature review of this study explores recent research and business literature about freelance economy, high-skilled freelance platforms and trust building on them, whereas the empirical part aims to provide comprehensive overview of trust building mechanisms on high-skilled freelance platforms and factors that drive companies and top freelance software professionals to use platforms. This qualitative case study is conducted by interviewing 6 case companies and 9 high-skilled freelance software professionals. The empirical data is analyzed following the thematic analysis method introduced by Braun and Clarke (2006).

The findings of this thesis indicate that platforms implementing the characteristics of tech talent agencies are most likely to attract top freelance software professionals to join the platform. Additionally, this thesis provides a precise categorization of high-skilled freelance platforms and identifies the key trust building mechanisms and factors as well as their interrelations on high-skilled freelance platforms. Finally, a process framework for trust building on high-skilled freelance platforms is presented. The framework provides a new approach for viewing trust building and understanding the interrelations between each trust building mechanisms and factors.

Keywords: Trust building, freelance economy, freelance platform, software professional, screening, matchmaking, reputation system

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Tiivistelmä:

Freelance-talous on kasvamassa ja organisaatiot hyödyntävät yhä useammin alustoja, jotka välittävät freelance-työvoimaa. Markkinat kukoistavat erityisesti korkeaa ammattitaitoa vaativissa palveluissa, kuten ohjelmistokehityksessä ja designissa, mikä on mahdollistanut korkeampien hintojen laskuttamisen freelance-työssä kuin perinteisessä työsuhteessa. Sen vuoksi, yhä useammat erittäin ammattitaitoiset yksilöt työskentelevät freelancerina joko itsenäisesti tai erilaisten alustojen kautta. Lisäksi, freelance-työ tarjoaa esimerkiksi paremman työ- ja muun elämän tasapainon, joustavuuden sekä itsenäisyyden. Freelance-alustojen puoleen käännytään, koska ne helpottavat sopivan freelancer/yritys -parin löytämistä ja rakentavat luottamusta freelancereiden ja yritysten välillä. Yleisesti ottaen, luottamuksen rakentaminen yritysten kanssa on yksittäisille freelancereille vaikeaa. Näistä asioista huolimatta, nykyiset tutkimukset ovat pääasiassa keskittyneet matalan osaamisen freelance-työhön sekä online-alustoihin, jotka välittävät suhteellisen halpaa korkean osaamisen freelance-työtä, joka tehdään etänä internetin välityksellä. Lisäksi, luottamuksen rakentamisen kriittistä roolia freelance-alustoissa ei ole tutkittu riittävän kokonaisvaltaisesti.

Tämä tutkimus lähestyy tunnistettua tutkimuksellista aukkoa tarjoamalla paremman ymmärryksen nykyisistä trendeistä korkean osaamisen freelance-markkinoilla sekä luottamusta rakentavien mekanismien ja tekijöiden strategisesta merkityksestä korkean osaamisen freelance-alustoissa, jotka keskittyvät huippuosaajiin. Tutkimuksen kirjallisuuskatsaus tarkastelee viimeaikaisia tutkimuksia ja bisneskirjallisuutta, jotka käsittelevät freelance-taloutta, korkean osaamisen freelance-alustoja sekä luottamuksen rakentamista niissä, kun taas empiirinen osuus pyrkii tarjoamaan kattavan yleiskuvan luottamusta rakentavista mekanismeista korkean osaamisen freelance-alustoissa sekä tekijöistä, jotka ajavat yritykset ja huippuosaavat ohjelmistoalan freelancerit käyttämään alustoja. Tämä laadullinen tapaustutkimus on suoritettu haastattelemalla kuutta tapausyritystä ja yhdeksää korkeaa osaamista vaativissa tehtävissä olevaa ohjelmistoalan freelanceria. Empiirinen aineisto on analysoitu noudattamalla teema-analyysointimenetelmää, jonka Braun ja Clarke (2006) ovat esitelleet.

Tutkimuksen löydökset osoittavat, että todennäköisimmin huippu-freelancereita houkuttelevat alustat, jotka omaksuvat tech talent -agentuurien ominaispiirteet. Lisäksi, tämä tutkimus tarjoaa korkean osaamisen freelance-alustojen täsmällisen luokittelun sekä tunnistaa keskeisimmät luottamusta rakentavat mekanismit ja tekijät, kuten myös niiden väliset suhteet korkean osaamisen freelance-alustoissa. Lopuksi tutkimus esittelee viitekehysten, joka kuvaa luottamuksen rakentamisen prosessia korkean osaamisen freelance-alustoissa. Viitekehys tarjoaa uuden lähestymistavan luottamuksen rakentamisen tarkasteluun sekä luottamusta rakentavien mekanismien ja tekijöiden keskinäisten suhteiden ymmärtämiseen.

Avainsanat: Luottamuksen rakentaminen, freelance-talous, freelance-alusta, ohjelmistoalan ammattilainen, mainejärjestelmä, matchmaking

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1. Introduction

Recent studies indicate that freelance economy in high-skilled services, such as in software development and design is booming, which is increasing the demand for platforms that connect freelance workers with client companies. On the other hand, the ever-growing platform economy has enabled the rise of freelance economy and the widely discussed change of work, which can be noticed in new ways to perform work and get compensated from it (Drahokoupil and Fabo, 2016). Both workers and companies have started to react to these changes in the labor market, as more and more talented individuals move from traditional employment to work as freelancers, and organizations increasingly utilize freelance workforce in their business critical projects (Claussen et al., 2018; Leighton, 2016; Lehtiniemi et al., 2015).

The motivations for freelancing and utilizing freelance workforce are multifold. Better incomes and perceived freedom of work are some of the main reasons for freelancing (Dolan et al., 2015; Graham et al., 2017; Kalleberg and Dunn, 2016; Liebman and Lyubarsky, 2016; Schmid-Drüner, 2016), while companies benefit e.g. from the flexibility and innovation power freelancers are able to provide (Younger, 2016). However, especially highly skilled freelance software developers and designers are hard to find as companies compete for the best talent. Moreover, freelancers currently lack the means of establishing trusted relationship with client companies on their own (Mattila and Seppälä, 2016). Therefore, freelancers and companies are increasingly relying on freelance platforms which create value through matchmaking, but also by facilitating trust building between them (Kuhn and Maleki, 2017). Trust is built on freelance platforms through different governance mechanisms and design features, which also affect significantly to the attractiveness of the platform.

Although there is a lot of research related to freelance economy and freelance platforms, current academic literature has mainly focused on low-skilled freelancing, such as delivery services, and large online labor platforms which provide relatively cheap remotely performed high-skilled freelance work. In addition, the crucial role of trust building on freelance platforms has gained only minor scholarly attention, even though platforms have to overcome many predominant uncertainties that hinder the establishment of trust, and hence reduce willingness to transact on the platform (Claussen et al., 2018). This has created a research gap, as the number of highly paid freelancers is growing and new platforms, such as Toptal and 10x Management, focusing on the most talented software professionals and on-site work have entered the market. Thus, there is a need for research that addresses these high-skilled freelance platforms and their trust building mechanisms in more detail.

The goal of this thesis is to provide better understanding of the current trends in freelance economy and the strategic significance of trust building mechanisms on high-skilled freelance platforms focusing especially on the top talent. To explore the identified research gap, this qualitative study focuses on answering the following research questions:

RQ1: *What drives top freelance software professionals and companies seeking complex expertise to use freelance platforms?*

RQ2: *What are the key trust building mechanisms and factors on high-skilled freelance platforms?*

RQ3: *How trust building mechanisms should be designed in order to attract top freelance software professionals and clients?*

The first research question aims to identify the factors that drive companies and top freelancers to freelance platforms and provide a basis for understanding the high-skilled freelance market and freelance platforms. The RQ2 and RQ3 address trust building in more detail and explore the interrelations between different platform governance mechanisms and design features that affect trust building. All research questions are answered through an extensive literature review and in-depth semi-structured interviews. The theoretical objective of this thesis is to generate more comprehensive knowledge about trust building mechanisms on high-skilled freelance platforms, but also provide a more precise categorization of high-skilled freelance platforms as the existing research only makes a division between low- and high-skilled platforms which provide either virtually or locally performed work (De Groen et al., 2016). Furthermore, the practical objective of this study is to provide best practices to freelance platform providers that focus on intermediating top freelancers to client companies. Therefore, the goal is to identify what strategic decisions high-skilled freelance platforms should consider in platform design and governance in order to build trust efficiently.

The structure of the thesis is divided to five main chapters: (1) *introduction*, (2) *literature review*, (3) *methodology*, (4) *results* and (5) *discussion*. After this brief introduction to the topic, recent academic research and relevant business literature about freelance economy, high-skilled freelance platforms and trust building on them are reviewed in chapter 2. Chapter 3 discusses the methodological choices of this thesis and describes the collection and analysis of the empirical data. The results of this thesis are presented in chapter 4 and the final chapter discusses the key findings and provides answers to the research questions. Additionally, chapter 5 summarizes the theoretical and practical implications and evaluates the study critically. Finally, conclusion and future research areas are discussed.

2. Literature review

2.1. Freelance economy

In this section, freelance economy is explored and recent literature is reviewed to understand the current trends in freelancer markets. Various types of freelance work are identified and the segment of freelance economy focused on in this research is explicitly defined.

2.1.1. Platform economy as an enabler for freelance economy and the change of work

In order to understand the current trends in freelance economy, it is important to examine the role of platforms in the rise of freelancing. A great variety of different types of digital platforms, that have emerged since late 1990's, have provoked a radical economic change and reorganization of markets, work arrangements and even of the way how value is created and captured in the contemporary economy (Kenney and Zysman, 2016). Technological advancements are accompanied with this so-called platform economy, which is continuously changing the way how work is performed. Digital platforms facilitate exchange between different sides that could not otherwise interact with each other, or at least facilitate it more efficiently than would be possible in bilateral relationships between the sides, by providing infrastructure and rules (Eisenmann et al., 2006; Evans, 2003; Gawer, 2014; Kenney and Zysman, 2017). Therefore, digital platforms have enabled a more efficient way to transact directly between different parties, which is one of the key value creating functionalities of platforms (Hagi, 2014).

Especially the change of work is discussed widely and there have been clear signals that digital platforms are transforming the way how employment relationships are formed between workers and companies (Drahokoupil and Fabo, 2016). Platform economy is not only changing the way how work is done and but also how it is compensated. Labor markets are transforming dramatically which is leading to a situation where standard employment is increasingly supplemented or substituted by temporary gig work mediated by platforms (Kässi and Lehtonvirta, 2016). There is also a trend towards project-based work in organizations which in addition to in-house expertise, are also utilizing external workforce more frequently (Claussen et al., 2018; Lehtiniemi et al., 2015). Moreover, technological advancements have enabled geographically and temporally distributed labor, which has created new opportunities and challenges for organizing, managing and engaging work (Barnes et al., 2015). As a result, people are increasingly doing work that is formed around projects, gigs or tasks, which can be

performed in certain cases remotely. These aforementioned factors have enabled the rise of freelance economy which refers to a flexible labor market, in which workers and clients are matched and workers are paid according to the projects they perform based on short-term contracts (Bregiannis et al., 2017; Kalleberg and Dunn, 2016). Considering the current trend in labor market, digital platforms as drivers for the change of work set an intriguing basis for examining freelance work in more detail.

2.1.2. Types of work in freelance economy

Freelance economy provides a myriad of different work opportunities, which is the reason why there are also various terms that are used to describe the nature of platform-mediated work. Gig work, contingent work, on-demand work, online outsourcing, online labor, contract labor and freelance work are only some of the names that are found in literature (Agrawal et al., 2015; Barnes et al., 2015; Coyle, 2017; Dolan et al., 2015; Kuek et al., 2015). Therefore, it is important to specify the type of work that is studied in the scope of this research.

Majority of literature discuss the nature of crowdsourcing, gig work and on-demand work which are often associated with relatively low-skill tasks such as transportation and cleaning services (Bregiannis et al., 2017; De Stefano, 2016; Dokko et al., 2015). More neutral terms online outsourcing and online labor are discussed e.g. by Kuek et al. (2015) who describe them as “contracting of third-party workers and providers to supply services or perform tasks via Internet-based marketplaces or platforms”. However, freelance work and contract labor is more often associated with tasks which are more complex, require higher skill level and take longer time to perform, such as required in software and consulting projects (Accenture, 2017; Agrawal et al., 2015; Barnes, 2015; Kuek et al., 2015). As most of the recent studies have focused especially on the low-skilled part of freelance economy, this research aims to provide more thorough overview on high-skilled work which is still relatively little studied.

As the definition of online outsourcing is mainly describing the way how work is mediated and performed, the terms freelance work and contract labor are reflecting the skill level of work. For example, online outsourcing can be divided to microwork and online freelancing which differ in size and complexity of tasks (Kuek et al., 2015). As Kuek et al. (2015) describe, microwork refers to rather simple and quick tasks, such as logo designs, which can be completed without highly specialized skills, whereas online freelancing often requires a higher level of technical and professional expertise in larger projects which also take longer time to perform. Examples of online freelancing include technical jobs such as software development and design projects. Kuek et al. (2015) also point out that 75% of online freelancers have a university degree while only 33% of microworkers have it.

In addition to low-skilled work, existing literature also focuses more on freelance work which is performed remotely through online platforms as discussed by Kuek et al. (2015). This rough division is highlighted by many authors who divide platform-based jobs to more high-skilled digital labor that is transmitted via internet and to lower skill level on-demand or gig work, such as food delivery and ride sharing services, which are location-based digital labor (Bregiannis et al., 2017; De Stefano, 2016; Schmid-Drüner, 2016; Schmidt, 2017). However, platforms mediate also high-skilled work which is done locally on the client’s premises, albeit this type of freelancing is especially little explored. Despite of the minor scholarly attention, some studies discuss high-skilled and locally performed platform mediated work. Kalleberg and Dunn (2016) and Younger (2016) mention agency work as a part of freelance economy, although it is resembling more traditional employment as high-skilled freelancers might work even longer periods for a one client.

Although various studies discuss different types of work in freelance economy, none of them clearly classify them based on both, required skill level and place of performance. Therefore, it is important to specify the types of work in order to understand their differences more precisely. The most straightforward way is to divide work to low- and high-skilled work which are performed either virtually or locally as illustrated in figure 2.1. Based on the previous research, low-skilled freelancing can be described as work which does not require complex skills or high education level, whereas high-skilled freelancing mostly does. Moreover, virtual freelance work is performed only remotely while location-based freelance work requires face-to-face human interaction, although it can be partially virtual. As previously mentioned, this thesis focuses specifically on high-skilled and complex freelance work. In addition, both virtual and location-based high-skilled freelance work are examined further.

Types of work in freelance economy	Low-skilled	High-skilled
Virtual (completely remote)	Microwork <ul style="list-style-type: none"> • E.g. logo design and translation services 	Online freelancing <ul style="list-style-type: none"> • E.g. remote software development and design
Location-based (requires face-to-face interaction)	Gig work / On-demand work <ul style="list-style-type: none"> • E.g. food delivery and transportation 	On-site freelance work <ul style="list-style-type: none"> • E.g. on-site software development and design work through agencies

Figure 2.1: Types of work in freelance economy

2.1.3. Characteristics of high-skilled freelance workers

As stated in previous section, a great majority of research is focused on low-skilled platform work and relatively high-skilled virtual work. However, most of these studies

discuss the problems that freelancers face and do not take into account freelancers who can be considered to be among the best in their domains. The problems occur especially in developing countries, where e.g. high-skilled software developers face issues such as lack of regulation, worker discrimination, employment insecurity, inequality and lack of employee benefits and protection (Bregiannis et al., 2017; Graham et al., 2017; Kuek et al., 2015). As Graham et al. (2017) point out, a great deal of online freelancers work remotely in low- and middle-income countries in Asia and Africa, whereas their clients are often from Europe or North America where income levels are much higher. This enables western companies to utilize cheap freelance labor which they are not able to get locally. Friedman (2014) also points out that few of the workers are happy with their employment situation and they would prefer traditional full-time jobs, indicating that in many cases freelancing is not always a choice, but rather a necessity. Therefore, it is understandable that most of the studies have focused on the part of freelance economy where most of the problems exist. However, research related to high-skilled freelance work in high-income countries is still rather scarce. Although these freelancers in high-income countries face partly the same issues as low-skilled freelancers and high-skilled freelancers in developing countries, the matters are less severe for them (Kalleberg and Dunn, 2016). The lack of research on knowledge-intensive and high-skilled freelance projects is also identified in a recent study by Claussen et al. (2018), who remark that more research is needed especially because this segment is growing fast. Thus, the purpose of this study is to address especially this particular high-skilled freelance group in high-income countries more thoroughly.

In contrast to Friedman's (2014) point that only few are freelancing by their own choice, in the U.S. market an increasing share of people, currently 63% according to the most recent studies, are doing freelance work of their own will, and 50% of freelancers would not even take a traditional full-time job no matter how much they are offered (Edelman Intelligence, 2017). This trend can be seen in Europe as well, and especially among high-skilled professionals. The number of high-skilled freelancers is constantly increasing in Europe and many of them are rejecting full-time jobs because they prefer being as freelancers (Leighton, 2016). Hence, it is evident that high-skilled workers in high-income countries perceive some clear benefits in freelancing, which a number of studies have recognized. High-skilled workers are moving from traditional jobs to freelancers since it provides more flexibility, autonomy, diversity, better work/life balance, potentially higher incomes and better access to work (Dolan et al., 2015; Graham et al., 2017; Kalleberg and Dunn, 2016; Liebman and Lyubarsky, 2016; Schmid-Drüner, 2016).

A lot of studies highlight the unsecure incomes of freelancers which is related to risks they carry as entrepreneurs and independent contractors (Graham et al., 2017; Liebman and Lyubarsky, 2016; Schmid-Drüner, 2016), but according to Edelman Intelligence (2017), 36% of freelancers in U.S. are earning more than \$75k annually and the share is steadily growing. Thus, it is justified to argue that the incomes of high-skilled

freelancers are rather steady. Increasing number of high-skilled freelancers in Europe implies that the share of these highly paid workers is growing in the area as well. As the large study conducted by Codementor (2017) reveal, the highest paid freelance software developers come from North America, Western Europe and Oceania, whereas the lowest rates are in Eastern Europe and developing countries in Asia and Africa. All in all, 2 out of 3 high-skilled freelancers say that their incomes are higher as freelancers compared to their previous traditional jobs (Edelman Intelligence, 2017). This is especially true among IT professionals who are increasingly choosing freelancing over traditional jobs because of increased freedom and higher incomes (Harbert, 2015).

These findings set an intriguing basis for studying high-skilled freelancers in more detail considering that high-skilled freelancers already comprise a remarkable share of freelance economy and the share is persistently growing. The characteristics of high-skilled freelancers in high-income countries are summarized in table 2.1 and they are compared to high-skilled freelancers in low-income countries and low-skilled freelancers. The next section will discuss the current freelance market in more details.

Characteristics	Low-skilled freelancing	High-skilled freelancing in low-income countries	High-skilled freelancing in high-income countries
Incomes	Low and unsecure incomes	Low to medium, often unsecure incomes	From medium to high. Steadier incomes for high-skilled workers.
Flexibility, autonomy and work/life balance	Work is flexible, but the level of autonomy is low. Often work/life balance is not good as low-skilled workers perform multiple gigs per day and sometimes on multiple different platforms. In many cases, low-skilled workers are not freelancers by choice.	Work is flexible and provides autonomy since work is mostly creative especially in software developing and design. Work/life balance is better compared to low-skilled freelancing, but the workers are not necessarily freelancers by choice.	Work is flexible and provides greater autonomy since work is mostly creative especially in software developing and design. High incomes and flexibility enable better work/life balance, and hence they are freelancers mostly by their own choice.
Diversity	A great variety of different short gigs e.g. delivery services, ride sharing and cleaning	From short projects (measured in days) to longer and more complex projects (measured in months or years). E.g. software development, software design and consulting services	From short projects (measured in days) to longer and more complex projects (measured in months or years). E.g. software development, software design and consulting services
Work related issues	Problems such discrimination, lack of regulation, employment insecurity, inequality, lack of benefits and protection	Problems such discrimination, lack of regulation, employment insecurity, inequality, lack of benefits and protection	Problems are less severe, and benefits outweigh disadvantages

Table 2.1: Characteristics of high-skilled freelance workers in high-income countries

2.1.4. Current state and future projections of high-skilled freelancing

The freelance economy as a whole is growing and the number of freelancers with it as well. It was estimated that in 2017, 57 million Americans were doing some kind of freelance work at least part-time which was equivalent to approximately 36 % of the total workforce in U.S. (Edelman Intelligence, 2017). From this share, the total number of independent contractors, defined as more high-skilled freelancers who are doing work on project-to-project basis, was 17,7 million in the U.S. (Edelman Intelligence, 2017). Furthermore, in the EU the number of independent professionals i.e. high-skilled freelancers, which has risen by 99% since the start of the millennium and 24% between Q1 2008 and Q1 2015, is totalling 9,6 million workers (Nye and Jenkins, 2016). In addition to that, high-skilled freelancers are the fastest growing group in the EU labor market (Leighton, 2016).

According to the study of The Association of Independent Professionals and the Self-employed, it is important to note that in the EU, 57% (5,5 million) of independent professionals, which are defined as freelancers who are professionals in intellectual services such as software development and consulting, have a high level of education and the roles they work in require a high skill level (Leighton, 2016; Nye and Jenkins, 2016). More specifically, in professional and technical jobs even 74% of freelancers have a high skill level (Nye and Jenkins, 2016). Nye and Jenkins (2016) also point out that it appears that these people are likely to work independently after they have acquired some years of experience as regular employees. It is estimated that these complex knowledge work services are the next frontier of freelance economy (Accenture, 2017). Structural and long-term trends are in accordance with this estimation since they imply that population of high-skilled freelancers will continue to increase (Nye and Jenkins, 2016).

However, aforementioned statistics do not reveal the number of high-skilled freelance software developers and designers. So far, ascertaining profession specific statistics has proven to be challenging as pointed out by McGuire (2018) who states that statistics are hard to get since most of the countries have only kept a record of total number of self-employed workers which includes all freelancers. Despite of the challenges in compilation of statistics, an extensive survey by Stack Overflow (2018) reveal that the world-wide share of freelancers from all professional software developers and designers is 10,0%. In United Kingdom, Germany and France, which comprise around 50% of the total high-skilled freelancer population in Europe, the share varies from 8,9% in Germany to 11,6% in United Kingdom (Leighton, 2016; Nye and Jenkins, 2016; Stack Overflow 2018). Moreover, Stack Overflow (2018) estimates that the number of professional developers and designers in Europe is 5,5 million meaning that the share of high-skilled freelancers is approximately 550000. For example in Finland, existing

studies estimate that the number of professional developers and designers is between 56000 and 83000, which means that the share of freelancers is something between 5600 and 8300 (Ahopelto, 2018; Stack Overflow, 2018). As recent studies indicate the growth of high-skilled freelancing, also the number of freelance software developers and designers can be expected to increase.

2.2. High-skilled freelance platforms

This section provides a definition of freelance platform and discusses the characteristics of platforms that intermediate high-skilled freelance work. In addition, a comparison of three major platforms is provided and the need for high-skilled freelance platforms is addressed.

2.2.1. Definition of freelance platform

In freelance economy, freelance work is often intermediated by platforms, which connect freelancers with their clients. Literature use various names to describe these platforms such as online and digital labor platforms, online outsourcing platforms, online freelance platforms, crowdsourcing platforms and crowdwork platforms (De Stefano, 2016; Drahoukoupil and Fabo, 2016; Guo et al., 2017; Kalleberg and Dunn, 2016; Kenney and Zysman, 2016; Kuek et al., 2015; Kuhn and Maleki, 2017; Schmidt, 2017; Zanatta et al., 2016). In this study, the term freelance platform is used and it is defined as a platform that intermediates virtually or locally performed work provided by freelancers to clients who are willing to pay for freelancer services. Freelance platforms can also be defined simply as platforms providing a matching service, that links the demand for labor with its supply by using a mechanism for discovery (Drahoukoupil and Fabo, 2016; Kenney and Zysman, 2017). In addition, they can be described as “for-profit firms that use technology to facilitate the filling of immediate short-term service labor needs, either remotely or in person, with workers who are officially considered as independent contractors” i.e. freelancers (Kuhn and Maleki, 2017). As the definition of Kuhn and Maleki (2017) denotes, freelance platforms must have some kind of digital elements e.g. for facilitating matchmaking.

Moreover, freelance platforms can be considered as multi-sided platforms (MSP) since they provide a technology, product or service that create value by enabling direct interactions between two or more different sides, i.e. in this case, between freelancers and clients (Hagiu, 2014; Hagiu and Wright, 2015). Freelance platforms typically consist of three key actors: (1) platform owners who provide the infrastructure for intermediating work, (2) freelance workers who undertake and submit work for compensation and (3) buyers who require tasks to be completed for compensation

(Barnes et al., 2015, Zanatta et al., 2016). In the next section, the characteristics of platforms that intermediate high-skilled work are discussed in more detail.

2.2.2. Characteristics of high-skilled freelance platforms

As this study focuses especially on high-skilled freelancers and platforms intermediating high-skilled work, it is important to identify their characteristics. First, however, it is good to make a distinction between different freelance platforms. Similarly as division of freelance work, also freelance platforms can be divided based on work skill level and the way how work is done. Since digital labor market is not homogeneous, there are freelance platforms providing virtual services that can be performed anywhere regardless of the location and platforms providing physical services that need to be performed locally (De Groen et al., 2016). Most of the previous studies have focused on platforms mediating remote work, while platforms offering in-person and location-based work are notably understudied (Kuhn and Maleki, 2017). One probable explanation for it is that freelance jobs are mostly undertaken remotely with the buyer and worker not meeting each other (Barnes et al., 2015). Both types of freelance platforms can provide services which require low or high skill level as illustrated in figure 2.2, although low-skilled services dominate the platform markets (De Groen et al., 2016). Kuhn and Maleki (2017) add that freelance platforms can target either consumers or business clients, but those mediating high-skilled work are mostly targeting business clients, which is also in the focus of this research. To emphasize the complex expertise mediated through these platforms, they will be called high-skilled freelance platforms further in the text.

Freelance platforms			
Virtual / remote freelance work		On-site / locally performed freelance work	
High-skilled	Low-skilled	High-skilled	Low-skilled
Examples: <ul style="list-style-type: none"> ● Upwork ● Freelancer.com ● Toptal 	Examples: <ul style="list-style-type: none"> ● Amazon MTurk 	Examples: <ul style="list-style-type: none"> ● 10x Management 	Examples: <ul style="list-style-type: none"> ● Airbnb ● Uber ● TaskRabbit

Figure 2.2: Recognized freelance platform categories based on literature review (Modified from De Groen et al., 2016)

As high-skilled freelance platforms are mediating complex knowledge work, the projects tend to be relatively demanding and specialized, such as software development, data science, consulting and web design, which are often well paid (Kuek et al., 2015; Schmidt, 2017). These services are customized, mostly used for business purposes and they require time for performing after project-specific contracts are created (Lin et al.,

2018). According to Schmidt (2017), in high-skilled freelance platforms, clients handpick freelancers, based on their skills and their payments are negotiated individually. Additionally, high-skilled freelance platforms provide services which facilitate finding suitable matches for freelancers and clients (Fu, 2017b; Zheng et al., 2016).

Freelance platforms, whether they provide high or low-skilled services, have a similar business model. They charge fees for connecting workers with consumers or businesses who are willing to pay for work (Kuhn and Maleki, 2017). The fees are mostly collected as commissions, often in the form of a flat percentage rate applied to job earnings (Kalleberg and Dunn, 2016). For example Upwork, one of the largest freelance platforms, charges the commission from the freelancer's revenue (Kalleberg and Dunn, 2016). Schmidt (2017) adds that for mediating supply and demand, the fees on freelance platforms are typically between 10 and 20 percent and they are usually charged from freelancers.

Depending on a freelance platform, project contracts can be output- or input-based. Output-based contracts are fixed-price and the project success is mainly evaluated by verifying that the project output satisfies all agreed-upon requirements and is delivered on time (Lin et al., 2018). Compensation is based on outcomes and freelancers get a fixed payment when the project is completed successfully (Liang et al., 2016). Projects on a high-skilled platform can have a fixed price set by the client or the platform provider. In some platforms, freelancers are requested to make a bid for the work (Barnes et al., 2015). Input-based contracts, in turn, do not have a fixed-price since clients pay for the time and incremental materials spent on the project (Lin et al., 2018). These hourly contracts determine compensation that is based on the number of hours the freelancer have spent on the project and the hourly wages defined in the contract (Liang et al., 2016). However, current research does not specify which kind of contracts are preferred in complex IT projects that require high-skilled software development and design.

High-skilled freelance platforms for virtual and location-based work vary based on their focus area and they have major differences in their average freelancer charges, freelancer quality and assisting services, such as matchmaking. The following comparison of three major platforms highlight the differences:

Upwork

- As mentioned, Upwork is currently one of the largest freelance platforms in the market mediating a wide range of expertise in fields such as software development, design and accounting. Upwork is also probably the most referenced high-skilled freelance platform as majority of studies about freelance economy and platforms use it as example or as the subject of research (e.g., Lin et al., 2018; Schmidt, 2017; Van Alstyne and Schrage, 2016; Zanatta et al.,

2016). The quality of freelancer pool on Upwork is varying as they do not vet the freelancers who join their platform. Varying quality is also reflected in the pricing and project complexity as freelancers charge anything from 10\$ per hour to over 100\$ per hour and project lengths vary between less than a week and over 6 months. Client companies can also seek freelancers for fixed-price projects. Therefore, companies can get extremely cheap freelance labor if needed. Freelancers can set their rates on Upwork, but clients have the power to compare freelancer prices from a large pool. Upwork mediates only remote work and the majority of freelancers on the platform come from developing countries where income levels are low. As a pure marketplace, Upwork does not offer any project management assistance or provide matchmaking services except simple sorting and filtering on their website (Fu, 2017b). Hence, freelancers and clients are fully responsible for selling their services and finding suitable matches, which can be laborious for both parties. (Upwork, 2018)

Toptal

- Compared to Upwork, Toptal provides more focused set of expertise in software development, design and financial services. Toptal also has a strict vetting process and they claim to accept only 3% of all applicants. Therefore, they market higher quality than Upwork and their price range varies from 60\$ to +150\$ per hour. Only input-based contracts are available. Similar to Upwork, Toptal also mediates only remote work and their freelancers are claimed to come mostly from Americas and Europe. Toptal also applies a marketplace model, which gives responsibility for clients to choose suitable freelancers for their projects. Moreover, freelancers are not promised any projects after the strict vetting process, and hence they have to apply for projects they find attractive. However, Toptal provides project management and matchmaking services for freelancers and clients, which facilitates successful outcomes and helps both participant sides to find each other faster (Fu, 2017b; Kindness, 2018). As freelancers are highly qualified, also projects on Toptal tend to be complex and long. (Toptal, 2018)

10x Management

- While Upwork and Toptal are focused only on remote work, 10x Management provides also freelancers who work on-site. As well as Toptal, 10x Management has a strict process when they vet freelancers. However, they prefer freelancers who have been referred to them by a trusted source, such as already vetted freelancers or previous clients. 10x Management applies an agency model and they offer highly personalized services for both freelancers and client companies in project management and matchmaking which can also be seen in their pricing: in average, freelancer charges start from 175\$ per hour and they create only input-based contracts. On 10x Management, freelancers are matched with clients

whose projects are long and require highly specialized and complex skills. (10x Management, 2018)

As this short comparison reveals, high-skilled freelance platforms differ rather significantly from each other, and therefore they tend to attract certain types of freelancers and clients. This also implies that categorization in table 2.2 is not sufficient. Moreover, current research has mainly focused on large marketplace type of platforms, such as Upwork while platforms offering even more specialized and complex skills, such as Toptal and 10x Management have not been studied. Therefore, in the context of this study it is important to conduct more thorough research about such platforms. Table 2.3 summarizes the typical characteristics of high-skilled freelance platforms.

Characteristics of high-skilled freelance platforms	
Project complexity	In general, complex projects, but the required skill levels vary
Project size and duration	Usually larger projects taking long time to perform (from less than a week to over a year)
Contracts	Output- or input-based
Business model	Commissions (typically between 10 and 20%) from connecting freelancers with clients
Clients	From small businesses to large organizations
Freelancer compensation	Negotiated individually, mostly highly paid
Assisting services	From pure marketplaces with no assistance to extremely personalized services in project management and matchmaking
Examples	Upwork, Toptal, 10x Management

Table 2.2: Characteristics of high-skilled freelance platforms

2.2.3. The need for high-skilled freelance platforms

Due to changes in labor markets and the rise of freelance economy, there is a growing demand for high-skilled freelancers. This can also be seen in increasing number of larger and more complex projects mediated through freelance platforms that take longer time to complete and require specialist skills and knowledge (Barnes et al., 2015; Kuek et al., 2015). A survey by Accenture indicates that 85% of IT and business executives are planning to increase the use of independent freelance workers in their organizations (Accenture, 2017). This is part of the trending market situation, where companies are

competing against others in order to get the top talents work for them full-time, while top talents work more and more as freelancers (Kasriel, 2017). As a result, the situation has led to increasing need for high-skilled freelancers which is part of a larger trend where businesses are transforming their organizational models to a direction where they take more advantage of increasingly digital and on-demand workforce (Accenture, 2017). These trends indicate that most talented high-skilled workers are more and more difficult to find, and companies are increasingly willing to adjust to this situation by utilizing high-skilled freelance platforms. They are the answer to this growing demand of freelance work since they enable workers to become more liquid and support rapid assembly of distributed teams which complete their projects and are again free for new projects in new teams (Accenture, 2017). Therefore, the demand stems from both client and freelancer sides as high-skilled freelance platforms help bring them together.

From a client's perspective, increasing trend to organize work around temporary projects does not necessarily require merely stable job positions anymore, which enables organizations to use a pool of in-house and external knowledge workers, who are assigned to projects based on required competencies (Lehtiniemi et al., 2015). Dolan et al. (2015) support this trend by arguing that employees will work more on project basis as opposed to in a permanent job position which make them change career paths more frequently. This is happening partly because traditional hierarchies in many organizations are being deconstructed and business is increasingly project based (Lehtiniemi et al., 2015). Younger (2016) lists top drivers of using freelance workforce which are access to difficult-to-find technical or functional expertise, speed, flexibility, and innovation. High-skilled freelance platforms provide this flexibility and efficiency to the situation where organizations are experiencing short-term fluctuations and are in demand for new skills, and therefore they offer possibilities to rapid change and innovation (Accenture, 2017; Dokko et al., 2015; Lehdonvirta, 2017). In addition to flexibility, using freelancers can reduce risks which are present with full-time employees. New skills can be acquired and tested without similar barriers that are related to full-time employment, such as indirect employee costs, offering extensive company benefits and difficulty of firing (Fu, 2017a; Greenstone Miller and Miller, 2012; Kuek et al., 2015; Lehdonvirta, 2017). Dokko et al. (2015) also argue that using freelance workforce can reduce e.g. training costs which are typical in traditional employment.

As previously listed, high-skilled workers themselves have various motivations for freelancing. High-skilled workers are willing to have more diversity, flexibility and autonomy in their work life which accompanied with potentially higher incomes are driving them to do freelance work. Instead of doing freelance work independently, freelance platforms provide several benefits for freelancers. First of all, freelance platforms enable freelancers to focus more on their core capabilities rather than using time to acquiring new work opportunities. In contrast to independent contracting, platforms facilitate matching freelancers with clients, and therefore reduce the need for

selling freelancers' services (Fu, 2017b). Second and the most important benefit is that platform affiliation reduces the client uncertainty about freelancer's quality and motivation since most freelance platforms vet and certify workers which helps freelancers to get new projects (Claussen et al., 2018; Hagi and Rothman, 2016). This is helpful especially for novice freelancers who do not have prior freelance experience (Claussen et al., 2018). Moreover, Mattila and Seppälä (2016) add that freelancers currently lack the means of establishing trusted relationship with client companies on their own, which in turn is possible through platforms. As it turns out, freelance platforms are above all trust building mechanisms which reduce uncertainty between freelancers and client companies. However, before this is possible, also the platform provider needs to establish a trusted relationship with both freelancers and clients. Due to the critical role of trust building on freelance platforms, it will be in the focus further in the text. The next section will discuss the various trust building mechanisms on high-skilled freelance platforms in more details.

2.3. Trust building on high-skilled freelance platforms

Previous chapters have discussed the current trends in freelance economy and pointed out the lack of comprehensive research about high-skilled freelance platforms. In this chapter, the critical role of trust building on high-skilled freelance platforms is further discussed. When bringing freelancers and clients together, a lot of coordination is required from the platform provider in order to manage very heterogeneous contributions on the freelancer side, and in order to orchestrate the interactions of the clients (Schmidt, 2017). The reason for this is that the interactions are generally characterized by a high degree of transaction complexity and uncertainties (Jarvenpaa and Teigland, 2017). Therefore, the key role of freelance platforms is to build trust between freelancers, clients and the platform itself. As it is explained in this section in more detail, trust on freelance platforms is built e.g. through screening processes and different reputation and matchmaking mechanisms, which create strategic trade-offs related to design and governance of platforms. Before discussing various design features and governance mechanisms that build trust on a platform, it is important to define what is meant by trust in the context of this research.

2.3.1. Uncertainties and types of trust on high-skilled freelance platforms

As mentioned, freelance platforms have to take a lot of responsibility for coordinating and facilitating interactions between freelancers and clients. However, platforms suffer an information asymmetry problem which means that clients face uncertainty over

freelancer quality (Yoganarasimhan, 2013). Thus, they have an important role in facilitating trust and reducing risks, which are necessary for the participants to engage with one another (Kuhn and Maleki, 2017; Pavlou and Gefen, 2004).

In order to build trust between parties, the platform need to overcome different types of predominant uncertainties. These can be divided to behavioral uncertainties and environmental uncertainties on freelance platforms. Behavioral uncertainty is related to freelancer's skills and quality as well as to the amount of effort a freelancer will exert in the project, whereas environmental uncertainty is in connection with project specifications and client company (Claussen et al., 2018). Tasks in uncertain environments are complex and difficult to specify upfront since there may be multiple ways to perform them, which increases the risk of not meeting the client's expectations (ibid.). This hinders trust building between platform participants. Therefore, the platform provider has a role in reducing these types of uncertainties by appropriate design and governance features. Considering environmental uncertainty, the platform provider has also a role in ensuring that freelancers and clients share the same understanding on project requirements.

In addition to uncertainties, also trust can be divided to two categories on high-skilled freelance platforms: impersonal trust and personal trust (Gwebu et al., 2007), which are both important for facilitating transactions on a platform. Personal trust refers to dyadic relationship between platform participants (Gwebu, 2007), whereas impersonal trust is in essence institution-based, which Pavlou and Gefen (2004) define as trust that is based on guarantees and recommendations from third parties i.e. platform providers. Therefore, freelance platforms have an important role in qualifying freelancers' skills and intermediating them to suitable projects. Kuhn and Maleki (2017) point out that institution-based trust is factor that distinguishes freelance platform work from traditional independent contracting, where freelancers sell services directly to clients. Institution-based trust is crucial in freelance platforms where clients predominantly transact with new and unknown freelancers who are guaranteed by platform provider (Pavlou and Gefen, 2004). On freelance platforms, institution-based trust is also digital, which means that different factors are required in establishing trust compared to purely face-to-face transactions. Engendering digital trust requires that interactions are secure between the participant sides, participants can be sure who the other party is, and participants can be sure that other party does what is agreed (Mattila and Seppälä, 2016). As discussed later, freelance platforms are digital to varying degrees which has an influence on their trust building processes.

While both institution-based trust and personal, dyadic trust must take place on freelance platforms, their establishment is important to understand. Pavlou and Gefen (2004) mention that in addition to dyadic trust between freelancer and client, also the client's trust in the entire community of freelancers determines whether it will transact on the platform. Institution-based trust in a community of freelancers is defined as

client's perception that appropriate conditions are in place to facilitate transaction success with the freelancers on the platform (Pavlou and Gefen, 2004). Therefore, before building dyadic trust, freelance platforms must build institution-based trust with clients in order to get them transact on the platform. Considering this, Pavlou and Gefen (2004) indicate that the strongest predictor of client's trust is their trust in the platform itself. This implies that platforms must build a trusted brand and apply mechanisms which facilitate trust building among the client companies.

Trust in the platform itself is defined as “the subjective belief with which a buyer believes that the intermediary will institute and enforce fair rules, procedures, and outcomes in its marketplace competently, reliably, and with integrity, and, if necessary, will provide recourse for buyers to deal with seller opportunistic behavior” (Pavlou and Gefen, 2004). This indicates that platform governance structures are in a key role in trust building, and therefore they will be examined in greater detail. However, the definition only considers the relationship between platform and clients. In addition to trust building with clients, a platform provider needs to build trust with freelancers as well. Freelancers can face monetary and non-monetary uncertainties such as clients do (Kuhn and Maleki, 2017), and hence platform providers must create mechanisms to build trust in the community of freelancers as well. The mechanisms and factors that build trust on a freelance platform are discussed in following sub-sections.

2.3.2. Trust building mechanisms and factors

Platform as an intermediary plays a key role in building trust between different parties, which can be facilitated by applying appropriate strategic design features and governance mechanisms (Hagiu, 2014). Platform design is defined as a scheme for creating conditions for sustaining multi-sided platform business that facilitates and regulates value creation (Tura et al., 2017). Platform design also refers to variety of functionalities and features that are included in the platform to reduce search costs, transaction costs and/or product development costs (Hagiu, 2014). In turn, strategic governance structures and mechanisms are essential for platform success and they raise questions such as “Who is governed?”, “What is governed?” and “How it is governed?” (Hagiu, 2014; Schreieck et al., 2016). Platform governance covers tactical decisions that affect different processes within the platform such as control mechanisms and pricing structures (Schreieck et al., 2016).

While pricing structure is one way to govern a multi-sided platform, there are also other ways to regulate the actions of different sides. In addition to pricing, strategic questions of platform dynamics must be solved by using a wide range of other strategic instruments that are beyond price setting (Boudreau and Hagiu, 2009; Gawer and Cusumano, 2013). These nonprice governance rules can be divided into two major

categories: (1) rules that regulate the access to the MSP and (2) rules that regulate the interactions on the MSP (Hagiu, 2014). The rules regulating access define who ultimately are allowed to join the platform and interaction rules define what are the sides allowed to do. These rules determine the level of platform openness, which refers to the degree to which a platform participant is dependent on platform owner's permissions to access or interact on the platform (Wan et al., 2017). Thus, strategic governance decisions entail trade-offs between growth and appropriation as well as between quality and quantity (Hagiu, 2014; Parker and Van Alstyne, 2017). In order to build trust efficiently, these strategic design and governance elements must reflect the chosen customer segments. As this study focuses especially on the top freelance software developers and designers, it aims to answer how a platform should be designed and governed to attract them and enhance interactions between them and clients. Hence, also client perspective is taken into account. The following sections discuss the most important design and governance elements that need to be considered on high-skilled freelance platforms in terms of efficient trust building.

2.3.2.1. Platform entry and screening process

High-skilled freelance platforms have varying processes as they govern access to their networks. For example, Upwork has not freelancer vetting process except verification of freelancers' identities, and therefore it shifts the responsibility of screening onto client companies, whereas Toptal has a strict five-step screening process before a freelancer is accepted to the network (Fu, 2017b). Regardless of the evident purpose of the screening process in quality control and governance on freelance platforms, scholars have almost completely ignored its importance in trust building. As Hagiu (2014) discuss, screening works as a signal of quality to other platform participants. Therefore, stricter screening reduces behavioral uncertainty over freelancer quality.

Despite of the little scholarly attention, various recent non-academic publications about freelance business have recognized the crucial role of screening in platform governance. As companies are more and more in the need for high-skilled freelancers, a lot of platforms have stepped out to answer these needs. Reader (2017) discusses this trend and emphasizes that proper screening process is important in order to get only the best freelancers to the platform. Screening process is also a way to differentiate from other platforms as it enables selecting highly specialized talents. Blumberg (2017) also points out that curating talented freelancers in software industry is the key for successful matchmaking. However, stricter screening is laborious and slows down the platform growth, and therefore it is a strategic decision of quality over quantity (Hagiu, 2014; Reader, 2017).

Although screening often creates bottlenecks, platforms can utilize referrals and personal networks in order to speed up the vetting process. For example, tech talent

agency 10x Management prefers accepting freelancers who have been referred by a trusted source, and hence they are able to save time in preliminary screening (10x Management, 2018). Johnston (2017) highlights the importance of personal networks when hiring freelancers and points out that they are likely to instill more trust and loyalty. Additionally, utilizing personal networks enhance word-of mouth among the freelancer community, which helps finding new talented freelancers. Therefore, these so-called *trust networks* can be highly valuable for platform providers, albeit existing studies have not discussed them in the context of high-skilled freelancing. However, Dellarocas (2003) argues that word-of-mouth networks are more and more replaced by reputation systems, which freelance platforms use to build trust among different parties who have never met each other. In the next sub-section, these reputation systems are examined further.

2.3.2.2. Reputation mechanisms

When the size of the freelancer network grows and a platform promotes remote work, evaluating freelancers traditionally via personal contacts, repeated work relationships or referrals is more or less inadequate for predicting how they will perform especially in knowledge-intensive projects (Claussen et al., 2018). As freelancers do not necessarily ever meet their clients, it is essential to have other ways to build trust on high-skilled freelance platforms. Thus, so-called reputation mechanisms are an important part of platform governance and they are used to assess individual workers' trustworthiness and value (Kuhn and Maleki, 2017). However, existing literature does not examine the significance of reputation mechanisms in locally performed freelance work. Therefore, this thesis aims to shed light on this matter as well.

The design of reputation mechanisms varies, but in general, they aim to reduce adverse selection and moreover, reduce moral hazard by motivating trustworthy behavior and high effort which will lead to good feedback (Horton and Golden, 2015). An effective reputation mechanism also works as a sanctioning mechanism since opportunistic behavior and bad quality leads to bad reputation, which prevents freelancer to get new projects on the platform (Pavlou and Gefen, 2004). This is possible because reputation systems provide signals about past performance of workers which helps predicting the quality of workers' future performance (Kokkodis and Ipeirotis, 2015). Therefore, reputation systems facilitate providing more accurate matches for future clients. Many freelance platforms "operate a quality system of reliability scores or ranking whereby workers and buyers can rank each other based on cost, timeliness, reliability and quality of delivery" (Barnes et al., 2015). Horton and Golden (2015) add that reputation systems consist of rules about how feedback is collected, aggregated and shown. De Groen et al. (2016) emphasize that reputation is key for the survival and success of a freelance platform where physical interaction is limited between client and freelancer, and therefore trust on a platform must be established in alternative ways. Reputation and

monitoring systems are also used to reduce and manage risks that are involved in market transactions. These systems address such market failures as incomplete information about the freelancer or the risks of cheating (Drahokoupil and Fabo, 2016; Lin et al., 2018; Yoganarasimhan, 2013). Thus, design of reputation mechanisms is critical for platform governance and reduces client's risks of hiring unsuitable freelancers.

On the other hand, these mechanisms are also important for freelancers themselves. As freelancers work on project basis, it means that they need to keep constantly marketing and maintaining their competencies which makes reputation mechanisms essential for them (Lehtiniemi et al., 2015). Trend towards portfolio employment, where workers change jobs frequently, is leading to increasingly freelance-based environment which enhances the importance of constant refreshing and maintaining relationships (Dolan et al., 2015; Gandini, 2016). A study by Barnes et al. (2015) indicates that part of freelancer's success on the platform is their ability to market their skills, and therefore proactive online reputation maintaining is important part of their work. However, Barnes et al. (2015) discuss only remote freelance work. If opportunities for physical interaction between freelancer and client are limited, reputation often substitutes for face-to-face trust building (Gandini, 2016). This increases the importance of freelancer's reputation in a relationship with a platform and clients.

The most common reputation mechanism is so-called ratings and reviews system which has become ubiquitous on platform economy and more recently also on freelance platforms (Hagiu and Rothman, 2016; Schmidt, 2017). When the different sides have a limited physical interaction, if at all, ratings enable creating trust between the sides who know nothing else about each other and convert qualitative judgements to quantitative form, which makes them machine-readable (Schmidt, 2017). However, research indicates that even reliable ratings and reviews systems are not sufficient on their own to build trust or provide adequate safety to participant sides and neither they are a reliable measure of quality according to which workers are judged (Hagiu and Rothman, 2016; Schmid-Drüner, 2016). One reason for it is that these systems often suffer from biases since people who rate a service tend to be either very happy or very unhappy with it (Hagiu and Rothman, 2016). Horton and Golden (2015) also argue that giving negative feedback requires more from the rater than giving positive feedback since the participant who is rated can retaliate, and thus the rater can fear the hassle related to it or feel bad for the rated. Luca (2017) supports this argument and says that the fear of retaliation creates incentives for upward-biased reporting. However, recent studies indicate that giving ratings and reviews privately to the platform provider reduce the fear of retaliation and makes feedback more honest (Horton and Golden, 2015; Luca, 2017). Thus, the platform provider is able to get more reliable information e.g. from the freelancer's previous performance and give better recommendations to future clients. Collected private feedback can then be aggregated and provided to platform participants in order that the anonymity of raters remains (Horton and Golden, 2015;

Luca, 2017). Considering this, the transparency of reputation system seems to be an important strategic design trade-off for a platform provider.

In addition to biases and unreliability, there are many other concerns related to platform reputation mechanisms such as fairness and accuracy of evaluations which raise a question that who should be allowed to access the data in reputation systems (Schmidt, 2017). This depicts the trade-off of reputation system transparency. On the other hand, as Yoganarasimhan (2013) discuss, information asymmetry on platforms causes uncertainty but on the other hand, too transparent reputation system can have a negative effect on freelancers' willingness to transact. Moreover, research shows evidence that reputation systems might amplify and to certain extent distort reputation since freelancers with good ratings tend to get more jobs disproportionately (De Groen et al., 2016). Thus, the design of such systems can significantly affect freelancers' transaction activity and trust towards the platform. Gefen and Pavlou (2012) argue that trust-building tools, such as reputation systems which are designed to eliminate uncertainties and perceived risks, can also have adverse effects on transaction activity if they are too restrictive. Instead of overinvesting in trust-building mechanisms, platform providers must balance the trade-off in the design of these mechanisms in order to optimize the effects of trust and risks on transaction activity (Gefen and Pavlou, 2012).

2.3.2.3. Matchmaking

One of the most important problems organizations face today is identifying high quality workers, and hence finding right matches to job positions (Barach, 2015). As the most important feature of all freelance platforms is to match labor demand with its supply, it is essential to examine matchmaking in more details. Freelance platforms provide matching services which enable reducing search and transaction costs for both freelancers and clients by using assisting technology to a varying degree. In addition to lower search costs, matching models lead to efficiencies due to lower probability of mismatches (Agrawal et al., 2015). Thus, matchmaking functionalities are crucial strategic design features for freelance platforms. Freelancers are selected for projects based on technology-enabled performance evaluations which means that matchmaking and reputation mechanisms are closely connected to each other (Kuhn and Maleki, 2017). Reputation mechanisms and matchmaking services aim to identify accurate signals of future performance to reduce uncertainty regarding freelancers' skills and motivation (Claussen et al., 2018), and therefore they work as the most important governance features that affect trust building on freelance platforms. Drahokoupil and Fabo (2016) add that matching of freelancers and clients can be done effectively e.g. by using algorithms which decrease the amount of time used in finding suitable workers for specific tasks. Hence, advanced technologies and using AI can facilitate matchmaking and enable faster trust building.

Despite of the purpose to reduce search costs, matchmaking is problematic for freelance platforms in many ways. One of the key issues is to get sufficient amount of information about both freelancers and clients. As Agrawal et al. (2015) mention, there is usually a limited access to extensive information about the participant sides on the platform, and in case of remote work, the relative lack of face-to-face interaction makes it even more difficult to extract such information which would be vital in matchmaking. The study by Kokkodis and Ipeirotis (2015) shows evidence that providing more accurate information from a freelancer to a client decreases uncertainty, and as a result, the freelance platform builds more trust, increases transaction volume and improves matchmaking quality, hence creating a better overall experience for all participant sides.

As mentioned, the success and value of matchmaking on freelance platforms could be assessed by measuring how much they reduce freelancers' and clients' transaction and search costs (Hagiu, 2014). Claussen et al. (2018) elaborate that success depends especially on the level of unexpected transaction costs that arise from projects done through a platform. There are several factors at the freelancer, client and project level that can either reduce or increase transaction costs, and hence lead to higher or lower project evaluations. Claussen et al. (2018) and Zheng et al. (2016) identify that prior success of freelancers, project complexity, experience of clients, contractual design and the amount of value uncertainty play an important role in project success, and therefore they need to be taken into account in matchmaking process. First, prior success, i.e. high reputation score reduces clients' hiring uncertainty, which reduces their transaction costs. Second, highly complex projects increase uncertainty as they tend to take longer time to perform and they are also more difficult to define in terms of desired outcomes, and hence the end results are less likely to meet client's expectations. Third, prior client experience from using platforms and freelance workforce reduces uncertainty towards them as clients have already learned how to manage projects with freelancers. Fourth, Claussen et al. (2018) argue that fixed-price contracts between freelancers and clients result in more positive outcomes than hourly paid projects, since fixed-price projects have usually better defined goals, schedule and other specifications, which reduce the risk of misunderstandings. However, fixed-price contracts increase project upfront costs due to additional resources that are required from client side in project planning, although there is lower probability to face unexpected costs resulting from project managing problems that are typical in less specified contracts. Fifth, freelancers and clients face uncertainty over pricing: freelancers often do not know how much to ask for their services and clients are uncertain about the value of work they are buying (Zheng et al., 2016). This reduces their willingness to transact, unless a platform is able to reduce value uncertainties. Considering effective trust building, freelance platforms have to overcome all these uncertainties in order to enhance transacting on a platform.

2.3.2.4. Relationship with freelance platform and engaging factors

In addition to screening process, appropriate features in reputation system and effective matchmaking, platform providers have to consider the relationship they create with freelancers in order to establish and maintain trust. Freelancer's relationship with a platform can be described by the level of autonomy freelancers have and how dependent they are on the platform. Kuhn and Maleki (2017) point out that platform workers are subject to varying degrees of directive control from the platform providers. Freelance platforms have an important role as intermediary between freelancers and clients since they make operational choices that determine how control is allocated across workers, clients and the platform itself (ibid.). As greater autonomy is one of the main reasons for high-skilled freelancing, platform providers must consider it in their governance mechanisms. However, Kuhn and Maleki (2017) remark that existing freelance platforms have different approaches e.g. how to control wages, choose potential matches and how performance is measured. For example, Lin et al. (2018) argue that systems that monitor freelancers' performance, such as keystroke recordings, webcam captures and random screenshots from freelancers' computers are valuable for building trust between clients and freelancers.

As more complex tasks in freelance platforms allow higher wages, they also allow higher worker control. On high-skilled freelance platforms, workers have a substantial autonomy to decide e.g. the nature, terms and process of their work (Kuhn and Maleki, 2017). Coyle (2017) addresses the same attributes as she points out that professionals with high human capital and those providing highly differentiated services have more control over their hours and terms of work on platforms compared to low-skilled workers. In contrast to high-skilled work, low-skilled freelancing, such as transportation, cleaning and delivery services, are much more controlled by the platforms. Low-skilled freelance platforms often dictate the wage rates and measure availability, job response and accepted jobs (Kalleberg and Dunn, 2016).

In addition to autonomy and control, there are also differences in the worker dependence on freelance platform. The dependence on a platform is relative to freelancers' investments in the relationship with a platform and their perceived alternative income sources (Kuhn and Maleki, 2017). Therefore, freelancers can be highly dependent on the platform if they do not have any other sources of clients or they have not gained reputation on any other platform. For example, freelancers on Upwork are dependent on the platform as the reputation they have gained cannot be transferred to other platforms. As previously mentioned, freelancers have a limited ability to establish trusted relationships with clients on their own, which makes freelancers more dependent on platforms. Hence, freelancers are easily locked in by the platforms, which provide suitable work opportunities and facilitate trust building between them and clients (Mattila and Seppälä, 2016). On the other hand, freelancers can work for multiple different platforms simultaneously, which reduces worker's dependence on a

single platform. Hagi and Rothman (2016) also point out if dependence on a platform is low enough and it does not provide enough value, disintermediation is likely to happen. For example on Upwork, freelancers and clients can take their transactions off the platform. Furthermore, the demand for high-skilled freelance software developers and designers is high, and therefore they are not likely to experience difficulties in finding new work opportunities. To illustrate and summarize freelancers' relationship with a platform, figure 2.3 shows how different types of freelancers are positioned in terms of autonomy and platform dependence.

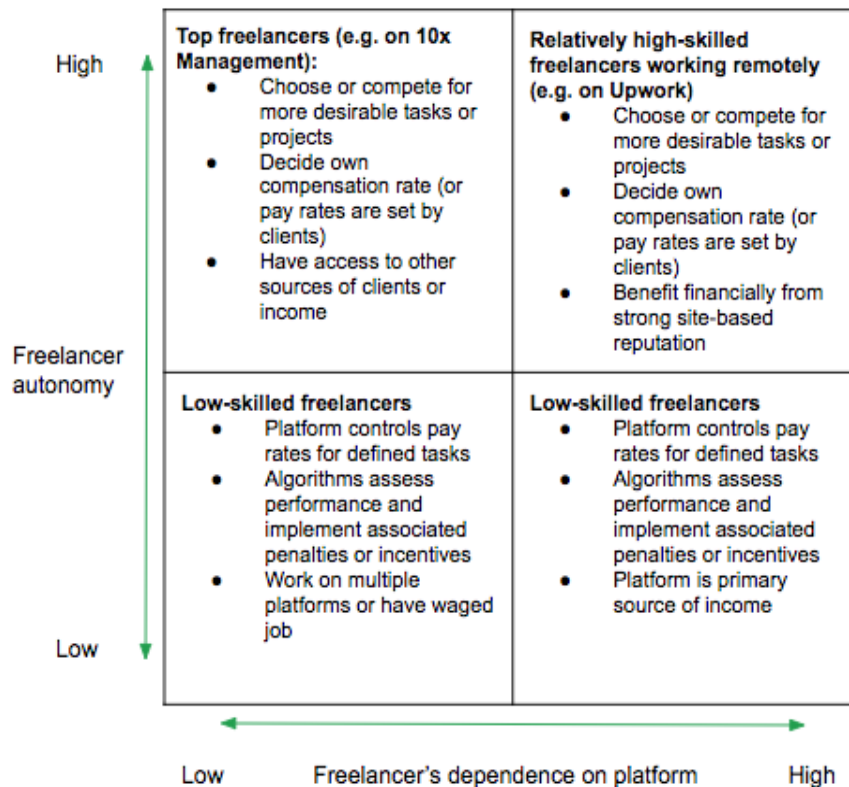


Figure 2.3: Freelancers' relationship with the platform (Modified from Kuhn and Maleki, 2017)

As mentioned, freelancers can work for multiple different platforms and sometimes simultaneously. This however, is one of the major reasons why freelancers do not get similar benefits as traditional employees, since it is uncertain whether a single freelancer will create long-term value for the platform. In contrast to positive sides of freelancing, losing various full-time employment benefits such as community, insurances and education will decrease freelancers' willingness to conduct transactions (Van Alstyne and Schrage, 2016). This implies that providing certain benefits on freelance platforms would reduce these uncertainties that are related to independent contracting, and therefore build trust and increase engagement in the community of freelancers. Van Alstyne and Schrage (2016) mention that investing in platform participants creates multi-sided surplus e.g. by helping freelancers become better entrepreneurs. Some freelance platforms do this by offering free online courses and

other training tools which aim to improve freelancers' skills (Van Alstyne and Schrage, 2016). Thus, investing in freelancers' expertise can improve their quality, and therefore enhance trust between the platform and clients. Investments can also be related to the wellbeing of freelancers as recent studies indicate that top freelancers value their working environment. Therefore, platforms should invest in the community e.g. by treating freelancers rather as equal team members and customers than temporary resources which are mediated to client companies (Younger, 2016; Younger and Smallwood, 2016). In addition, to enhance trust building and overcome fears, platforms can provide insurances and offer payment security and dispute resolution services. Providing insurances and payment services to freelancers and clients facilitate trust, reduce risks and create a secure environment for transactions while dispute resolution services also increase the fairness on the platform (Hagi and Rothman, 2016; Kuhn and Maleki, 2017).

2.4. Synthesis of literature review

This thesis aims to provide a comprehensive overview of current trends in freelance economy, high-skilled freelance platforms and trust building mechanisms which are crucial when matching top freelance software professionals with client companies. This section summarizes the key points from existing literature and presents a framework, which gives an overview of the most important trust building mechanisms that are currently recognized. Although the literature review did not answer any research question comprehensively, the focus was on providing answer especially to the RQ1 and RQ2, while creating a basis for RQ3. The goal of the empirical part of this study is to answer RQ3 comprehensively while improving the current knowledge concerning RQ1 and RQ2.

As section 2.1. discussed, platform economy and the change of work drive the growth of freelance economy. Although freelance economy is widely studied, it focuses mostly on low-skilled freelance work and online tech freelancing. Previous academic research has not focused on the most skilled freelance workers and especially not the part of high-skilled freelance work which is performed locally. In the light of recent statistics, it is evident that high-skilled freelancing is becoming more and more popular in western high-income countries. Considering the increasing demand for high-skilled freelance software professionals, there is a growing need for platforms that help connecting these top freelancers with client companies.

Section 2.2. identified a clear research gap related to high-skilled freelance platforms especially when mediating locally performed on-site work. Typical characteristics of high-skilled freelance platforms were introduced and three well-known platforms were compared with one another. Moreover, the need for high-skilled freelance platforms

was recognized and the critical role of trust building identified between platforms, freelancers and client companies. Section 2.3. further discussed trust building and identified the key trust building mechanisms and factors on high-skilled freelance platforms. To conclude, figure 2.4 illustrates trust building on high-skilled freelance platforms and shows the identified interrelations between different mechanisms and factors. Furthermore, the lighter colored boxes reflect the scarce research about the subject.

Trust building on high-skilled freelance platforms

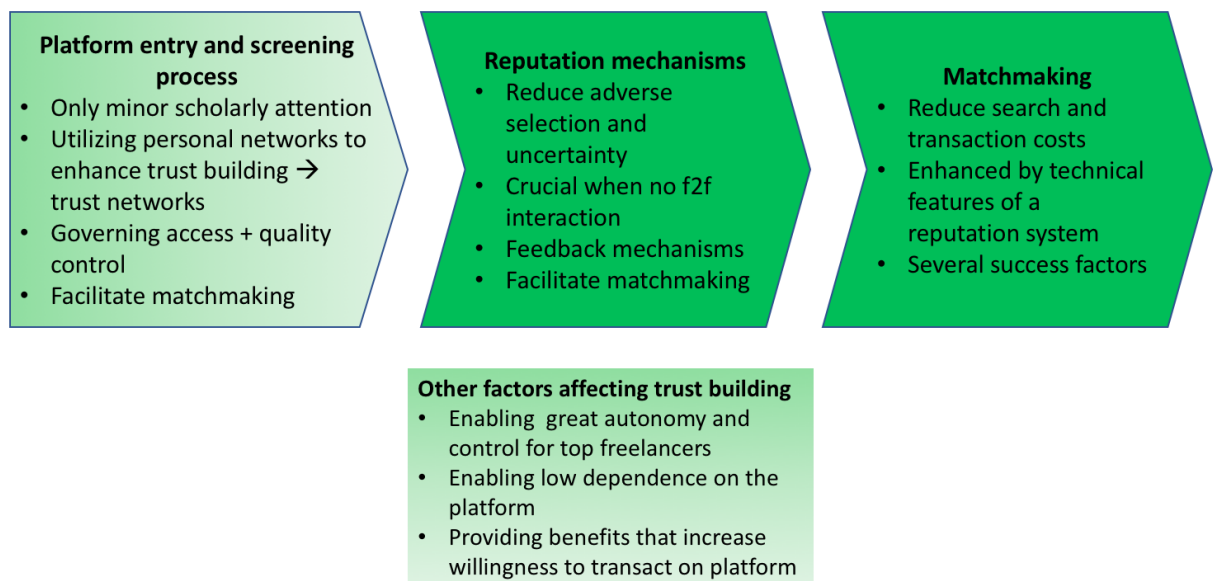


Figure 2.4: Trust building on high-skilled freelance platforms

3. Methodology

This chapter describes the methodological choices used in this research. First, the research approach and methods are presented, which are followed by descriptions of data collection and data analysis processes.

3.1. Research context and approach

This thesis was conducted for Finnish digital service company Futurice Oy with the purpose of exploring the fast growing high-skilled freelance market in software development and design and the strategies freelance platform providers apply to build trust with freelancers and client companies. Analyzing high-skilled freelance platforms from the perspective of trust building was chosen due to the fundamental role of it in designing platform governance strategies. Trust building and freelance platforms are widely studied topics but the prior research has focused mostly on low-skilled freelancing and trust building on online platforms such as Upwork (e.g. Claussen et al., 2018; Kuhn and Maleki, 2017). Moreover, the majority of research has been quantitative by nature. A lot of authors have focused on quantitative research about reputation systems and matchmaking, yet only on online labor platforms and marketplaces (e.g. Agrawal et al., 2015; Horton and Golden, 2015; Kokkodis and Ipeirotis, 2015). Therefore, this study identifies a clear gap especially in qualitative high-skilled freelance platform research.

The research process began with an extensive literature review which aimed to broaden the understanding of current freelance market and high-skilled freelance platforms. Hence, the purpose of the first research question “*What drives top freelance software professionals and companies seeking complex expertise to use freelance platforms?*” was to create a basis for understanding the topic. During the literature review, it became clear that high-skilled freelance platform research is rather one-sided, as it focuses on online freelancing, and the key role of trust building is not widely studied in this context. The second research question “*What are the key trust building mechanisms and factors on high-skilled freelance platforms?*” aimed to recognize how freelance platforms build trust between all participants by applying different platform governance mechanisms and design features, which are discussed by several authors (e.g. Hagi, 2014; Parker and Van Alstyne, 2017). In addition to scientific articles related to freelance markets and platforms, also non-scientific business literature was reviewed in order to acquire the most recent information about the current trends in freelance business and especially about trust building in high-skilled markets (e.g. Blumberg, 2017; Fu, 2017b; Johnston, 2017). Another reason for reviewing non-academic literature was the shortage of research about trust building on high-skilled freelance platforms. The empirical part of this study focuses on providing more thorough answers

to first two research questions, but also understanding the relations between identified trust building mechanisms. Therefore, the third research question “*How trust building mechanisms should be designed in order to attract top freelance software professionals and clients?*” was formed.

3.2. Research methods

As mentioned, the majority of freelance platform studies have used quantitative methods, and therefore existing research is lacking a more in-depth view, which is enabled by qualitative research (Silverman, 2005). Furthermore, a phenomenon such as trust building is challenging to explore with solely quantitative methods, since it is mainly based on individual perceptions and experiences. This is described by Eriksson and Kovalainen (2008) who point out that quantitative research is not suitable for interpreting and understanding meanings that are socially constructed. Due to these reasons, qualitative research approach is used in this study in order to get an in-depth understanding of the complex nature of trust building. In addition, Ritchie and Lewis (2014) point out that qualitative research enables providing a holistic perspective and producing detailed descriptions as well as understandings which are based on interpretations in a social setting. As described in the next section, the social setting in this study is created through conducting semi-structured interviews.

The main research method used in this thesis is the case study method, which Yin (1981) describes to examine a contemporary phenomenon in its real-life context. Considering this study, the phenomenon is trust building which is examined in the real-life context of the chosen case companies and freelancers. Supporting the choice of this method, Eriksson and Kovalainen (2008) add that the emphasis of case study is to produce holistic knowledge which is based on the analysis of multiple empirical sources rich in context. Therefore, this study aims to produce knowledge by viewing high-skilled freelance platforms from both platform provider and freelancer perspectives. This means that the multiple case study approach is chosen. As opposed to single-case research, which typically explores a significant phenomenon under rare or extreme circumstances, Eisenhardt and Graebner (2007) mention that multiple case studies usually provide a stronger base for theory building, which improves the generalizability of the findings. Hence, the empirical part of this thesis consists of expert interviews from 6 case companies and 9 freelancer interviews which are further discussed in the following sections. Although the usage of case study method in this study is justified, providing a holistic overview of trust building includes a risk of losing the simplicity of overall perspective. As Eisenhardt (1989) points out, there is typically a staggering volume of rich data tempting to build theory which tries to capture everything. Hence, these cautions need to be considered when analyzing the empirical data.

3.3. Interviews

As Eisenhardt and Graebner (2007) mention, interviews are often the primary data source in case studies. More specifically, the qualitative data for this thesis was gathered by using theme interview method. Hirsjärvi and Hurme (2008) describe theme interviews as a specific form of semi-structured interviews where the focus is more on predefined themes rather than specific questions. Therefore, the basic structure of interviews was the same for all the interviewees in the same group, but the order and the formation of questions varied depending on the interviewee's answers. This is typical, since in theme interviews the emphasis is on letting interviewees to discuss rather freely about the themes while the interviewer guides the discussion by asking directive questions when needed (Hirsjärvi and Hurme, 2008). The choice of using theme interview method is justified in the context of this study, as it enables producing insights that a researcher could not have anticipated, and hence facilitates getting in-depth interpretations of trust building on high-skilled freelance platforms (Eriksson and Kovalainen, 2008; Hirsjärvi and Hurme, 2008). Considering the lack of research especially about trust building on platforms focusing on locally performed freelance work, using structured interviews would have restricted the answers too much.

The interviews were divided to expert interviews from the case companies and freelancer interviews, which is why two slightly differing interview guides were used. However, the structure of the guides followed the same structure. As Hirsjärvi and Hurme (2008) remark, the interviews are structured around flexible themes which represent the theoretical concepts that are covered in literature review. Both expert and freelancer interviews were divided into background questions and two themes: (1) trust building mechanisms and (2) relationship with the platform. The general structure of the interviews is presented in table 3.1.

Structure	Objectives
Introduction	Providing background information for interviewees about the goals of the study and the interview structure.
Background questions	Warming up the interviewee with questions about their background, business and work.
Trust building mechanisms (Theme 1)	Identifying what interviewees have experienced and perceived to be important, problematic or otherwise noteworthy in their work in terms of trust building
Relationship with the platform (Theme 2)	Identifying other important trust building factors on high-skilled freelance platforms by letting interviewees to discuss their experiences more freely. Aiming to find out aspects that the researcher had not considered before.
End words	Wrapping up the interview and asking whether something else comes to interviewee's mind about the covered themes.

Table 3.1: Interview structure

The questions used in the interviews were open ended, which enabled to get varying and rich empirical data from the interviewees. Open ended questions are suitable for theme interviews as they give the participants more control over what is talked about and usually produce more detailed responses (Eriksson and Kovalainen, 2008). All interviews were conducted face-to-face in order to ensure the information richness, and all except one interview was carried out in Finnish. The interview guides used in expert and freelancer interviews can be found as Appendix A.

3.4. Data collection

Because of the lack of prior research related to the context of the study, collecting the empirical data was done simultaneously with literature review. The primary purpose for collecting qualitative data for this study was to get an extensive view and understanding of trust building mechanisms in high-skilled freelancer business, but also to recognize the focus areas in literature review. Therefore, the aim was to interview people with varying backgrounds in freelancing or working in freelance platform business. As mentioned in the previous section, the data collection consisted of two participant groups: freelance business experts and freelancers. The experts were chosen based on the case company they represented and their role in the company. The selection of these case companies and expert interviewees had the following criteria: firstly, the companies had to intermediate high-skilled freelance software developers or designers to business clients as their core business and secondly, the interviewee had to be a C-level person with comprehensive knowledge about both freelancer and client interaction. The strategic approach of this study also supported the choice of C-level persons since they were able to discuss the strategic choices in their business both on freelancer and client side. For comparison, one of the case companies was intermediating freelancer consultants. However, the interviewed expert in the case company had versatile expertise in freelance business, and hence had valuable viewpoints as an interviewee. As no client companies were interviewed, the views from the case companies were crucial for understanding all platform sides. Freelancer business expert interviews were all conducted first before freelancer interviews in order to get a better understanding of freelance platform business as a whole. The interview guide for freelancers was finalized after conducting expert interviews which helped forming more relevant questions and better follow-up questions during the interviews.

The criteria for choosing participants for freelancer interviews were not as strict as for expert interviews. The aim was to interview freelancers with platform experience but also independent freelancers who had been working merely through their own company and directly to clients. This division was made in order to spot possible differences in trust building between freelance platforms and independent contracting, but also to

examine whether freelancers have similar values regardless of their background. Interviewed freelancers were chosen to be either software developers and/or designers which enabled interpreting whether there were any differences in terms of trust building between these competencies. In addition, some interviewees were intentionally chosen based on their experience working through some of the chosen case companies. This allowed to gain an in-depth overview of trust building on the same platform from both platform and freelancer perspectives.

Identifying suitable case companies was based on discussions at Futurice and they were contacted through existing personal networks of Futurice employees. In total, 6 C-level persons at the chosen 6 case companies were contacted and all of them agreed to the interview. Freelancers were chosen by using the connections of the author, Futurice employees and already interviewed freelancers. Out of 13 contacted freelancers, interviews with 9 freelancers were arranged. All of the interviews were organized as face-to-face interviews in order to enable as rich interaction as possible between the interviewer and the interviewees. Partly because of this and partly because of resource limitations, all of the interviews were conducted in capital city area of Finland. More detailed descriptions of the case companies and the interviewees are presented in tables 3.2 and 3.3.

Expert interviews and the case companies				
Case company	Platform type	Size of freelancer pool	Title	Project lengths
Company Alpha	IT talent agency	500 freelancers, mainly software developers	Co-founder	Long projects (usually at least 6 months)
Company Beta	Digital marketing agency	160 experts including designers	CEO	Mostly less than a month
Company Gamma	IT agency	7000 freelancers	CEO	Long projects mostly for large companies
Company Delta	Distributed freelance platform for software projects	Early stage startup, information not available	CEO	Projects with varying lengths. Short contributions from freelancers to multiple projects
Company Epsilon	Business consultant network	Less than 50	CEO	Around one-month projects
Company Zeta	IT agency	200 small companies (size 1-70 employees), less than 50 freelancers (one-person companies)	CMO	Long projects (usually at least 6 months) mainly for public sector organizations

Table 3.2: Expert interviews and the case companies

Freelancer interviews			
Gender	Platform / independent	Expertise	Types of projects
Male	Independent (registered for company Alpha)	iOS development	Multiple projects at the same time → length months to 1 year
Male	Platform (works through company Alpha)	Full stack developer	One project at the time → as long projects as possible
Male	Platform (worked through Upwork)	Full stack developer (focused on mobile apps)	Multiple projects at the time, but not more than 3
Male	Independent	Software developer / IT consultant	4-5 projects at the same time (2 main projects)
Male	Independent	Designer	Up to 10 projects at the same time (couple of main projects)
Male	Independent (registered for companies Alpha and Gamma)	Software developer / UX designer	One project at the time
Male	Platform (works through company Alpha, registered for company Gamma)	Full stack developer	One project at the time
Female	Platform + Independent	UI designer	Preferably one project at the time, but mostly multiple projects due to nature of the projects
Female	Independent	UX designer	Preferably one project at the time but mostly multiple projects due to nature of the projects

Table 3.3: Freelancer interviews

3.5. Data analysis

As advocated by Eisenhardt (1989) in case studies, also this thesis follows inductive analysis process which is iterative and tightly linked to the empirical data. Eriksson and Kovalainen (2008) describe this inductive-oriented analysis strategy to have its emphasis on themes, categories, activities and patterns found out and extracted from the natural variation of the empirical data. Therefore, pre-given theoretical frameworks or a set of pre-formulated propositions are not relevant for the researcher, which means that research questions can be formulated or at least refined and refocused during the inductive analysis process (ibid.). Similarly, the analysis in this study is not based on any theoretical framework, but rather on themes that were iteratively formulated during literature review and interview processes. Additionally, Eisenhardt and Graebner (2007) mention that the aim of inductive process is to produce new theory from the rich

empirical data. Hence, this thesis aims to provide a new theoretical framework for trust building on high-skilled freelance platforms.

Following the iterative analysis process proposed by Eisenhardt (1989), the preliminary analysis of the data was conducted already after the first interviews. This enabled the refinement of the interview themes and questions, but also helped focusing on the most important factors in trust building while reviewing literature. The collected data was analyzed based on the interview audio recordings which were transcribed to text files and further to shorter summaries of individual interviews. More specifically, the method used in this thesis followed thematic analysis introduced by Braun and Clarke (2006) who describe it as “a method for identifying, analyzing, and reporting patterns (themes) within data”. Thematic analysis consists of 6 phases starting from (1) familiarizing yourself with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes and eventually (6) producing the report (ibid.). As mentioned, familiarizing with the data started by transcribing and summarizing it to more concise form. Following the process, similarities from the data were coded which enabled to form initial themes. Next, the empirical data was further reviewed and codes were finally organized under 6 broader themes. After the final themes were identified, the results were written coherently and in logical order as noted by Braun and Clarke (2006). The phases of thematic analysis used in this thesis are described and summarized in table 3.4.

Phase	Description of the process in this study
Familiarizing yourself with the data	Transcribing, summarizing, reading and re-reading the data, writing down the initial ideas
Generating initial codes	Organizing the data to meaningful groups by using different keywords
Searching for themes	Sorting the different codes into potential themes and gathering all the relevant coded data extracts within the identified themes
Reviewing themes	Checking whether some separate themes could have been combined into one theme and removing parts which turned out to be less relevant.
Defining and naming themes	Finalizing the themes and forming sub-themes to give structure to some large and complex themes
Producing the report	Write-up of the results by using analytic narrative with example quotes from the data

Table 3.4: The phases of thematic analysis (compiled from Braun and Clarke, 2006)

4. Results

This chapter presents the results and findings of the empirical study. The structure of the chapter is divided to 6 main themes and several sub-themes within them as described in previous chapter. First, the results concerning the trends in freelance economy are presented, which provide a basis for other themes. The following 5 sections present the results related to specific trust building mechanisms and factors that were identified.

4.1. Organizational changes and high demand of talented software professionals drive the growth of freelance economy

Recent studies have shown that the freelance market is growing and the growth is fast in high-skilled job areas. Also, all of the interviewees had perceived this either based on their own research or their experiences from job markets. Most of the interviewed experts had accumulated their know-how in the industry for several years, which had given them a comprehensive view on freelance business. In general, the interviewed experts had seen that the freelance market was going through various changes which had affected the attitudes towards freelancing and the growth of new freelance platforms in the market. Freelance business experts from recently founded case companies noted that the freelance economy in software development and design is booming which had enabled the growth of new platforms including theirs. All case companies had recognized the increasing share of freelancers from the total workforce but also the changed attitudes in organizations. As a co-founder of recently founded IT agency mentioned:

“We founded the company because we had noticed that many talented developers were already freelancing and only few companies actually cared about the employment model.”

Supported by several other experts, this indicates that companies are less worried about utilizing freelancers in their business. Many interviewed experts and freelancers mentioned that only a few years ago, freelancers were perceived more as unreliable workforce who were hard to manage and they were hired to balance fluctuations that organizations experienced. However, interviewees had noticed a clear behavioral change in the way how organizations treated freelance workforce as equally as their full-time employees, or in some cases even better. Balancing fluctuations was also mentioned by Dokko et al. (2015) who additionally pointed out that companies use freelance workforce due to reduced hiring and employer costs as freelancers was

thought to be cheaper in the end compared to traditional employment. Several interviewees noted that this is true in certain cases if the expertise needed is not used in the most business critical tasks and the matter is not urgent. In these types of situations companies could have chosen cheaper price over quality and hired a freelancer from a marketplace such as Upwork where prices for freelancers are as low as 10\$ per hour. However, the case companies pointed out that their clients were looking for high-skilled freelancers for business critical tasks and their need for talent was usually urgent, which enabled charging even higher prices. Therefore, the more probable reason for acquiring freelance workforce was the urgent need for new expertise that was hard to find from the job market rather than reduced costs.

Scarcity of certain expertise is also the reason why companies have gradually started to trust freelance workforce more than before. Almost all of the interviewed experts and freelancers had perceived this clearly: organizations are fighting for high-skilled workers and they have realized that increasing number of top talents are working as freelancers. Hence, during the last years prejudices towards freelancers have decreased and organizations have started to use freelance workforce more and more frequently. As the studies of Accenture (2017) and Lehtiniemi et al. (2015) indicated, also many of the interviewees believed that businesses are increasingly applying project-based organizational models where temporary and on-demand workforce is utilized. As one of the experts noted:

“Nowadays, many companies build their project teams from individual talents that can be external, and therefore they don’t necessarily use expensive IT consulting companies.”

This implies that companies are leaning more on freelancers and freelance platforms as their trusted partners. The change of work and future trends in work markets were also discussed by many interviewees who had perceived them as increased demand for individual talents but also for on-demand teams. Supporting the views of the recent studies, it was generally believed that freelance platforms are the answer for talent shortage since platforms are able to find suitable matches for companies faster and they also offer more flexibility in terms of employment model. Both experts and freelancers had noticed the increase in freelancers’ bargaining power enabling them to charge higher prices and practically choose the employer who provides the best conditions. As one freelancer remarked:

“The main drivers for me in freelancing were, and still are, the possibility to do well-paid work but also the possibility to do things that are meaningful for me.”

All of the interviewed freelancers had become aware of their increased market value and in addition to the higher earnings, they highlighted the significance of autonomy and freedom of choice when they were asked about how they ended up as freelancers.

Although money was a major factor, meaningful and interesting projects were even more important factors among the perceived freedom in freelancing. Therefore, platform providers who were able to provide the best conditions and the most intriguing projects for freelancers were considered to have a clear competitive advantage against other players in the market. This was certainly realized by one of the recently founded case companies:

“One of the drivers for us to enter the market was the huge shortage of talented software developers and designers but also the fact that there was no service which was focusing on the freelancer pool. We wanted to meet the freelancers first and listen what kind of service they would like to have.”

The more detailed findings related to relationship with the platform are discussed in section 4.6. The interviewees also discussed the development and significance of technology in freelance business. Services and applications such as GitHub, Slack and Skype had enabled doing remote work more frequently but in high-skilled and business critical tasks, most of the interviewed experts and freelancers considered that doing completely remote work would not be feasible in most of the cases. It was perceived that being physically present regularly with the project team is crucial especially in agile software projects when freelancer employed in a key role. The interviewed freelance business experts believed that technological development will improve especially matchmaking, but human interaction was perceived to remain as important in the future as it is today. The key role of high-skilled freelance platforms was seen to be increasingly in creating value for clients and freelancers by serving them more comprehensively. Several experts pointed out that they are in service business where human interaction cannot be replaced with technology to a large extent. Above all, attracting participants to the platform was highlighted to be continuous trust building, and hence most experts noted that face-to-face discussions will stay as the main medium between the clients and freelancers. The results presented in this section are summarized in table 4.1 which describes shortly the recognized trends in freelance markets and business.

Trend	Description
Changed attitudes	Companies are more willing to utilize freelance workforce in complex tasks
Urgent need for talent	The urgent need for complex expertise often overrides the price in companies
Increased freelancers' bargaining power	Talented freelancers are able to charge high prices
Platforms are serving freelancers more comprehensively	Shortage of talented workers forces platforms to attract freelancers with value adding services
The role of technology	Technology will improve especially matchmaking while human interaction will retain its importance

Table 4.1: Recognized trends in freelance markets and business

4.2. Trust networks and platform's brand facilitate trust building

Existing literature and interviews both indicate that the change of work has influenced the way how organizations build project teams and use freelance workforce. As recent research about freelancing economy has indicated, the market is booming and talented workers have no difficulties to get employed. Especially freelancers specialized in software development have no difficulties in finding new projects but the situation with designers is not that much worse either as one of the interviewed designers mentioned:

“It is the market for doers now, so it is quite safe time to be a freelancer. You don't need to search for a job because you will be hunted for it especially if you are a UX or UI designer.”

While it is not difficult to get a job, it is more difficult to find a job that suits freelancer's preferences. This is where freelancers emphasized the importance of personal and professional networks. As 5 of the interviewed freelancers had only been working independently and 4 also through platforms, the distinction between them was rather clear. Independent freelancers had not worked through any platforms since they had been able to work on projects which they had got through their own networks. In turn, freelancers who were working on a project through a platform had either more limited networks or they were not able to find attractive projects through their own connections. Therefore, the quality of personal networks was a clear divider between freelancers.

Most of the independent freelancers had built their network from contacts they had got while they were in traditional employment relationship. This supports the study of Nye and Jenkins (2016) who argued that independent freelancers have likely acquired some years of experience as regular employees. Performing well with customers had generated connections who contacted them either directly or indirectly via referrals. In most of the cases, one successful project had led to another through these connections the freelancers had and, in a way, created a positive snowball effect which had brought new connections and projects. On the other hand, some interviewees had started from doing all kinds of small projects in the beginning of their freelance career and little by little were able to get more lucrative and longer projects. Eventually, this also had enabled expanding their network large enough to generate new job opportunities almost spontaneously as people started spreading the word. None of the independent freelancers had been forced to sell their expertise since they had got their projects through referrals or discussions with some of their connections. Word-of-mouth was considered to be very efficient due to the limited number of high-skilled freelance software developers and designers in the capital city area where majority of them seemed to share mutual connections. Freelancers coming outside of the capital city area perceived that without a local network, it was harder to get projects that suited their preferences as one of the interviewed freelancers described:

“When I came to Helsinki and I didn’t have any relevant connections in the industry, it was hard to get a foot in the door. However, first it required me to get a one small project which then opened a lot of new doors to me.”

This implies that personal networks are often a crucial factor when establishing trust between freelancers and clients as they seem to enhance the effect of trust networks. Most of the interviewed independent freelancers had also discussed with some freelance platforms but had not done any projects through them due to their busy schedule with other projects. All of the interviewed freelancers had been either contacted by the platform or they had got recommendations from their friends or colleagues and contacted the platform by themselves. In latter case, the freelancers had been curious about the job opportunities platform was offering. Overall, freelancer interviews indicated that trust networks are a widespread way to find new projects and for platforms an efficient way to find new talents.

The case companies shared the views with freelancers: utilizing trust networks is the best and fastest way to source new talents. All of the interviewed experts explained that they had started their business by contacting freelancers from their existing networks. However, one of the experts pointed out that scaling up the network by using merely platform’s own connections ends when connections run out. The case companies had solved this issue by building a strong brand image while they created the basis for their network. In the beginning platforms had to contact freelancers and attract them to join the network, but later on a strong brand image and word-of-mouth among freelancers

had started to work as inbound marketing channels which brought them numerous new applicants. A CEO of one of the case companies stated:

“In the beginning we had a good experience in the industry and we knew a lot of people. Now we have gained so much reputation that we get applications from freelancers who just want to work with us.”

Therefore, platforms have to be determined when building their brand in order to engender institution-based trust in the community of freelancers. Similar methods were commonly used with clients but growing the client network was described to be slower and harder than sourcing new freelancers which is why all of the case companies had a sales organization focused on acquiring new projects. However, a strong brand helped the case companies to raise awareness among their potential clients as one of the experts pointed out:

“The most powerful trust building factor is a strong brand. The platform’s brand is always stronger than recommendations given by individuals.”

The reasoning behind this was the better credibility that was associated with a strong brand when establishing trust with freelancers and clients. Thus, active brand building was considered to be essential for the success of the platform. This is in line with the study of Pavlou and Gefen (2004) about institution-based trust: one of the strongest predictors of trust is the platform itself. Therefore, clients trust the brand which they believe to provide the most talented and suitable freelancers, and freelancers trust the platform which they believe to match them with well-paid and meaningful projects. In general, the case companies had to build institution-based trust before dyadic trust building was possible.

Trust networks were not only helpful when the case companies started their businesses, but they were also used as a primary way to do preliminary freelancer vetting. All of the interviewed experts mentioned that they often get recommendations of new freelancers from their existing freelancer network. If the case companies got direct applications from freelancers, the first thing was to find mutual contacts and see whether someone was able to recommend them. They considered that trust between the platform and the freelancer is initially on a higher level if some already trusted person or group is able to act as a reference. This was well noted by one of the experts:

“I can’t imagine a better way to build trust with freelancers and clients than getting a recommendation from a trusted person who has history with the recommended freelancer. Even better if this person is able to recommend the freelancer to the client by utilizing the platform’s brand. Then the client relationship is already warmed up”

This also implies that trust networks are beneficial when matching freelancers to new projects. Some of the case companies had perceived the effectiveness of trust networks in matchmaking but also in acquiring new client cases. Generally, freelancers were eager to tell if they had heard of potential new projects that might have been interesting from the platform's point of view. In most of the cases, freelancers had a connection to the client company and acted as a spokesman for the platform which hurried the trust establishment. Many of the experts mentioned that their companies encouraged such behavior among their freelancer network and some of them even had planned an incentive system to enhance this.

4.3. Screening process

The case companies had screening processes which aimed to sift out applicants that had not relevant skills and experience in software development or design. However, the companies had different strategies in freelancer vetting which had an influence on their freelancer pool, reputation system and also, matchmaking. The screening processes in the case companies are presented in table 4.2 where the process is divided to two phases: (1) screening prior to platform access and (2) screening before freelancer is selected for a project. For comparison, also the processes on Upwork and Toptal were added based on their websites, freelancers' recent experiences and online articles.

Company	Steps before getting accepted to the network	Additional steps before starting a project	Strategy
Company Alpha	<ol style="list-style-type: none"> 1. Application 2. Video interview (1 hr) 3. Creating a profile + self-evaluation 	<ol style="list-style-type: none"> 1. Showing interest in a project / platform gives a suggestion for a freelancer 2. Client interview 	Strict screening to weed out inexperienced applicants. When accepted, the platform helps freelancer to find a project
Company Beta	<ol style="list-style-type: none"> 1. Application 2. Face-to-face interview (1 hr) 3. Test case 	<ol style="list-style-type: none"> 1. A project manager chooses the best freelancers for the case 	Strict screening in the beginning to ensure quality. Platform helps to get employed after accepted to the platform
Company Gamma	<ol style="list-style-type: none"> 1. Application 2. Short interview (30 min) 	<ol style="list-style-type: none"> 1. Showing interest in a project / platform gives a suggestion for a freelancer 2. Technological skill review 3. Client interview 	Moderately loose screening in the beginning to expand the network. More strict screening before employed to a project to ensure quality
Company Delta	<ol style="list-style-type: none"> 1. Invitation + application 2. Creating a profile + self-evaluation 3. Trust network validation 	<ol style="list-style-type: none"> 1. Applying for a project 	Moderately strict screening where the purpose is to use trust networks to ensure the quality.
Company Epsilon	<ol style="list-style-type: none"> 1. Application 2. Interview (varying length) 	<ol style="list-style-type: none"> 1. Project manager chooses the best freelancers for the case 	Strict screening in the beginning. Ensuring that all freelancers are highly skilled. When accepted, the platform helps freelancer to find a project
Company Zeta	<ol style="list-style-type: none"> 1. Application 2. Short interview (15-30 min) 	<ol style="list-style-type: none"> 1. Showing interest in a project / platform gives a suggestion for a freelancer 2. Client interview 	Moderately loose screening in the beginning to expand the network fast. The main responsibility for screening lies with the client
Upwork (Fu, 2017b; Upwork, 2018)	<ol style="list-style-type: none"> 1. Creating a profile + verifying identity 	<ol style="list-style-type: none"> 1. Applying for a project 2. Client interview 	As easy access as possible to attract masses. The whole responsibility for screening lies with the client
Toptal (Fu, 2017b; Toptal, 2018)	<ol style="list-style-type: none"> 1. Application 2. Short video interview 3. Algorithms test 4. Video interview + live coding 5. Test case 	<ol style="list-style-type: none"> 1. Applying for a project 2. Client interview 	Very strict screening in the beginning to ensure quality. Freelancers do not have to sell their expertise as much as on Upwork since clients know they are vetted.

Table 4.2: Screening processes in the case companies

All of the case companies are positioned somewhere between Upwork and Toptal in terms of the strictness of their screening processes. As noted in literature review, Upwork is a pure marketplace and it does not have any freelancer vetting except verification of their identities. Thus, the responsibility for screening the candidates for a project lies completely with the client. Toptal is situated at the other extreme where the

screening process is very strict and has 5 stages before even getting accepted to the network. Despite of the strict screening, freelancers are not promised any projects since they have to apply for projects they find interesting and hope that they get invited to a client interview. If the client is convinced after the interview, freelancer will likely get hired. All of the case companies required an application and CV unless the freelancers were found through trust networks. In addition, all of them except company Delta required an interview with platform representatives before getting accepted to the platform. First, platforms reviewed freelancer's resume and organized a video or face-to-face interview which worked as a preliminary personality evaluation. Two of the case companies aimed to keep the interview as short as possible and did not evaluate freelancer's skills in detail. Their strategy was to expand the network fast by giving freelancers an easy access and validate their skills only when they applied for projects. These platforms (Gamma and Zeta) did have a larger freelancer network than other case companies but the number of freelancers employed to projects was only a fraction of the size of their network. Three of the case companies (Alpha, Beta and Epsilon) reviewed freelancer's history in more details and evaluated their technical or other applicable skills before accepting them to the network. These platforms had less freelancers in their networks compared to companies Gamma and Zeta, but they were able to compile more thorough information of their freelancers and ensure higher average quality of the freelancer pool. One of the case companies, Delta is a decentralized freelance platform which differs from others in a fundamental way as their freelancers worked only remotely and clients did not meet them face-to-face at all. In that sense, this platform resembles Upwork and Toptal. Instead of interview, company Delta validated their freelancers by utilizing trust networks, i.e. through network's existing members who had previously worked with these new freelancers.

As previously described, trust networks play an important role when platforms source new freelancers. Instead of just interviewing new freelancers, all of the case companies aimed to streamline their screening processes by validating freelancers through their existing networks. If someone already validated and trusted person was able to confirm the applicability of a new freelancer, the screening process was significantly faster and did not necessarily involve all the stages. Therefore, the case companies preferred trust networks in their screening similarly as 10x Management. Being able to validate the freelancer's expertise through trust networks was regarded as the best and fastest way to build trust between the freelancer and the platform. All of the interviewed freelancers agreed that building trust with the platform was easier if they were recommended to the platform by some of their contacts. As one of the freelancers who worked through company Alpha mentioned:

"I knew this guy from Alpha and we quickly discussed. Then we created a profile for me and we immediately checked available projects. This first step was extremely streamlined."

Also independent freelancers had similar experiences with their clients. If they already knew someone from the client company, they did not even necessarily have to prove their expertise as one of the independent freelancers pointed out:

“We basically didn’t have any negotiations with the client. We had a 5 min chat and agreed to start the project.”

The case companies that had a more strict screening process considered that vetting freelancers thoroughly enables them to provide better matches for their clients. Thorough screening process was also described to be rather laborious, but several experts pointed out that ensuring quality in the beginning saved time afterwards as all the freelancers in the network were pre-vetted. In addition to evaluating freelancer’s skills, interview situations were considered to be opportunities to learn more about freelancer’s personality and preferences. Companies Gamma and Zeta, which organized only short interviews in the beginning, admitted that they did not learn much about the freelancers before they applied to projects, except roughly their skill set. This was also reflected in Gamma’s and Zeta’s relationship with the freelancers and clients since they were not actively in connection with most of the freelancers and they tended to give their clients more responsibility for vetting freelancers. Therefore, the level of trust among platform participants was perceived to be relatively low before freelancers were matched with clients. Regardless of how rigorous screening processes the case companies had, they all aimed to keep their interviews relaxed and conversational. In terms of trust building, also freelancers valued relaxed environment and informal conversation with the platform. All of the freelancers considered that these types of interviews engendered trust more effectively than highly formal interviews and impersonal evaluations which were still applied by many platforms. As one of the freelancers with experience from company Alpha pointed out:

“This one platform required filling a six-page online form where I had to evaluate my skills on a scale from 1 to 10. I think it was rather unhealthy approach to screen freelancers since it couldn’t spot differences in personalities. At Alpha, they had more personality-driven process where we had a conversation about my previous projects and my preferences in addition to relaxed tech skill evaluation which we did together. After that, we created a profile for me”

This implies that screening is not only a process to govern platform access but also a vital opportunity for a platform to build trust with a freelancer. If the platform provider shows interest in freelancer as an individual, it is able to create more personal relationship with the freelancer and engage them to the platform. Many freelancers pointed out that human-oriented approach is essential in any job interview and freelance platforms are not an exception. Two of the interviewed freelancers had applied to Toptal

and they described the screening process to be not only strict but also rather far from human-orientated as one of them noted:

“Toptal’s screening process felt like they treat freelancers as resources and not as individuals. You have to live code and perfectly solve an algorithm which really doesn’t reflect real world situations. It’s not a conversational process where they get to know the freelancer.”

Hence, screening process is not only important for trust building but also a significant factor which determines whether freelancers will decide to work through the platform. As previously mentioned, loose screening enables fast growth of the freelancer network for example in Upwork’s case. However, large pool of freelancers is not in the interests of top freelancers. As a CEO of one of the case companies pointed out:

“In these huge marketplace platforms, there are negative network effects between freelancers since they compete against each other to get employed. Top freelancers will not join those because of that.”

This implies that platforms for the best talents should avoid creating competition within the platform. Therefore, it was highlighted that platforms which had strict screening before accepting freelancers to the network tended to attract more qualified freelancers. Moreover, freelancers were more engaged to those platforms which did not require freelancers to do formal applications for projects after they had accessed the platform. From the case companies, Alpha and Beta mentioned that they represented their freelancers and strived to get them employed to new projects. Alpha and Beta were also the only ones that clearly emphasized human-oriented approach in their screening process. As these platforms had a conversational screening process with freelancers, they were able to collect detailed and rich information about freelancers already in the beginning. In general, platforms with more strict process were gathering more detailed information about freelancers which enabled them to provide more accurate project suggestions to freelancers and better matches for their clients. Therefore, these platforms were able to serve all the parties more comprehensively. Furthermore, all of the case companies created freelancer profiles based on the gathered information and these profiles were compiled to their reputation systems.

4.4. Reputation system

As Horton and Golden (2015) discussed, reputation mechanisms aim to reduce adverse selection and moreover, reduce moral hazard by motivating trustworthy behavior and high effort which will lead to good feedback. This is certainly the case in marketplace

type of platforms, such as Upwork, which do not screen their freelancers. One of the freelancers with a long Upwork experience described the issue:

“There are genuine trust issues on Upwork since they do not screen freelancers. Clients are usually very reserved towards freelancers since many of them have been scammed several times. There are plenty of freelancers who promise things they can’t do which leads to problems. Thus, convincing the client is hard in the beginning when you don’t have reputation on the platform.”

The lack of screening on Upwork certainly allows expanding the freelancer network but it creates issues that are tried to be solved with reputation systems. The majority of the research is focused on online freelance marketplaces where the screening process is loose or even nonexistent. Hence, the role of reputation systems seems to be significantly more important in motivating trustworthy behavior on such platforms which do not govern access to the network. Since practically anyone can join Upwork, governing the platform requires other means, and therefore Upwork’s reputation system leans on typical marketplace ratings and reviews mechanism which was described by one of the interviewees:

“The point of these systems in the first place is to remove scammers from the site (Upwork). There are a lot of them and it’s not only on freelancer side, there are also clients who want to milk cheap labor or not pay enough. That’s why also freelancers can rate the client. If these platforms somehow ensure that these scammers are removed from the platform, it builds trust among those who are there seriously doing business.”

This shows clear evidence that designing a screening process is a trade-off between quantity and quality. The interviewed freelance business experts agreed that screening on high-skilled freelance platforms should take place in order to ensure quality and create value to platform participants. All of the case companies had a reputation system but only company Delta used the system to govern actions of platform participants. The CEO of Delta emphasized the importance of the reputation system in their network, since like on Upwork, freelancers and clients did not meet each other. Hence, the trust between them was based on reputation the participants had on the platform. Thus, the trust was explained to be purely institution-based before starting a project as freelancers and clients had to trust the platform’s reputation system. These views support the study of Claussen et al. (2018) which indicates that the role of reputation system in remote work is more important.

Other case companies employed freelancers to projects where they were employed to clients’ on-site teams or otherwise were in face-to-face contact with the client. These companies did not consider their reputation systems as governance tools but more as enablers for better and more efficient matchmaking. Additionally, these platform

providers had much more human interaction in screening and matchmaking processes. Upwork and company Delta had technologically significantly more complex reputation systems than other case companies due to their roles in preventing adverse behavior but also in providing sufficient amount of information to platform participants. As they provide only remote workers, information asymmetries are more difficult to reduce compared to face-to-face interaction. Additionally, Delta aimed to provide as much information as possible about freelancers and projects, which enabled the platform itself to work as a matchmaking system with only minor human contribution. Thus, Delta's reputation system was open to both freelancers and clients for reviewing profiles and rating others after completed projects. Other case companies had designed their reputation systems more for internal use, and therefore their systems were not open to platform participants. These findings clearly indicate that remote work and loose screening process increase the importance of reputation systems as trust building mechanisms.

4.4.1. Challenges in gathering detailed and comparable information to reputation systems

The case companies gathered information about the freelancers to their reputation systems but the information richness and gathering methods varied as previously mentioned. All of the interviewed freelance business experts noted that the most important piece of information is the freelancer's previous experience. Other essential attributes compiled to the systems were freelancer's specific technological skills, experience level, current project status, location, areas of interest and personality. Most of the case companies compiled the freelancer information themselves based on the interviews but company Delta required freelancers to create their own profiles to the reputation system. Except Delta, these platforms had dedicated persons who created the profile on behalf of the freelancer during the screening interview which enabled them to keep the information consistent. However, the case companies with more strict screening tended to gather more information about the freelancer's personality along with experience and skills. As a CEO of one of the case companies remarked:

“We try not to bother our freelancers with all these systems like updating user profile and so on. We strive to create a more intimate relationship with them through discussions.”

The point of more thorough conversations was to observe the freelancer's personality since their previous experience and skills were not considered to be sufficient in matchmaking. The interviewees highlighted that understanding the freelancer's personality is an important factor in matchmaking since interpersonal chemistry between client and freelancer ultimately defines the success in their relationship.

Measuring skills and experience was rather easy for the case companies, whereas gathering detailed information about freelancers' personalities in organized way was a clear development area for all of them.

The complexity of assessing personalities was regarded as one of the greatest issues in reputation systems. Firstly, observing freelancer's personality depended a lot about the interviewer and secondly, the data about personalities was hard to quantify which made comparing freelancers difficult. Several experts noted that they had still work to do in that area of their reputation systems. Many case companies had tried to solve this issue e.g. by using only few dedicated persons in screening process in order to gather consistent information about freelancers. However, many experts pointed out that the level of details varied even if only couple of persons were responsible for assessing freelancers' personalities. Hence, the platforms did not give much weight to personality descriptions in their reputation systems, even though they considered that information to be highly important. Several case companies considered that the most successful way to manage personality information was to appoint dedicated agents to freelancers. In this strategy, each agent was responsible for familiarizing themselves with a certain number of freelancers in personal level. The challenge in such strategy was the poor scalability since increasing freelancer network required more agents and more coordination between them.

Another perceived major challenge with reputation systems was their updating. As most of the case companies did not give direct access to the reputation system, the platform provider was responsible for updating all the information. In contrast, on Upwork and company Delta the freelancers were responsible for keeping their profiles up to date. Updating the system was considered to be rather laborious for some case companies since platforms had to inquire the updates from freelancers individually. On the other hand, some experts mentioned that active communication with freelancers made updating easier. Here, the benefit of dedicated agents was remarked by many interviewees as the agent's job was also to take care of updating relevant freelancer information. As one of the interviewed experts noted, getting freelancer updates was also part of trust building:

“We have a systematic but not forced way to be in contact with our freelancers and ask their feelings during their projects. While we discussed, we got updated information about freelancers but we also built more close relationship with them as we showed interest in their lives.”

Thus, active dialogue enables platforms to gather precise information about freelancers but also about their project status. Most of the case companies perceived that predicting freelancers' availability was a significant challenge. As the projects were complex and mostly long in duration, their exact end date was hard to predict long in advance. Yet,

most of the experts considered that being actively in contact with freelancers and clients helped predicting the availability.

As mentioned, company Delta had technologically more complex reputation system than other case companies. The advantage of their system was its scalability since platform participants were updating the system themselves. Other case companies had applied various technological solutions in their reputation systems. Three case companies had a combined reputation and CRM system which was tailor-made for their purposes. These systems were rather simple and were used to keep freelancer and client information organized. Some of the systems were also able to notify when a freelancer was about to be available for a next project. However, the main purpose of these systems was to facilitate finding suitable matches for clients and intriguing project suggestions for freelancers, and therefore it was believed that more sophisticated and AI-driven reputation systems were a solution for more efficient matchmaking.

4.4.2. Conversational feedback mechanisms are preferred over ratings and reviews systems

Majority of freelance platform literature discuss the key role of review and rating mechanisms on platforms which are providing remote work (Schmidt, 2017). Only one of the case companies, Delta, had a ratings and reviews system implemented in their reputation system, but it is worth noticing that it was also the only company where freelancers contributed on projects remotely without ever meeting the clients face-to-face. Similar to Upwork, company Delta aimed to keep the platform running without any major interferences to platform interactions such as matchmaking. All of the case companies had investigated ratings and reviews systems but only company Delta had decided to apply it on their platform. However, most of the interviewed experts and freelancers brought up severe issues in ratings and reviews systems where ratings are given on some quantifiable scale as the ratings are based on subjective views which are not necessarily realistic or fair. Especially freelancers were rather sceptical towards these systems:

“I’m not a fan of the system they have e.g. on Upwork where clients give ratings and reviews which are public to other clients since the reviews depend on so many things such as interpersonal chemistry and so on. It gives faceless and one-sided picture of a person.”

“If there is e.g. a star rating, there should also be a verbal review which justifies the given rating. However, even if I did perfect job, there is always a risk that the client does not like me personally and gives a bad review. Also, my 5 stars could be your 3 stars depending on our personal opinions.”

The interviews in general implied that performances especially in complex projects are hard or even impossible to review by using merely quantitative methods. Hence, the reliability of ratings and reviews systems were questioned, although they were seen as necessary on platforms which were based on remote work and minor involvement of platform provider. When face-to-face interaction in projects was frequent, giving feedback was more continuous and informal. As many interviewees pointed out, the emphasis should be especially on verbal feedback. The CEO of company Delta also described the challenges related to ratings and reviews systems and supported the views of Horton and Golden (2015) and Luca (2017) that these systems should have private and public features, but the right proportion of transparency is hard to find. Although Delta had not resolved this trade-off, they emphasized how the system should work:

“The key thing is that freelancers don’t see the individual ratings and reviews since otherwise the client might not be truthful. If the system was totally transparent, clients would easily give 5/5 ratings and positive reviews. However, freelancers should be able to see the overall rating.”

Other case companies intermediated freelancers to projects where physical presence was mostly required. Some of these platforms had more informal ways to collect feedback such as retrospectives where they discussed already completed projects together with freelancers and clients. The advantage of this method was the possibility to learn more in-depth information about the platform participants and discuss following project opportunities. Hence, retrospectives and other conversational feedback sessions were considered to be crucial for trust building and they also made rating scales less important or even unnecessary. However, two of the companies used client surveys to collect measurable feedback about freelancers but the feedback was recognized to be rather biased as a CMO of one of these companies mentioned:

“These web forms tend to be biased since almost every customer gives full scores to the freelancers. I guess they just want to be nice.”

This is in line with research about review and rating mechanisms (Hagiu and Rothman, 2016; Horton and Golden, 2015; Luca, 2017). The case companies which focused on longer, usually over 6 months projects, also had some issues in collecting truthful feedback, although they were not related to reputation system features such as in Delta’s case. However, transparency of the feedback was considered to be a challenge as well. One of the case companies had aimed to solve these issues by organizing sessions where feedback was collected by an unbiased person who was not involved in the project. This encouraged clients to give truthful feedback privately which had worked well according to the CEO of the company.

Despite of the collected feedback, only company Delta added client reviews and ratings to the freelancer profiles. Other companies were able to assess the projects in more holistic way since they had dedicated project managers who were in contact with both clients and freelancers. Project managers discussed the projects and client feedback with freelancers and wrote short verbal descriptions to freelancers' profiles about their overall performance. This type of conversational approach was also valued by freelancers more than public reviews as one of them stated:

“I like that I get personal and detailed feedback from someone and that it is recorded somewhere.”

All in all, widely studied reviews and ratings systems seem to be much less significant on platforms mediating on-site work for highly-skilled freelancers.

4.5. Enablers for successful matchmaking

As the previous findings have indicated, the design of screening process and reputation system can have a significant effect on matchmaking. Accepting only highly qualified freelancers to the platform is already a sign of quality for client companies which builds institution-based trust. In addition, well designed reputation system serves as an efficient matchmaking tool which reduces the labor intensity, and therefore increases the scalability of the platform. As Claussen et al. (2018) discussed, several factors affect the success of matchmaking, such as prior success of freelancers, project complexity, experience of clients, contractual design and the amount of value uncertainty. However, all interviewees pointed out that contract type rarely has any effect on client's uncertainty and trust towards freelancers and platforms when it comes to complex software projects. As many interviewees pointed out, especially in projects that use agile methods the outcomes are hard to predict, and therefore input-based contracts are usually better option than fixed-price contracts, which is generally well understood by clients as well. Moreover, the interview results indicate that fundamentally, the success of matchmaking and trust building depends on how well platforms are able to manage expectations between freelancers and clients. The following sections will discuss the significance of expectation management in more details.

4.5.1. Expectation management as the key for successful matches

Both freelancers and freelance business experts considered that the success of matchmaking eventually depends on how well trust can be built. The most frequently mentioned trust building factor in matchmaking and overall relationship with platform participants was efficient expectation management. Interestingly, neither freelancers nor

freelance business experts were asked about expectation management, but they brought it up in different contexts and most of them regarded it as the most important or one of the most important factors in trust building. As one CMO (chief marketing officer) noted:

“Expectation management is extremely important so that we don’t e.g. give empty promises to clients and freelancers. If they have expected something different than the reality is, it would be the worst thing that could happen in terms of trust.”

Therefore, expectation management is crucial when establishing trust with freelancers and clients. Interviewees described expectation management to be a active dialogue to ensure that freelancers and clients understand the project specifications in the same way before and throughout the project. As discussed by Claussen et al. (2018), in complex projects the environmental uncertainty can be high which increases the risk of unmet expectations. Important project specifications were mentioned to include e.g. desired outcomes and time allocation, used expertise/technologies and payment level. This was described by one of the interviewed independent freelancers:

“Usually I describe what I’m going to do and how, what’s the schedule for it and how much would it cost. I have learned over time that describing everything in detail is vital. During project, I’m maintaining an active dialogue with the client and discuss if their vision and expectations are still the same. If they have been changed, then I will adjust things.”

This implies that expectation management is a continuous process and it requires efforts from both freelancers and platforms. However, platform providers have the main responsibility for expectation management as intermediaries. Independent freelancers are responsible for the whole customer relationship, but freelance platforms have to manage the relationships with both freelancers and clients before the project can get started. In general, experts regarded expectation management as the most crucial job in their company’s matchmaking process. Moreover, all of the case companies had their own practices for managing expectations which were slightly differing.

4.5.1.1. Providing options to mitigate risks of mismatches

Most of the case companies provided their clients multiple options from which they could choose the best match. By introducing more than one potential freelancer, the case companies were able to manage expectations better and mitigate the risk of mismatches. This was well rationalized by one interviewed expert:

“In most cases, we sent a few freelancers to the client which then chose the best one of them. If we sent only one option which turns out to be unsuitable for the client, we would probably lose the client.”

Hence, matchmaking is usually playing with probabilities: it is more likely to close the deal with a client if they have some options. However, many freelance business experts pointed out that the value of freelance platform for a client comes from reduced recruitment costs which is why the case companies were careful when choosing the potential match options. As many authors address, the success of a platform is measured how well they are able to reduce the search costs of the platform participants (Agrawal et al., 2015; Hagi, 2014). Thus, providing too many options would reduce the value of the platform. Two interviewed experts described this in terms of trust building:

“In the end, matchmaking is a game where a right volume win. However, we can’t just send anybody since it damages trust.”

“Clients wish that we provide a couple of options but not too many. Otherwise that would be outsourcing the matchmaking to the client.”

Additionally, most interviewees pointed out that client companies are not interested in searching freelancers from large marketplaces such as Upwork as it would be laborious and the quality is not guaranteed. Many experts and freelancers also mentioned that it is important to provide options for freelancers as well. Some of the case companies had a system where they had listed all of the new client cases but all of them were actively contacting the freelancers which they thought to be potentially good matches for the projects. As it was the case with clients, also freelancers valued that the cases the platform introduced them were relevant and interesting for them. Freelancers generally regarded the platforms ability to provide them interesting and personalized project suggestions as a major trust building factor. Like one of the freelancers noted while comparing two Finnish platforms:

“My experience from platform X is that they provide much more personalized suggestions than the platform Y, which sends lists of available cases in emails that look automated. Sometimes they are relevant but occasionally they suggest cases that have nothing to do with my expertise.”

This freelance software developer had experience from many IT agencies in Finland but only one of them had managed to establish a trusted relationship with him. A co-founder of this particular agency was interviewed as well and he explained the process in more detail:

“We met all of the freelancers personally to get to know them and their preferences. Then we immediately started to go through projects that could be interesting and suitable for them.”

Therefore, it seems that providing personalized options for both clients and freelancers is an essential factor in trust building.

4.5.1.2. Efficient and active communication is the best way to manage expectations

Efficient communication between platform participants was highlighted by most of the interviewees and it was regarded as prerequisite for building a trusted relationship and maintaining it throughout the project. While it may sound self-evident that communication between project participants is crucial, interviewees had many experiences which implied that platforms and agencies have still a lot of work to do in enhancing communication. However, communication was not regarded only as the job of a platform: all of the interviewed high-skilled freelancers had long experience in working with client projects and hence they considered their ability to maintain active dialogue with a client vitally important. Above all, expectation management was considered to be efficient communication between platform participants.

Most of the interviewees pointed out that communication between freelancers, clients and platform must be as open, transparent and honest as possible in order to create a basis for trusted relationship. In the beginning, the trust between different parties was institution-based, but during screening and matchmaking processes, most case companies strived to build strong dyadic trust with freelancers and clients which was possible only if the companies maintained active dialogue with them. Freelance business experts agreed that one of the most important roles of high-skilled freelance platforms is to enhance open dialogue between participants and provide transparent information about projects and freelancers. Being open and transparent when discussing with freelancers and clients was regarded as a crucial part of expectation management which was described by a co-founder of one of the case companies:

“We discussed the project simultaneously on both sides: with clients, we discussed the potential freelancers for the job and with freelancers, we discussed openly how the project should be done. The information was forwarded both ways. We knew what the freelancer had done before and in which role, and then we learned more about the project from the client which enabled us to figure out who would be the best person for the job.”

Thus, creating a transparent environment helps platform provider to understand the participants better, and therefore managing freelancer’s and client’s expectations.

Freelancers valued transparency when they were choosing new projects since it helped them to understand the project context better and assess whether the project was interesting for them. One freelance software developer who was registered to multiple platforms in Finland pointed out how important transparency is:

“This platform X through which I’m currently working is much more open and transparent compared to this other platform Y. They only ask whether I’m interested to do a project where react native skills are required. The agency X provides much more information in the beginning such as client’s name, tech stack, length and other relevant information. I think that good briefing in the beginning is very important in trust building.”

Also some freelance business experts considered that providing a good briefing for freelancers is important. For example, one of the case companies had a process where they created a detailed briefing before the beginning of a project. This was done to ensure that freelancer’s expectations towards the project and the reality were matched. While freelancers value transparency about projects, clients value transparency about freelancers. As one of the interviewed experts described, it is important to be honest with clients:

“When we introduce a potential match to a client, we are honest about the freelancer’s capabilities. If we are concerned that there are some certain things which don’t perfectly match with client’s wishes, we tell it straight away. That’s a key thing. If we are not completely honest, client will definitely notice it which in the worst case destroys the relationship”

Ultimately, matchmaking requires good sales expertise. All of the case companies had their own sales organizations which were responsible for acquiring and managing client projects and they were also the main communication interface with clients. Hence, the case companies highlighted that the sales people must be totally transparent and open with the clients. Several experts noted that it is important to go in details when describing the prior experience of the freelancer and explain why the particular freelancer would be a good match for the client. One of the experts described this as follows:

“Calibrating a good match is assessing freelancers’ tech skills, references and achievements, but also assessing how well they would fit the client’s operational environment, culture and working methods. The capability to calibrate a good match and manage expectations are the most important things in trust building.”

While freelance business experts described that matchmaking is a practice of convincing clients to buy freelance workforce from them, they considered that

convincing freelancers to apply for their projects is equally important. Like one CEO of a large IT agency pointed out:

“There are proactive freelancers who apply for projects but the whole point of an agency is that we are proactive and serve freelancers by helping them to find meaningful projects.”

This is a result from a limited supply of talented freelance software developers and designers which has forced platforms to focus on providing value especially for freelancers. It was well recognized among the case companies that if platforms are not capable to serve freelancers and provide enough value for them, they will probably search projects through another platform. Insufficient communication with clients and freelancers had caused this type of trust damaging issues for some case companies as a CMO of one of the case companies described:

“Sometimes there is no information whether a client will continue a contract with a freelancer which causes uncertainty. It has happened that a freelancer has searched another project somewhere else because a client has not confirmed to extend the contract in time. Then after a while, the client has asked the freelancer to continue with them but it has been already too late. That is why active communication between all the parties is crucial.”

Inadequate communication is a root cause for many problems in trust building since it creates information asymmetry. As Yoganarasimhan (2013) note, information asymmetry problem leads to distrust where platform participants face uncertainty over each other. Freelance platforms have a key role in reducing information asymmetry between freelancers and clients which was crystallized by a freelance software developer who had been working through Upwork for several years:

“Freelance platform is nothing but a medium to communicate between the client and freelancers. Everything depends on communication.”

Moreover, the role of the platform in facilitating communication especially in Upwork’s case is crucial as freelancers and clients do not meet each other face-to-face. However, it was mentioned that if the projects through Upwork were more critical to clients, they usually wanted to have a video call with freelancers before getting started.

4.5.1.3. The importance of face-to-face interaction is emphasized especially in the beginning of the projects

Other interviewees considered that face-to-face communication is very important and usually necessary especially before and in the beginning of a project when the

relationship with client, freelancer and platform is established. Many freelance business experts mentioned that clients usually want to meet freelancers and discuss with them before the match is finally made. The case companies were mediating high-skilled freelancers to projects that were mostly business critical and in half of the cases their length was usually more than 6 months. Due to this critical nature of the projects, clients wanted to discuss the project with the platform and potential match before launching the project. As a CEO of one of the case companies mentioned:

“In 99% of the cases, client requires an interview with us and the freelancer before we start the project. This is a sort of sanity check which is an important step in terms of trust.”

This indicates that clients do not trust platforms without a question. Business critical and long projects usually have a significant amount of money involved and when a company invests in third-party workforce i.e. freelancers, they are willing to ensure that they get value for their money. Hence, freelance business experts considered that it would be challenging to sell completely remote workforce to highly complex projects and business critical roles. In addition, several interviewees mentioned that clients often go through their recruitment process with freelancers at least partially. As high-skilled freelance platforms already screen freelancers’ skills, clients do not necessarily test their technological knowledge but rather their fit to the project team. These findings imply that in case of business critical projects, client’s institution-based trust towards the platform is rarely sufficient, and therefore dyadic trust must be built between freelancers and clients by enabling them to interact before project launch.

4.5.1.4. Involving freelancers in early phase to enable fast trust building

Also most of the freelancers found face-to-face meetings highly important before the beginning of the projects, since it was a chance for them to get to know the client’s team and familiarize themselves with project details. All interviewed freelancers considered that meeting the client enables them to see whether their expectations with the client are matched. One freelancer explained this:

“You have to have a clear mutual understanding about the project goals with the client. It helps a lot if I can meet the client before the project and get a grasp of the people on the other side of the table”

Thus, meeting a client is not important only for the sake of freelancers’ personal preferences but also for better trust building. Interviewees agreed that involving freelancers as soon as possible in matchmaking process is important in order to see whether the preconditions for collaboration can be created. Most of the case companies had a dedicated project or account manager who was responsible for negotiating the

project details with a client before introducing freelancers to them. These platform representatives were the primary contact persons for the clients which in some cases had resulted in more trusted and closer client relationship between the project or account manager and the client than between the freelancer and the client. Such case was depicted by one of the freelancers:

“The number one thing is to be actively in customer interface from the beginning instead of involving only the project manager who is not actually doing the project. My experience is that is very hard to build trust with the client if I haven’t been actively involved in project planning”

This is also a reason why freelance business experts saw it as beneficial to introduce potential matches to a client as soon as possible and organize a meeting between them. One of the experts told that their company achieved best match results by sending freelancers quickly to discuss with clients. Another interviewed expert elaborated the benefit of this:

“It is best to get freelancers and clients discuss together fast. Wasting time and being in the middle as a bottleneck does not make sense since there is always a risk that we have misunderstood something and tell wrong information to the parties.”

Interviewees emphasized that rapid trust building especially with client companies is crucial. As information asymmetries results in lack of trust, it is in platform’s best interest to facilitate efficient communication between freelancers and clients. It was also perceived that the size of the client company and the urgency of the project have an effect on the trust building process. A couple of the case companies and some interviewed freelancers had experience of working with small and medium-sized enterprises (SMEs) where the operational environment was more agile. With such clients, trust building process was faster than with big corporations which had more rigid internal procedures. This required more efforts in terms of trust building from freelance platforms and freelancers since the collaboration was described to be more intense with smaller clients. Additionally, regardless of the size of the client company, their need for freelance workforce was in most of the cases relatively urgent. This caused challenges to both platforms and freelancers since suitable matches had to be found quickly and freelancers had to work harder in the beginning to prove they are worth trusting. One of the freelancers who was working through an IT agency highlighted well the significance of efficient communication in these situations:

“In the beginning the communication must be intensive and the feedback loop must be really short. It is really important to get feedback when onboarding is still going on so that I can fine-tune my matching to client’s expectations”

Urgent demand for freelance workforce seems to be a common challenge in freelance business which often requires doing compromises in matchmaking. The next section discusses the trade-off which was familiar to all case companies.

4.5.1.5. Limited freelancer availability hinders matchmaking

As the demand for high-skilled freelance software developers and designers is considerably high, an apparent consequence is that the majority of high-skilled freelancers are already employed to client projects and freelancers looking for new cases are hard to find and engage. This general issue was recognized by all of the interviewees, although none of the case companies had found any reliable solution for predicting demand and freelancer availability. Many freelance business experts noted that matchmaking is easy and fast if there are vetted freelancers available, but it was usual that the case companies were contacting freelancers also outside of their networks when suitable matches were not found immediately. Hence, interviewed experts pointed out that it is vital to maintain active dialogue with the freelancers who are working on client cases and get updated information about their project status which was also stated as one of the most important pieces of information in reputation systems. Some of the freelancers also mentioned that they had been contacted by a platform and offered a case but they had been unavailable at the time. One of the freelancers had experience of working also as a project manager in a freelancer agency where she was responsible for matching freelancers with clients. She described the common problem:

“The most challenging thing in matchmaking is to determine whether we have enough freelancers in order to make decisions solely based on the best possible match or do we just have to make decisions based on who is available at the moment.”

This was a serious concern among the case companies since fast matchmaking was considered to be essential in terms of trust between client and platform. Availability issue often caused a trade-off between perfect match and providing options quickly.

4.5.1.6. In-depth understanding of clients and freelancers is essential

As Pavlou and Gefen (2004) note in their study, trust in the platform is first institution-based and it depends on how accurate guarantees and recommendations platform is able to give to clients and freelancers. A theme which was repeated by almost all of the interviewees was the platform’s ability to understand clients’ business and freelancers’ competencies. The interviewees reasoned that the changes in freelance markets and competition was leading more and more to a direction where working as a marketplace that only brings together freelancers and clients does not work anymore when it is a

question of acquiring the best talent. Instead, competing with other platforms requires deep understanding of platform participants which enables serving them better and gaining competitive advantage. This has a direct connection with trust building which was stated by a CEO of a major Finnish IT agency:

“Now we are getting to the core of trust building which determines how our value and strategic partnership with a client strengthens: the client will trust us more if they think that we really understand their business.”

Some of the recently founded case companies had realized the importance of this from the beginning but one of the companies which had been in the business for longer time had only recently reacted to the situation. They had hired a chief technology officer (CTO) and a couple of specialists whose responsibility was to be in close interaction with platform participants and become more familiar with the client cases and the technology used in them. However, not all of the players in freelance platform business have realized the importance of in-depth understanding of freelancers and clients which was described by one of the interviewed experts:

“Our (the case company) advantage is that we properly familiarize ourselves with the client so that we are able to answer their needs. Many platforms/agencies (mentioned two large Finnish players as an example) don't have the expertise that is needed to match right talents to clients. Client companies get often frustrated since platforms are really thin value adding layers between them and freelancers.”

This indicates that the role of high-skilled freelance platforms as an intermediary is transforming from sales-driven CV brokering to expertise and knowledge-driven business where the platform's value is measured by how comprehensively it can serve the customer needs. It was also mentioned that building long-term relationship with clients is important, and in longer projects, the ability to predict what kind of expertise the client would need in each project stage is valuable. Otherwise, it is hard for the platform to differentiate from others and provide sufficient amount of value. Hence, the interviewed experts considered that long experience from certain industries is essential. In contrast, the interviewed freelancer with long experience from Upwork pointed out that disintermediation is usual on Upwork after freelancers and clients have built certain amount of dyadic trust as the marketplace itself does not bring additional value after match is made. Therefore, freelancers and clients can avoid paying commissions to Upwork. This was also noted by Hagiu and Rothman (2016) who argued that as long as a platform provides value, there should be an incentive for participants to conduct transactions through it. Some of the case companies also pointed out that ultimately, the aim is to exceed the client's expectations which takes the trust to next level. However, a couple of freelancers noted that after a platform has matched them together with a

client, the level of trust depends much on how well the freelancer is able to understand the client's quality standards. As one of the freelancers pointed out:

“As a freelancer, I have to take care that the expectations are in line with the end results. The expectations must be raised high so that the quality image goes up, but not so high that they can not be reached.”

Yet, the challenge is to find such a match that is able to keep the expectations high and provide the desired results. General opinion was that the better the platform understands the client, the better matches it can recommend for the projects, and therefore meet the client's expectations. A CMO of one of the case companies had acknowledged their challenges in this area of matchmaking:

“The challenge we have is that we give too much responsibility for the clients in terms of freelancer quality. It does not look good if we suggest freelancers that do not meet client's expectations. We should understand better what our freelancers can do.”

This illustrates well the importance of knowing both the clients and the freelancers. One of the case companies had created a process which aimed to solve this challenge. The company had a dedicated project manager who was responsible for all client related issues and an agent who was responsible for knowing their freelancer pool and what kind of competences they had. The project manager delved into client's business and then discussed the expectations with the agent who searched potential matches for the job. This type of model was common among the case companies and the experts explained that selecting the matches for clients was always based on careful evaluations and internal discussions. When the size of the freelancer network was small, it was considered to be easy to manage the capabilities in the pool. However, the significance of well-structured reputation system was emphasized while the network grew larger as the system enabled managing larger pool of freelancers.

As one of the freelance business experts mentioned, the most desirable state of trust with a client is reached when a platform is able to provide a match without involving the client in the process. However, none of the case companies had reached that level, since their clients wanted to have at least a short discussion with the freelancers before starting the project, and some even wanted to go through their complete recruitment process. The reason for this is the complexity of matching personalities as many of the interviewed experts pointed out. For example, one of the experts phrased:

“We don't really have much to say how well a freelancer will fit in the client's team. We usually have a rough idea about the client's team but not very good.”

Overall, the case companies explained that understanding and matching the required competences in a project was easier than matching different personalities. This was also one of the reasons why platforms aimed to provide multiple freelancer profiles from which to choose. The challenge of fitting a freelancer in the client's team was described by a co-founder of one of the case companies:

“Very often, we were able evaluate the the freelancer’s technical skills well but sometimes the match wasn’t made because the chemistry between the freelancer and the client did not work in a personal level. Especially in the beginning, there were mismatches since the client may have required a social guy but we suggested them a more introvert developer.”

Therefore, interaction between the client and the freelancer is crucial before the project begins. As thorough understanding of the clients' business was considered vital, also understanding the freelancers in deeper level was highlighted especially by the freelancers themselves. Freelancers valued those platforms which were able to prove that they understand their personal preferences and have expertise in freelancer's own domain. This was well expressed by one of the freelancers:

“Platform must understand the needs of freelancers and offer them projects that fit freelancer’s preferences. They should understand freelancers as humans and not as resources.”

It was perceived that some of the platforms were still treating freelancers more as resources and were lacking human-centric approach. This was the case especially with platforms and agencies which had been in the market for a long time, but freelancers had perceived that more recently founded platforms were better in recognizing freelancers' personal strengths and suggest them corresponding projects. Freelancers who had experience from freelance platforms pointed out that this has a significant effect on their trust towards the platform. As thorough understanding of the platform participants was considered to be more and more important in the future, it was also recognized as an enabler for differentiation. It was believed that building freelancer teams is the trend where freelance business is heading, although the case companies admitted that they have still a lot of work to do before building teams would be possible, and hence they were mainly mediating individual freelancers. Some of the case companies were not completely responsible for, but had participated in building teams together with clients where freelancers and client's employees were matched together. However, building teams requires excessive resources to project planning together with clients and freelancers, and therefore it was considered to be unprofitable considering the core of the case companies' business in mediating talents to client companies.

4.5.1.7. Client's experience level affects trust building

Working with old clients who had already experience from using freelance workforce in their project was perceived to be rather effortless since the trust between the client and the platform was already built during previous projects. Additionally, both experts and freelancers considered that building trust was usually faster with a client who had experience in the same domain as the hired freelancer. This supports the argument of Claussen et al. (2018) about how prior experience of client companies reduces uncertainties. The interviewees described that expectation management was easier with the clients who already had at least some expertise e.g. in software development, and thus the efforts in communication had not to be as heavy. Two of the interviewed freelancers illustrated this point:

“If the client has experience, the expectations are easily matched with the freelancer. But if not, the expectations can differ a lot.”

“Clients who are not used to buying services from freelancers don't usually understand what is included in the price. Sometimes it requires too much effort to justify these things.”

The interviewees listed also other reasons for challenging expectation management with customers who lacked freelancer experience. A client company may have told that they needed a front end developer but after discussing the project details, the platform and the freelancer have realized that the case requires back end development. In some cases, client's expectations and the reality were not met which had eventually forced to end the project negotiations. The inexperience can also cause value uncertainty as described by Zheng et al. (2016). One of the interviewed independent freelancers pointed out that many companies do not understand how the price of freelance work is formed, and therefore they decide not to hire freelancers. Therefore, it was noted that platform's role is to communicate clearly what is included in the freelancer price, which comes down to transparency. As these cases with new customers were not rare, it required skills from the platform to recognize inexperienced clients in early phase. Identifying differing expectations early enough enabled platforms to suggest more suitable freelancers for the job, and hence prove their understanding of client's needs. Freelancers have also an important role in identifying the client's experience level as one independent freelance designer explained:

“With new customers, you might have to have a few alternative road maps for the project. It takes time to make those road maps but it will pay off in the end. When you know the customer beforehand, you don't need any alternatives since you probably know what they want straight away.”

This implies that providing options in the beginning of a project is similar to providing multiple potential matches to the client in matchmaking process: the platform and the freelancer must be flexible in order to mitigate risks related to unmet expectations.

Table 4.3 summarizes the critical trust building factors in matchmaking in terms of expectation management.

Expectation management	
Providing options	A platform is able to reduce search and transaction costs efficiently by providing vetted matches from which to choose for both freelancers and clients.
Efficient and active communication	Information asymmetries hamper trust building which can be facilitated by open, transparent and honest communication which is actively enhanced by a platform.
Face-to-face interaction	In most cases, business critical tasks require face-to-face interaction between freelancers and clients in order to establish a trusted relationship.
Providing fast matches	A part of reduced search and transaction costs comes from fast matchmaking. In addition, involving freelancers early in the process facilitates trust building with clients.
Limited freelancer availability	Matchmaking is usually a trade-off between providing most suitable match and a fast match.
In-depth understanding of freelancers and clients	The better a platform understands platform participants, the better matches it can provide them and serve them more comprehensively.
Client's experience level	Working with inexperienced clients require more expectation management in order to build trust.

Table 4.3: Critical expectation management factors in trust building

4.6. Relationship with the platform affects the level of engagement and trust

As client companies are fighting for the best talent, so are high-skilled freelance platforms. All of the interviewed freelancers and experts emphasized that in order to attract the best freelancers, platforms must provide more value compared to independent contracting. One of the interviewed freelancers with several years of experience from Upwork mentioned that low priced marketplaces such as Upwork will retain their specific customer base but attracting top talents from developed western countries requires more service-oriented efforts from the platform.

All of the case companies had recognized this in their business and were more or less actively planning value adding services to keep their freelancer pool satisfied and lower the threshold to start freelancing. Investing in talent e.g. by providing insurances and advice related to entrepreneurship, or organizing events and workshops were seen as a

way to engage freelancers. As mentioned by many interviewed experts and freelancers, this trend has become more common only in recent years, and hence platform companies are just starting to realize that these types of services are valuable in order to keep freelancers on board.

One significant drawback as being freelancer was considered to be the loss of work community. All but one case company provided their freelancers common workspaces where they were able to meet other freelancers and platform personnel while they were not working on-site at the client's office. In addition to educational and semi-formal events, half of the case companies also organized more informal freelancer get-togethers. All interviewed freelancers valued communal elements which were said to have an engaging effect on the platform as one freelancer noted:

“This platform X has organized many informal get-togethers and invested in the freelancer community which definitely has increased my engagement to the platform. It certainly feels that the platform cares about us.”

Therefore, informal networking events were considered to be important for strengthening trusted relationship with the platform, which also was perceived to be essential for platform's brand building.

4.6.1. Freelancers value the same factors on platforms, although their preferences differ

In general, the interviewed freelancers were seeking challenging and meaningful projects which developed them professionally and were good addition to their resumé, but freelancers were clearly divided based on their working preferences. Therefore, the case companies needed to be clear about what type of projects they offered. Independent freelancers were more often preferring multiple concurrent projects and they were also more entrepreneurially driven individuals. They mostly had one or two main projects and a few smaller projects which were carried out for personal development. Interviewed freelance designers had also multiple simultaneous projects but they pointed out that it was a result from the cyclical nature of design work: the need for designers was more fluctuating than for software development and usually one design project was not able to keep freelancers busy enough. As one designer described:

“I usually had multiple projects at the same time since one project was not able to fully book my calendar. I prefer doing only one project at a time but it is rarely possible in design work.”

Independent freelancers mainly worked with small companies since they did not have the power or skills to negotiate with large companies like platforms had. The interviewed freelance business experts from the case companies agreed that one of their value propositions for freelancers was the access to larger projects in larger organizations, which was also mentioned to be one of the most significant factors among interviewed freelancers that attracted them to platforms. A freelancer who had previously been independent but later joined a platform pointed out:

“I did not get any big projects until I joined this platform. The greatest value for me was the opportunity to do interesting projects in larger companies.”

However, more entrepreneurially driven independent freelancers preferred small startup companies since they saw opportunities to join them as shareholders. Therefore, such freelancers were hard to get engaged to platforms, although they saw certain benefits platforms were providing. The case companies which focused on software projects mainly intermediated freelancers to long client cases in medium or large-sized companies which provided stability and security for freelancers. The reduced uncertainty was a major trust building factor for freelancers, since as independent contractors they carried all the risks related to entrepreneurship. Platforms provided a safety net for freelancers by being responsible for contract negotiations and regular salary payment. All interviewed experts and most freelancers emphasized that in general, freelancers do not want to be involved in negotiating deals with clients unless necessary as they want to focus on their core expertise. Considering this, one of the greatest uncertainties as an independent contractor was perceived to be possible gaps between projects. Therefore, the most valued platforms were actively taking care of freelancers’ project statuses and ensuring they were hired to new cases without having to worry about project gaps. As one of the main reasons for freelancing was the possibility to earn more, platforms were in many cases able to provide even better deals financially than freelancers managed to negotiate themselves. This was addressed by one of the freelancers who worked through an IT agency:

“The money I got as an independent contractor was much less than through the agency. I guess it is because the agency is able to negotiate bigger deals with more money involved.”

These findings are in line with Van Alstyne and Schrage (2016) who noted that losing benefits will decrease freelancers’ willingness to conduct transactions, and therefore hamper trust building on the platform. In addition to these benefits, freelancers valued especially platforms which understood their work and personal preferences, and therefore provided highly personalized service in long-term. Several interviewed experts had also recognized this and they pointed out that in order to keep top freelancers in their network, they had to be able to serve them as primary customers. This was described by one of the freelancers who compared two freelance platforms in Finland:

“The platform X that I joined has much more personal touch in their actions than this another platform Y. In the beginning it got my attention and engendered trust as they wanted to get to know me in personal level and cared about my career. The Y is not as interested in me as a person which definitely affects my engagement to the platform.”

Hence, personal and human-oriented approach from platforms was perceived to be crucial in facilitating trust building and engaging the most talented freelancers to the platform. Furthermore, most interviewees mentioned that platforms must understand that high-skilled freelancers value freedom, control and autonomy in their work. As Kuhn and Maleki (2017) discussed, freelancer autonomy and their dependence on the platform define the relationship with the platform, and therefore are important factors in trust building. Many experts pointed out that their freelancers were often not only working through their platform which was also encouraged in one of the case companies. The reasoning behind this was to keep freelancers’ skills updated as they were able to work on other projects as well. This indicates that although platforms want to engage freelancers, they should preserve top talents’ high autonomy and low dependence on the platform as illustrated in figure 2.3. The interviewed freelancers were also rather strict about their control in the client projects as they wanted to be able to choose the working methods and used technologies. As one freelancer remarked:

“Flexibility and freedom to choose is absolutely vital. If someone in a higher position dictated the tech stack and working methods, it would be a horror situation for me.”

Additionally, monitoring freelancers’ performance by taking screenshots and webcam captures as discussed by Lin et al. (2018) was considered to be a signal of distrust from a platform, and therefore interviewed freelancers were clearly opposing such control mechanisms. Several interviewees pointed out that in Finland, most freelance platforms which have worked as CV brokers have retained control over freelancers’ work and dictated their terms such as payment levels. However, the interviewees pointed out that such platforms are not able to attract the most talented freelancers today.

5. Discussion

In this chapter, the findings of this study are analyzed by discussing the results together with previous research. The chapter begins by providing answers to the research questions, which are followed by theoretical and practical implications, evaluation of the study and finally, conclusion and future research areas.

5.1. Answers to the research questions

This section forms a synthesis by discussing the findings of the empirical study and evaluates them in relation to previous literature. First, sub-section 5.2.1. provides answer to the first research question:

***RQ1:** What drives top freelance software professionals and companies seeking complex expertise to use freelance platforms?*

Next, sub-section 5.2.2. answers the remaining research questions:

***RQ2:** What are the key trust building mechanisms and factors on high-skilled freelance platforms?*

***RQ3:** How trust building mechanisms should be designed in order to attract top freelance software professionals and clients?*

5.1.1. The drivers for using high-skilled freelance platforms

Although freelancers and clients benefit from platforms as an intermediary and matchmaking organization, current literature does not provide comprehensive overview of the factors that drive top freelancers and companies to use platforms. To answer the first research question, this section first discusses the most critical drivers for top freelancers and clients based on literature review and in-depth interviews, and then introduces characteristics of a platform which provides them the most value.

In general, the findings strengthened the views that existing research has identified as the most important motivation factors for freelancing, which are the perceived flexibility, autonomy, diversity, better work/life balance and potentially higher incomes (Dolan et al., 2015; Graham et al., 2017; Kalleberg and Dunn, 2016; Liebman and Lyubarsky, 2016; Schmid-Drüner, 2016). Moreover, the findings indicate that top freelancers seek job opportunities from platforms they trust, and which provide more

value compared to independent contracting. The following key value adding and trust building factors were identified in this study:

- **Personal approach and good understanding of freelancers' needs is valued.** Platforms must offer personal and human-oriented service since highly skilled freelance software developers and designers want to be treated as individuals and customers rather than as resources in a pool of freelancers. Hence, it is important that platforms show their understanding of freelancers' interests and preferences. Moreover, platforms should provide sufficient amount of information about projects and be transparent about their commissions in order to build trust in the community of freelancers. Top freelancers know their value in work market, and hence platforms should offer fairly compensated projects. As Coyle (2017) noted, high-skilled freelancers tend to have more control over their terms of work on platforms compared to low-skilled freelancers. The findings supported this as well implying that top freelancers value freedom and flexibility in terms of their working methods. Therefore, dictating freelancers' terms and applying performance monitoring systems introduced by Lin et al. (2018) were considered to be harmful for trust building.
- **Platforms must provide projects which freelancers are not able to get from their own networks.** The client company itself is not very relevant for most freelancers as they are looking for meaningful projects where they can learn and get valuable references. However, freelancers' own networks do not necessarily provide projects which suit their preferences. Freelancers are willing to work through a platform if, (1) they do not have enough connections in their networks, and hence do not find suitable job opportunities, or (2) they want to work on large projects but they are only able to get projects from small clients as they do not have enough power to negotiate with larger companies and build trust with them on their own, which was also pointed out by Mattila and Seppälä (2016). Therefore, platforms providing challenging and professionally developing projects also in medium- and large-sized organizations are preferred by top freelancers.
- **Platforms should help with issues related to entrepreneurship.** Freelancers value platforms which provide value adding services that reduce freelancer's workload in issues related to entrepreneurship. In most cases, top freelance software developers and designers do not want to be involved in sales negotiations, making agreements with clients or handling invoicing as they might lack know-how in such tasks. Hence, platforms which enable freelancers to focus on their core competencies are preferred by top freelancers. Moreover, top freelancers do not want to compete with other freelancers after they have joined a platform, which is typical in large marketplace platforms such as Upwork. Platforms should also reduce uncertainty which is caused by lack of

information about project continuity. Therefore, top freelancers appreciate if the platform takes care of employing them in long-term without gaps between projects. Independent freelancers have to carry financial risks on their projects, which causes uncertainty. Thus, the most valued and trusted platforms take care of secure payments, provide insurances and offer dispute resolution services in case projects are unsuccessful or other problems arise.

- **Providing similar benefits as in traditional employment.** As Van Alstyne and Schrage (2016) mentioned, losing benefits related to traditional employment increases freelancer's uncertainty. Although freelancers have chosen their lifestyle, the findings indicate that they miss certain benefits which are typical in traditional employment, such as community, teamwork and education. Top freelancers prefer platforms which show clearly that they invest in freelancers' well-being e.g. by providing co-working spaces and organizing networking events and workshops. Furthermore, most top freelancers want to work on-site as they feel they would otherwise lose important social elements. Therefore, platforms providing solely remote work are not attracting the majority of top tech talents.

As recent studies have indicated, companies are increasingly seeking highly skilled software professionals through platforms. However, existing research fail to identify what kind of platforms client companies value when they are in need of complex expertise. In case of business critical tasks, search and transaction costs can be too high on certain platforms if companies are looking for top talents. Therefore, such companies trust most on platforms which are able to prove that they have freelancers who are among the best in their domains. As previously discussed in literature review, clients have several other reasons for using freelancer workforce, such as reduced risks and costs, need for flexible working arrangements and innovation power (Dokko et al., 2015; Kuek et al., 2015; Lehdonvirta, 2017; Younger, 2016). Contrary to the arguments of Dokko et al. (2015), using high-skilled freelancers usually does not reduce costs as the most talented freelancers charge significantly higher fees compared to costs of full-time employees. Companies which aim to reduce labor costs seek cheaper workforce from marketplace platforms such as Upwork. However, such platforms are not focused on attracting the best freelancers.

So far, literature has had only minor emphasis on client perspective on freelance platforms as the majority of research focuses on freelancers' role in platform economy. Although providing a comprehensive analysis from the client's perspective was not the main focus either, this thesis identifies many notable factors that client companies value in high-skilled freelance platforms. The identified key factors that client companies require when they seek top talents from platforms are as follows:

- **In-depth understanding of client’s business.** Companies trust platforms which show they are competent and understand the industry where clients are operating in. Such platforms are able to build trust and reduce search and transaction costs effectively as they understand what the clients need.
- **Making recruitment of top talents easier.** Clients who are looking for competencies that are in great demand face difficulties in recruiting skillful workers, and hence they approach platforms which have the most skilled freelancers. When companies seek top talents through platforms, they get the most value if platforms provide them already vetted freelancers and assist finding the most suitable one for their needs. Therefore, platforms such as Upwork which require clients to search from a large pool of workers and evaluate freelancer’s skills themselves are not valued.
- **Urgency overrides the price.** The findings of this study indicate that the demand for talent is usually urgent, and therefore platforms build trust more efficiently if they are able to provide suitable matches at short notice. In most cases, client companies do not contact freelance platforms about their demand long in advance, which enables platforms and freelancers to charge higher prices. This also supports the argument that companies do not necessarily seek reduced costs from platforms. However, when the matter is urgent, utilizing freelance work in complex tasks is less risky than hiring a full-time employee as pointed out by Kuek et al. (2015) and Lehdonvirta (2017). Additionally, input-based contracts do not seem to affect clients’ trust negatively as they tend to understand that the outcomes in complex software projects are hard to predict, which is in conflict with the arguments of Claussen et al. (2018).
- **Complex projects usually require physical presence.** Despite of the fact that technological advancements are enabling remote work (Barnes et al., 2015), the reality is that majority of clients prefer physical presence in complex projects which are in most cases performed in teams. Majority of online freelance platforms mediate freelancers for remote work, and therefore the client companies seeking top talents for business critical tasks are unlikely to use such platforms.

5.1.1.1. What kind of platform is the most suitable for top freelance software professionals?

The range of different freelance platforms is extensive as identified by De Groen et al. (2016), but existing literature does not provide clear categorization of different high-skilled freelance platforms. In essence, high-skilled freelance platforms differentiate from each other with their trust building mechanisms, which again attract certain types

of freelancers and clients to the platform. This study identifies four different types of high-skilled freelance platforms which differ in the level of digitality and match quality. Digitality refers to the complexity of reputation system and the amount of human interaction on the platform, whereas match quality refers to varying skill-levels platforms have in their freelancer pool and their ability to provide suitable matches. The following categorization is based on extensive literature review and findings from in-depth interviews:

- **General freelance platforms (GFPs)** are marketplaces that attract masses as they do not require any previous experience from freelancers. Hence, the quality of freelancers varies a lot, but the average prices tend to be low as 10\$ per hour since the competition among freelancers is rather fierce. These platforms lean heavily on their reputation systems which also work as the main user interfaces for freelancers and clients. As they intermediate only remote work, trust building with participants depend on the reviews and ratings mechanisms in reputation system. Therefore, GFPs are technologically more complex than other high-skilled freelance platforms. Moreover, these platforms provide only little assistance in project management and matchmaking, which is why the match quality is often low and to improve it, clients must strive to sift out unsuitable applicants on their own.
- **Vetted freelance platforms (VFPs)** differ from GFPs as they have a strict screening process which sifts out unqualified freelancers. They also provide only remote workers but the prices are substantially higher. However, freelancers must still compete against each other when they apply for client cases. VFPs lean also on their reputation systems but they provide more human interaction than GFPs e.g. in screening process and matchmaking. Therefore, freelancers and clients are not dependent only on the functionalities in reputation system. VFPs usually provide assistance in project management and matchmaking, and hence the match quality is usually high.
- **CV brokers** provide mainly locally performed freelance work, which is why they have traditionally been the choice of companies who have needed workforce for business critical tasks. However, these platforms usually have loose preliminary screening process, which results in heterogeneous freelancer quality and relatively large freelancer pool compared to the number of client companies. Pricing tend to follow normal market prices of software professionals in the country in question. As the name implies, CV brokers usually suggest a few potential freelancers for client companies, but the suggestions are based on the resumés and profiles freelancers have added to reputation system. Due to loose preliminary screening, CV brokers do not have in-depth knowledge about their freelancers' skills unless they have already worked on a project through the platform. Therefore, the quality of match for

both clients and freelancers can vary a lot. CV brokers usually employ project managers who assist clients and freelancers to some extent, and the business is more human-driven than in GFPs and VFPs. Moreover, CV brokers use their reputation systems more for internal purposes to facilitate matchmaking, and hence the systems are not very technologically advanced.

- **Tech talent agencies** provide highly personalized project management and matchmaking services for freelancers and client companies looking for on-site work, but their focus is especially on representing freelancers and helping them to progress in their careers. Thus, tech talent agencies provide dedicated agents for freelancers and offer more advice and benefits to freelancers compared to other platforms, which enables freelancers to focus more on their core competencies. These platforms screen their freelancers thoroughly and get to know them personally before they are given an access to the network which reduces the need for second phase screening. The reputation systems are usually created just for matchmaking purposes. As tech talent agencies do not strive to expand their vetted freelancer pool significantly larger compared to client network, the competition between freelancers is minimized. These platforms tend to focus only on the top freelancers and high-quality matches, and hence the prices are higher than on any other high-skilled platform type.

Considering the identified drivers for top freelance software professionals and clients to use high-skilled freelance platforms, it is reasonable to argue that they are most likely to be attracted by implementing the characteristics of tech talent agencies. Figure 5.1 illustrates the digitality and match quality of different high-skilled freelance platforms and table 5.1 concludes their characteristics.

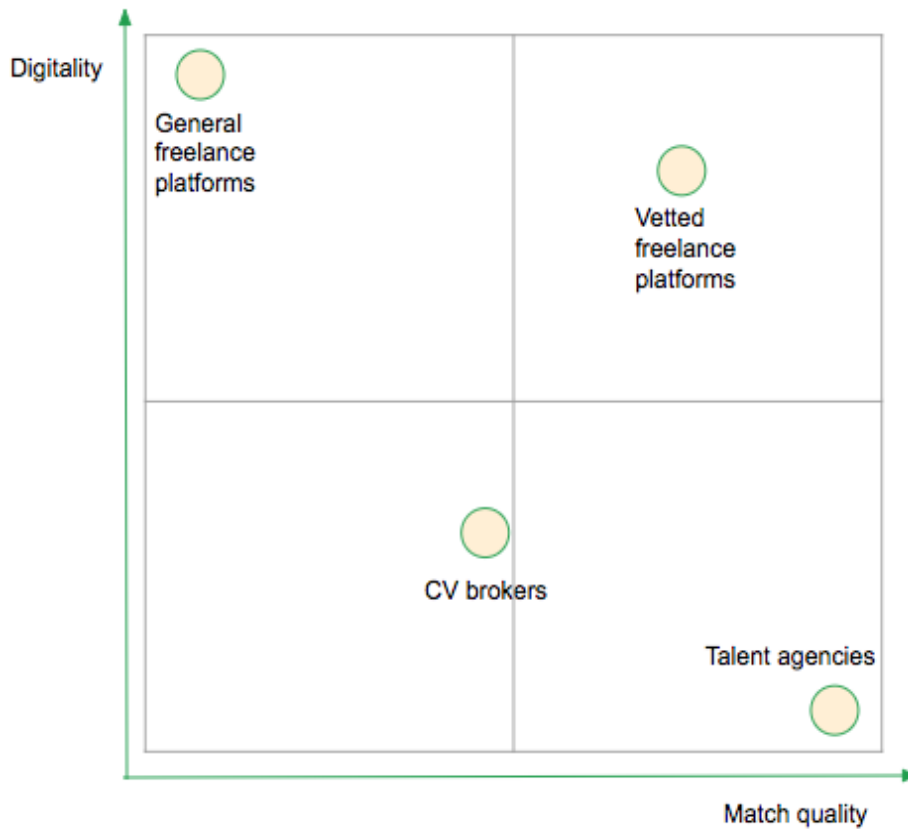


Figure 5.1: Digitality and quality level of high-skilled freelance platforms

Platform type	Characteristics	Examples
General freelance platforms	<ul style="list-style-type: none"> - Remote work - Complex technology - No personalized service - Cheap, heterogeneous quality 	Upwork
Vetted freelance platforms	<ul style="list-style-type: none"> - Remote work - Complex technology - Limited personalized service - Expensive, high quality 	Toptal
CV brokers	<ul style="list-style-type: none"> - Mainly locally performed work - Relatively simple technology - Limited personalized service - Relatively expensive, heterogeneous quality 	Ework
Tech talent agencies	<ul style="list-style-type: none"> - Mainly locally performed work - Relatively simple technology - Highly personalized service - Expensive, top quality 	10x Management

Table 5.1: Characteristics of different high-skilled freelance platform types

5.1.2. Trust building efforts define the platform design and governance elements

As the driving forces for top freelance software professionals and client companies to utilize high-skilled freelance platforms indicate that tech talent agency model is the most suitable for them, it is important to understand how trust building mechanisms should be designed and how they are related to each other. The literature review identified five separate platform governance mechanisms that affect trust building between platform participants, although many of them have gained only minor scholarly attention and their relations are not widely acknowledged. Therefore, one of the main goals of this study was to form a comprehensive overview of such mechanisms in the context of high-skilled freelance platforms.

The core of high-skilled freelance platforms is in their ability to match freelancers with client companies who do not know each other beforehand, where trust building has an essential role. However, matchmaking must be supported by other trust building mechanisms in order to attract desired platform participants and to provide high quality matches for them. Hence, the following mechanisms and their relations must be considered when intermediating top freelance software professionals with clients:

Platform discovery

Existing freelance platform research has mostly studied large marketplace platforms which can be accessed without vetting, and therefore it has remained unclear how freelancers join platforms which are focusing on the top tech talent, such as 10x Management. Non-academic business literature has recognized the power of word-of-mouth and personal networks among freelancers (Johnston, 2017), but there is no previous research related to the topic. The findings of this thesis support non-academic literature by indicating that high-skilled freelance platforms commonly utilize trust networks when they source new freelancers. Moreover, especially when platform is intermediating on-site workers, it seems that trust networks are the most efficient way to discover new talents, but also the most common way for freelancers to find platforms. Although Dellarocas (2003) argues that word-of-mouth networks are increasingly replaced by reputation systems, it is accurate only in online labor settings where reputation systems are in the core of the platforms. Moreover, word-of-mouth depends on how strong the platform's brand is. Active brand building facilitates establishing institution-based trust with freelancers and clients, and therefore it is essential for platforms in order to gain desired traction. As the findings indicate, platform's strong brand builds trust more efficiently compared to recommendations given by individuals when client companies consider joining the platform. Therefore, their trust towards platforms is preliminarily institution-based.

Screening

The findings also indicate that trust networks are used to streamline freelancer screening processes. By validating freelancers' applicability (skills and personality) through trust networks, platforms are able to vet talents faster as the actual screening process can be less rigorous. As previously mentioned, Johnston (2017) point out that using personal networks when hiring freelancers are likely to instill more trust and loyalty. The application of trust networks is illustrated in figure 5.2 where A, B and C are freelancers who know each other, while B and C as already trusted freelancers validate A's applicability to the platform.

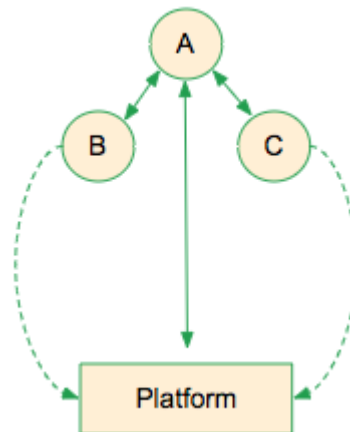


Figure 5.2: Trust networks

Although research related to freelancer vetting is scarce, the findings imply that screening process is the most important stage when ensuring the quality of freelancer pool. As Hagi (2014) mention, screening is also a signal of quality for other platform participants. Therefore, thorough screening builds institution-based trust with client companies effectively. Moreover, the findings indicate that platforms must ensure that the first phase of screening is strict and thorough enough in order to keep the size of freelancer pool manageable and minimize the need for second phase screening. When the size of the pool is significantly larger than the number of available client cases, it creates undesirable competition among vetted freelancers and causes negative network effects. To build trust with top freelance software professionals, the first phase of screening process must also be human-oriented. Conversational approach indicates that the platform cares about freelancers personally, but also enables the platform to learn more about freelancers' personalities, and therefore establish dyadic trust. Additionally, better understanding of freelancers' skills, personality and preferences improves the platform's ability to provide suitable matches.

Reputation system

As thorough vetting sifts out unsuitable and untrustworthy freelancers, the role of reputation systems as trust building mechanisms is significantly less important than majority of freelance platform research indicates. Although strict screening slows down the platform growth, it ensures quality and reduces the need for public reviews and ratings mechanisms. Therefore, there is a clear connection between thoroughness of screening and required complexity of reputation system. This is illustrated in figure 5.3 which also shows the effect of trust networks on screening process.

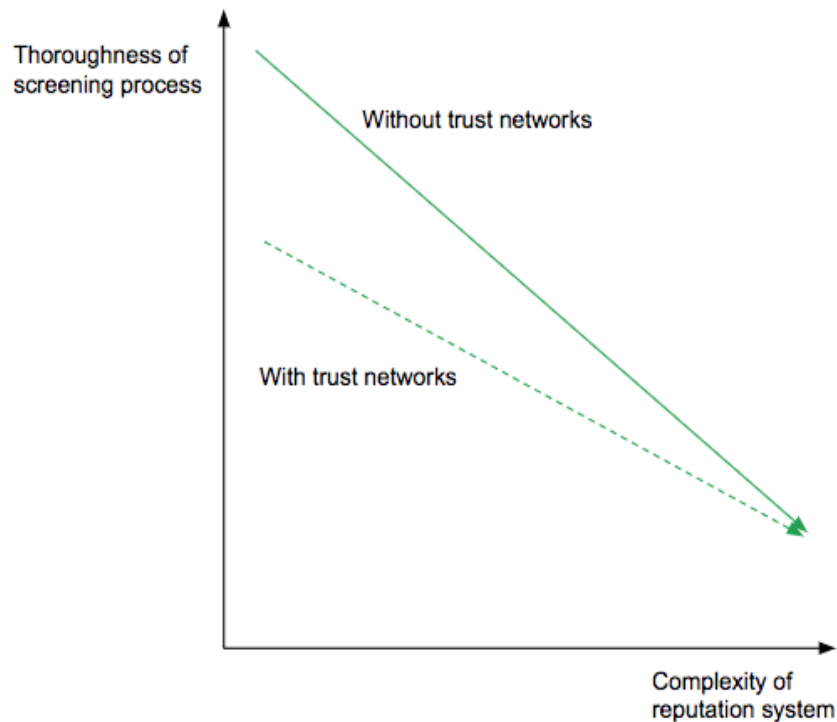


Figure 5.3: The relation between screening process and reputation system

Furthermore, the findings show that top freelancers do not want to sell their expertise after they have accessed the platform and value dedicated agents who take care of selling. This is in contrast with the research about online freelance marketplaces, which emphasizes the importance of proactive online reputation maintaining and marketing (Barnes et al., 2015). Instead, platforms intermediating top freelance software professionals use reputation systems primarily for improving match quality, and therefore the information they gather from platform participants must be detailed. However, gathering consistent and comparable information about freelancers' personalities has proved to be challenging. As there is no need for extensive reviews and ratings systems, which also have several disadvantages (e.g., Hagi and Rothman, 2016; Horton and Golden, 2015), feedback must be collected by using alternative methods. The findings imply that the best way is to give conversational and verbal feedback which is collected by an unbiased person.

Matchmaking

The platform's ability to provide high quality and fast matches for both clients and freelancers depends strongly on the thoroughness of screening process and functionality of reputation system. Screening ensures gathering detailed information from platform participants and well-structured reputation system enables managing a large pool of freelancers without requiring excessive human labor. As the findings of this study show, in essence, matchmaking is active expectation management between freelancers and client companies. To be able to manage expectations efficiently, it is crucial for a platform provider to understand well the freelancers' skills, personalities and preferences as well as clients' industry, needs and experience level. Therefore, the list of success factors in matchmaking introduced by Claussen et al. (2018) can be supplemented by arguing that also the platform's experience has a significant effect on the match success. As Yoganarasimhan (2013) point out, information asymmetries cause uncertainty on platforms. However, they can be reduced and overcome by efficient communication, sufficient face-to-face interaction and pairing freelancers with clients in early phase. Efficient communication between platform participants also facilitate predicting freelancers' availability which was mentioned to be a universal challenge. Additionally, the chemistry between freelancers and clients is hard to predict, and hence providing options is usually valuable.

Engagement to a platform

As discussed in previous section, providing benefits and highly personalized service is essential with top freelancers, which should be considered in every stage of relationship with the platform. Therefore, platforms must pay attention to human-oriented approach and treat freelancers as the primary customers. Moreover, top freelance software professionals value control and autonomy in their work and they usually do not want to be too dependent on only one income source, which supports the study of Kuhn and Maleki (2017). However, both freelancers and clients should be dependent on the value platform provides e.g. in matchmaking, or otherwise disintermediation is likely to occur. The services platform provides and how it approaches freelancers and clients fundamentally builds the platform's brand image, and therefore also generates word-of-mouth among new freelancers and companies.

Having discussed all the trust building platform governance mechanisms and their design, it can be stated that they are all interconnected, and hence affect their ability to build trust with freelancers and client companies. To conclude, figure 5.4 presents a framework that illustrates the trust building process on high-skilled freelance platforms.

Trust building process on high-skilled freelance platforms

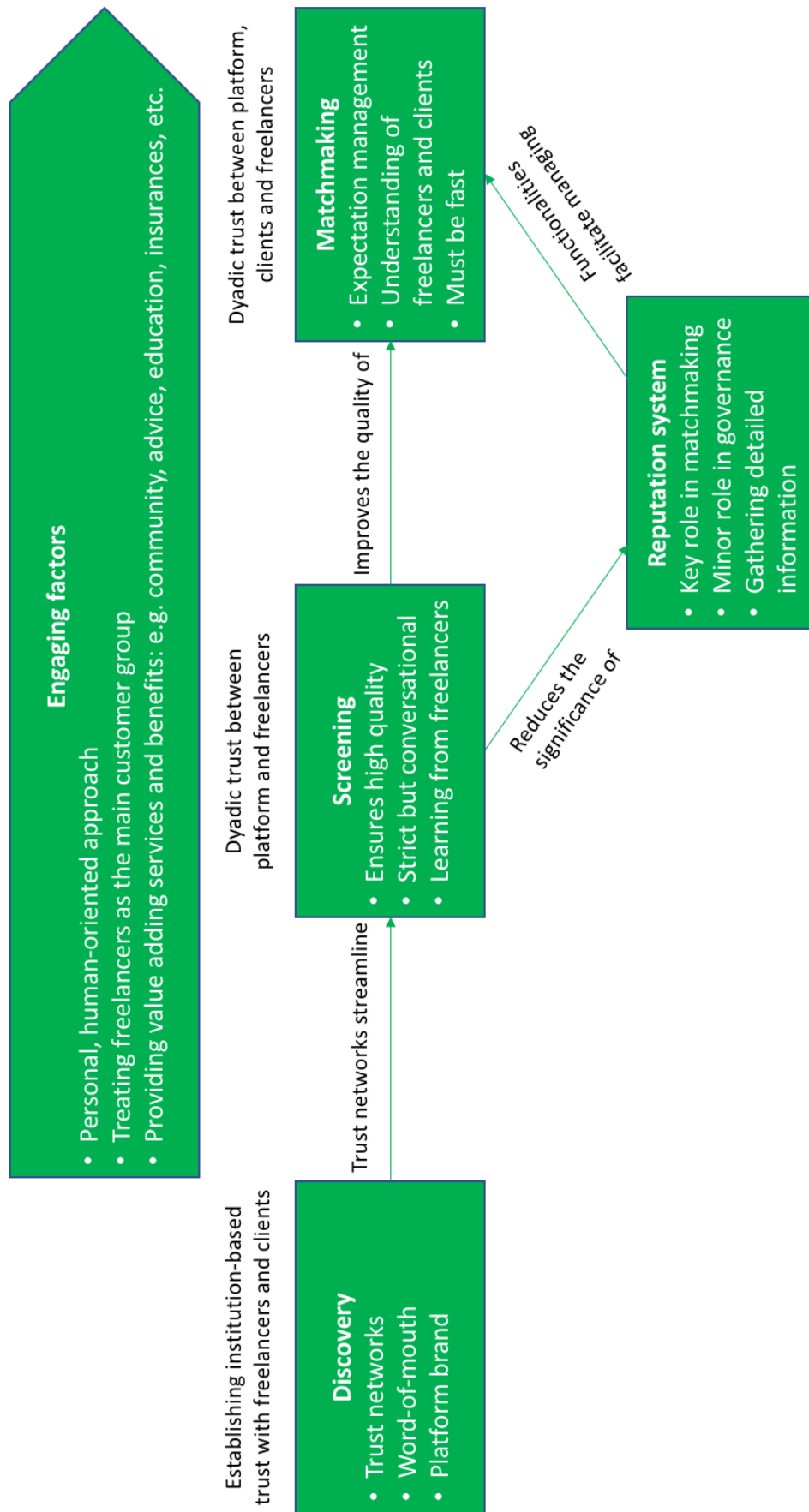


Figure 5.4: Trust building process on high-skilled freelance platforms

5.2. Theoretical implications

This thesis has several theoretical implications as the current research related to high-skilled freelance market and especially on-site freelance work is limited, and in some respects even scarce. The study provides new perspectives to freelance platform research by focusing on the little explored group of freelancers who can be considered to be among the best in their domains. So far, existing research has mainly focused on low-skilled freelancing and online freelance platforms such as Upwork, which do not, however attract the best talent. Despite of the new approach of this study, the findings revealed several clear patterns and causalities in trust building which were aligned with prior research, and hence strengthened the existing views such as the key role of matchmaking on platforms. However, this thesis contributes to freelance platform literature by providing a comprehensive view on persistently growing high-skilled part of freelance economy and raising awareness of the importance of trust building on high-skilled freelance platforms. The findings of this thesis also complement existing literature and to some extent, show evidence that certain arguments and best practices proposed in freelance platform literature, such as performance monitoring systems proposed by Lin et al. (2018), are not applicable when intermediating top freelancers.

Firstly, this study sheds more light on highly paid freelance work which is growing especially in Europe and North America. As existing research has emphasized more the uncertainties and precarious nature of freelancing, it is important that also these positive effects of the change of work get attention. The increasing share of well earning and highly skilled freelancers from the total workforce is creating demand for freelance platforms that understand the current trends in freelance economy and the value of the most talented freelance workers. The findings of this study also indicated that remote work is often out of the question for these top freelancers and companies seeking expertise for business critical tasks, which emphasizes the importance of human interaction.

Secondly, this thesis provides a new and more precise categorization of high-skilled freelance platforms which moves away from the rather polarized division of platforms mediating either virtual or locally performed work (De Groen et al., 2016). As depicted in figure 5.1, high-skilled freelance platforms can be divided more accurately into four types based on their level of digitality and match quality they provide. The empirical evidence also indicates that lower level of digitality on platform correlates with better trust building due to greater human interaction.

Moreover, the extensive literature review and findings of this study together provide better knowledge about trust building mechanisms on high-skilled freelance platforms as a whole since so far, prior research has mainly covered only reputation systems and matchmaking. Hence, the crucial role of vetting in trust building is highlighted in this

study, which has been largely ignored previously. To conclude, figure 5.4 presents a process framework for trust building on high-skilled freelance platforms giving an overview of the the key trust building mechanisms and important interrelations between them. Although the framework is adjusted to platforms for top freelancers, the causes and effects of the mechanisms apply to all freelance platforms.

5.3. Practical implications

Along with theoretical implications, this study also provides many practical considerations for platform providers. The practical objective of the thesis was to identify what strategic decisions high-skilled freelance platforms should take into account in platform design and governance in order to build trust efficiently. As the literature review with the support of empirical findings revealed, trust building is one of the key challenges freelance platform providers encounter, and the actions they do to build trust have a significant effect on the structure and design of the platform. The goal of this thesis was especially to understand the best practices platform providers should consider when aiming to attract top freelance software professionals and clients. To do this, it is crucial to understand the audience to whom the platform is designed and how different trust building mechanisms interact with each other.

Based on the findings, this thesis suggests that platform providers focusing on top talent should implement a tech talent agency model, which emphasizes the quality of the freelance pool and the service level they provide. Although the role of technology on freelance platforms will likely to be more significant, platform providers should maintain human-oriented and highly personalized service level with platform participants. As the top freelancers are likely to have many other job opportunities, the platform must provide value they would not otherwise get from independent contracting. In practice, this means serving freelancers as the main customers and offering value adding services and benefits, which enable freelancers to focus more on their core competencies. By implementing a tech talent agency model, platform providers ensure that the engagement to the platform is as high as possible.

As previously mentioned, human interaction will play a crucial role on freelance platforms also in the future. It is not only important in expectation management, but it also facilitate the use of personal networks. The findings clearly indicated that efficient use of trust networks help platform providers to source new talents, build trust and streamline their screening process which is usually the most critical bottleneck in addition to client acquisition. Moreover, trust networks are used primarily before other ways due to the perceived cost efficiency and their better trust engendering effect.

In tech talent agency model, platform providers should pay attention to the first phase of the screening process which must be strict but human-oriented in order to minimize the need for second phase screening before the final match is made. This does not only improve the quality of the freelancer pool, facilitate matchmaking and reduce competition within the platform, but also reduces the need for building complex reputation systems to prevent adverse behavior. Therefore, the core of platforms intermediating highly complex freelance work should be in their expertise rather than in the technology used on the platform.

Despite of the importance of human orientation, it does not mean that platform providers should not invest in the technical features of their reputation systems. Utilizing advanced technology, such as artificial intelligence, will facilitate especially matchmaking in terms of its success rate and time that is used in finding a suitable match. The reputation system should compile rich information about freelancers' skills and personalities in scalable way in order to increase the freelancer pool without increasing the number of employees in the platform company.

5.4. Evaluation and limitations of the study

To evaluate this study and discuss its limitations, the validity and reliability of the thesis are assessed according to the criteria presented by Eriksson and Kovalainen (2008). These four evaluation criteria, credibility, transferability, dependability and conformability are used to critically analyze the trustworthiness of the research.

Credibility

As Eriksson and Kovalainen (2008) note, credibility of the study depends e.g. on how sufficient the empirical data are to merit researcher's claims and how strong logical links between observations and categories are made. The empirical part of this thesis was conducted by semi-structured theme interviews which produced qualitative data based on the experiences and expertise of the interviewees. Although the aim was to examine trust building objectively, it is evident that the subjective views of the interviewees are biased at least partially. In addition, the interviews were conducted only in capital city area of Finland, and therefore the generalizability of the results can be challenged as they depict well only the markets in relatively small region. It is possible that regional, cultural and legislative variation occur in different markets which can reflect in differing organizational behavior and ways to build trust. However, by interviewing both freelance business experts and freelancers with different backgrounds, the level of objectivity in this study is higher compared e.g. to single case study. Hence, considering also the similarities in their answers and lack of conflicting views, it is justified to argue that the findings of this thesis are credible.

Transferability

Considering the lack of research related to the topic of this study, the transferability of this thesis can be questioned. Transferability refers to the degree of similarity and connections between the results of this and previous research, and therefore the idea is to assess whether the findings can be generalized to other contexts or settings (Eriksson and Kovalainen, 2008). As this study focuses especially on top freelance software professionals, the findings cannot be generalized directly to low-skilled freelancing, other industries or in some respects to online freelancing. However, already widely studied low-skilled and online freelancing were discussed in literature review and later in results where the similarities as well as differences between them and high-skilled on-site freelancing were analyzed. Moreover, one of the case companies provided viewpoints outside of the software industry, which enabled assessing the connections between different types of knowledge work. As there were some clear similarities between prior research and the findings of this study, but also between all the case companies and freelancers, it can be stated that the identified trust building process applies in some respects to other high-skilled freelance settings.

Dependability

One important aspect of trustworthiness is the dependability of this study which refers to the degree of how logical, traceable and well documented the research has been (Eriksson and Kovalainen, 2008). As elaborated in chapter 3, the methodological choices in this study, such as semi-structured interviews and the use of thematic analysis are suitable for analyzing qualitative empirical data in case studies. In addition to extensive literature review, the interviews were recorded and transcribed thoroughly which increase the traceability of this research. Although no client company interviews were conducted and the number of interviews was limited to 15, the findings are consistent and they give a sufficient overview of client perspective through the case company interviews.

Conformability

As Eriksson and Kovalainen (2008) describe, “conformability is about linking findings and interpretations to the data in ways that can be easily understood by others”. Moreover, it also refers to the neutrality of the data. Especially the freelancer interviews focused on subjective beliefs and experiences, which alone might have given too biased results. Therefore, the case company interviews provided more objective results from the same viewpoints and confirmed the reliability of the overall findings. Additionally, the results of this thesis are supported with direct quotations from the interviews which improves the intelligibility.

5.5. Conclusions and future research

The goal of this thesis was to throw light on high-skilled freelance platforms and especially on top freelance software professionals which have previously gained only minor scholarly attention. This research gap and the recognized importance of trust building on high-skilled freelance platforms created a basis for generating new knowledge about trust building processes on platforms focusing on top freelance software professionals. The literature review gave an extensive overview of current trends in freelance economy and identified the key trust building governance mechanisms and design features. Moreover, the empirical part of the study provided an in-depth look at the interrelations between different trust building mechanisms and generated a process framework (figure 5.4) for trust building on high-skilled freelance platforms which can be applied to top freelancers.

Efficient trust building is crucial when the platform provider's aim is to intermediate complex projects to highly skilled freelance software professionals. The decisions platform providers make in terms of governance and design have a fundamental effect on the attractiveness of the platform and the success of matchmaking, which is the most important value creating factor regardless of the platform's focus. As the majority of prior research has focused on reputation systems and matchmaking, this thesis contributes to freelance platform literature by highlighting also the significance of screening process in trust building as well as utilizing trust networks and providing value adding services.

The study focused on providing a comprehensive overview of trust building mechanisms, which however revealed the complex nature of the certain mechanisms and trust building factors that could be studied further. Therefore, this thesis suggests future research to examine especially (1) trust networks, (2) screening processes and (3) the operation between reputation systems and matchmaking. Firstly, the identified enhancing effect of utilizing trust networks in screening process could be examined further by focusing on ways to make the use of trust networks more scalable. As trust networks depend on personal relationships which are likely to be tied to restricted areas, studies could aim to find more efficient and systematic ways to extend the use of trust networks e.g. beyond country borders, which would enable acquiring more diverse talent. Secondly, this thesis did not provide in-depth understanding about the screening process in practice. Since it is the most important mechanism in quality assurance, but also a possibility to learn to understand freelancers better, the process should be designed to be strict but conversational. Future research could strive to find out the best ways to gather rich information about freelancers and sift out unsuitable applicants in human-oriented way without making the process too time-consuming. Thirdly, the structure and technical features of reputation systems could be examined further to provide better understanding of optimal ways to support and enhance screening process

and matchmaking with technology. As this study raised a common challenge to evaluate personalities in a measurable way, future research could also focus on identifying the attributes that help compiling detailed freelancer profiles for more successful matchmaking.

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Appendix

Interview guides

Expert interview:

Introduction

- Introduction of the researcher
- Background of the topic

Background information

1. Tell a little bit about yourself and your role in the company
2. Tell briefly about your company's business
3. Do you form teams from freelancers or do you intermediate individual freelancers?
4. What kind of projects do you typically have?

Trust building mechanisms

5. How do you source and find freelancers?
6. How do you choose freelancers and how do you validate the freelancers' expertise?
7. How do you connect freelancers to projects that are suitable for them?
8. What kind of contract type do you have with freelancers and clients?
9. How do you maintain information about freelancers' expertise and experiences?
10. How do you get feedback from the projects?

Relationship with the platform

11. What kind of control and role freelancers have on your platform?
12. What is the value proposition for freelancers?
13. What kind of incentives do you have for freelancers?
14. How do you monitor freelancers who are working on a client project?
15. What are the most important factors that affect trust between you and your clients?
16. What other factors are important in trust building between you, freelancers and clients?

End words

- How do you see the development of high-skilled freelance market?
- Is there anything else you would like to say about the topic?
- Thank you for the interview!

Freelancer interview:

Introduction

- Introduction of the researcher
- Background of the topic

Background information

1. Tell a little bit about yourself and why do you work as freelancer?
2. What kind of work do you typically seek and perform?
3. Have you used any freelance platform?
4. Why you have (not) joined a platform?
5. What kind of challenges you have experienced in freelancing?

Trust building mechanisms

6. If you have worked through a platform, how was the accession process?
 - a. What did it require you to do?
 - b. Which factors influenced your decision to join the platform?
7. If you have **not** worked through a platform, how do you seek new client projects?
8. On what grounds do you choose your projects?
 - a. How long in advance you are able to pledge to a new project?
9. How the matchmaking has concretely happened and what has your role been in it?
10. How the platform/project owner gather/maintain/evaluate information about your expertise?
11. What do you think about systems that are designed to evaluate you and your expertise?
 - a. Do you see any challenges?

Relationship with the platform

12. Do you work only through a one platform/in a one project at a time or do you have multiple concurrent projects? Why?
13. What kind of control do you have on the platform or project?
14. What kind of contracts have you had on a platform/projects?
15. How the platform/project owner monitors your work?
16. What kind of services and other benefits the platform provides?
 - a. What do you think about those?
17. What are the most important factors when you create a relationship with a platform or client?

End words

- How do you see the development of high-skilled freelance market?
- Is there anything else you would like to say about the topic?
- Thank you for the interview!