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Hunting for talent

Careers and motivational factors of IT professionals

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Abstract

IT talent shortage is a global issue for businesses that are struggling to find candidates to fill their IT positions. As the future of work is changing with advances in automation, robotics and artificial intelligence, the need for skilled IT workers is not likely to decrease in the near future. The objective of this research was to find out what are the factors that could get IT talents interested in changing employer. Moreover, the objective was to understand what kinds of careers IT talents want and what motivates them.

The qualitative research method was chosen in order to gain deep insight on the topic. A case study approach was used to generate better understanding of the complex issue. Herzberg's hygiene motivation theory was used as a basis, and it was supplemented with findings from previous studies. This resulted in a framework that looks at elements that affect motivation and career construction such as instrumental attributes, symbolic traits and external factors. Semi-structured interviews were conducted on IT talents and IT recruiters, and the data gathered from the interviews was analysed using content analysis.

According to the results, IT talents follow boundaryless and protean career models valuing freedom and flexibility as well as opportunities to work with modern technologies. Career aspirations vary somewhat generationally, but continuous self-improvement, learning and skills development were found to be important for all IT talents. Future research should be conducted on the pulling power of a guru within the IT sector and on how to attract more women into the industry.

Keywords/tags (subjects)
talent shortage, talent attraction, passive candidate, recruitment, new career models, motivation, career, IT industry

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IT osaajapula on globaali ongelma yrityksille, joilla on haasteita löytää kandidaatteja täyttämään IT alan avoimia paikkoja. Tulevaisuuden työn muuttuessa automaation, robotiikan sekä tekoälyn myötä on epätodennäköistä, että IT osaajapula tulisi tulevaisuudessa helpottamaan. Tutkimuksen tarkoituksena oli selvittää mitkä tekijät saisivat IT osaajat kiinnostumaan työnantajan vaihtamisesta sekä ymmärtämään minkälaisia uria IT osaajat haluavat ja mikä heitä motivoi työssään.

Tutkimus suoritettiin kvalitatiivisella menetelmällä syvemmän ymmärryksen saavuttamiseksi. Tutkimusmetodiksi valittiin tapaustutkimus, jotta tätä kompleksista aihetta voitaisiin ymmärtää paremmin. Tutkimuskehys muodostui Herzbergin hygienia motivaatio teoriasta ja sitä täydennettiin aiempien tutkimusten tuloksista, joilla voidaan tarkastella motivaatioon ja urakehitykseen vaikuttavia tekijöitä kuten instrumentaalisia, symbolisia sekä ulkoisia tekijöitä. Empiirinen aineisto kerättiin haastattelemalla IT osaajia sekä IT rekrytoijia ja aineisto analysoitiin käyttämällä sisältöanalyysia.

Tutkimustulokset osoittavat, että IT osaajat haluavat uria, jotka mukailevat rajattomia (boundaryless) sekä proteaanisia (protean) uramalleja, ja he arvostavat vapautta, joustavuutta sekä mahdollisuutta työskennellä modernien teknologioiden parissa. Uratoiveissa oli jonkin verran poikkeavuutta eri sukupolvien välillä, mutta kaikki IT osaajat näkivät jatkuvan itsensä kehittämisen, oppimisen sekä taitojen kehittämisen merkittävänä. Jatkotutkimusta tulisi tehdä liittyen "gurun" vetovoimaan IT alalla sekä miten IT alalle voisi houkutella lisää naisia.

Avainsanat (asiasanat)
Osaajapula, osaajien houkutteleminen, passiivikandidaatti, rekrytointi, uramalli, motivaatio, ura, IT ala

Muut tiedot

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1 Introduction

Many organisations across different industries are struggling to find information technology candidates to fill their open positions. (From now on in this text information technology will be referred as IT.) There is a global talent shortage of IT workers that has continued for years and it is not showing signs of slowing down. In their report McMurtrey, Gover, Teng and Lightner (2002, 275) forecasted that the ongoing IT professional shortage was likely to continue into the future. They were proven correct because 15 years later the situation had not improved, and the shortage of IT talent still remains. There are numerous studies that have stated the same (Ang & Slaughter 2004, 11; Fontinha, Chambel & De Cuyper 2012, 837; Gupta & Houtz 2000, 2; Korn Ferry 2018; Vitalari & Dell 1998.) The reasons for the shortage are multiple, for example increased innovations in IT, an increase in Internet and web-based businesses, and the expanding information economy. Moreover, high turnover rates in IT industry have also contributed to the rise in demand for IT workers. Despite the fact that the high-tech industry has slowed down, the demand for IT talents has not decreased (Ann & Slaughter 2004, 11-12). The scarcity of talent in the labour market has resulted in something called '*the war for talent*' where organisations are fighting for the skilled and talented candidates (Beechler & Woodward 2009, 274).

A global staffing provider, ManpowerGroup, releases an annual talent shortage survey which reveals the industries that struggle with the talent gap. According to 2016 – 2017 survey IT staff (especially developers, programmers, database administrators as well as IT leaders and managers) are the second most sought-after group of professionals after skilled traders. (ManpowerGroup 2017.) According to Forbes' survey 86 % of recruiters and hiring managers said to have struggled to find technical talent (Fatemi 2017). The shortage of IT workers is especially bad within the cyber security industry where it has been estimated that by 2020 there will be as many as 1.5 million unfilled positions (Zadelhoff 2017). Moreover, IT talent does not only refer to the employees in the IT sector, but also to all industries where IT staff are needed.

A significant proportion of businesses have varying needs for IT throughout all their organisational levels. The issue of talent shortage is a very real situation for many organisations globally. As robotics, artificial intelligence and automation increases and life becomes more technologically advanced, the need for IT workers is still not likely to decrease in the near future. As a result, companies are competing with each other in an attempt to find and attract appropriate IT talent. The shortage has resulted in high competition, inflated salaries, extended career opportunities and a relatively high staff turnover (Fontinha et al. 2012, 837). In 1998 Vitalari and Dell went as far as describing the lack of qualified IT professionals as a crisis. A recent study by Korn Ferry (2018, 18) states that IT skills are required beyond jobs within the IT industry causing the global demand to become explosive. Not only is it widening the skills gap but also hindering the growth prospects for companies across different industries.

Moreover, talent shortage is not the only factor affecting the scarcity of workers in the IT sector. Changes in the recruitment industry, the labour market and career models are also affecting the phenomenon. In recent years the speed of transition has been accelerating. Financial stability and the development of business environment have become harder to predict, which in turn has created unpredictability in the labour market and the recruitment industry where supply and demand do not always meet. This has resulted in high unemployment at a time when, paradoxically, companies are struggling to find the right talent. The issue is not only with the volume of candidates, but with the talents and skills that they possess, as well as the timing, namely, finding the right candidate at the right time. (Human Age 2016, 3.) The effects are felt by the workforce as well as companies who are less able to provide job security. This has contributed towards the formation of new career models. The last few decades have seen a redefinition of what a career path looks like and it is more common now to have multiple employers during one's career than retire from one job. Due to these changes, recruiters find themselves in a position where they must find new ways to operate in the market in order to keep up with the transition. Old, traditional forms of recruitment are no longer sufficient for competing in this highly competitive market.

One of the new strategies in today's competition is *passive candidate*[*] attraction. Passive candidate attraction is often associated with head hunting, which has been described as "…*third-party agents who are paid a fee by the employers for finding candidates for them. Their clients are organizations, not job candidates*." (Finlay and Coverdill 2002, 1-2). As this thesis was assigned by a client company that operates in the recruitment and staffing industry, this thesis considered also passive candidates as clients as the human talent is in the core of the business. Having a qualified talent pool is an important asset for the business, and thus, the candidates cannot be overlooked as only means for doing business. Despite the phenomenon of passive candidates becoming more widely discussed within the industry, the topic has remained somewhat under-researched. According to the LinkedIn Talent Trends report, as many as 85 % of the workforce consider themselves as passive candidates (Srinivasan, 2014). Ferreira's study (2016, 2) supports this as well, but with a smaller figure, as she suggests that 60% of those currently employed are passively looking for new employment.

With this ongoing talent shortage, companies need to identify what the factors are that could make IT talents to change employer and what they could do in order to attract the passive IT talents. However, according to Messersmith (2007, 431), the IT industry struggles with greater challenges regarding staff turnover than nearly any other profession. If one was to only focus on the factors that affect IT talents to change employer the research would only seek answers to how the IT talents could be attracted to an organisation, and not how to make them stay. Therefore, this research also aims to examine what motivates IT talents and what types of careers they want. By researching the career aspirations and motivators of IT talents, it may be possible to draw conclusions on how organisations can not only attract, but also retain talents.

[*] passive candidate refers to a candidate who is currently employed and not actively looking for new employment

The aim of this research was to identify how to attract passive IT talents. The research proposition was that there are factors that affect passive IT talents' decisions to change employer and reconstruct their careers. The factors can be regarding motivation, career design, and organisational attractiveness. This research was based on a mixture of different theories. With regard to motivation, this research used Hertzberg's two-factor theory supplemented by findings from previous studies on recruitment and organisational attractiveness. Regarding career development this research used a theory on contemporary careers.

The research questions are "*What kind of careers do IT talents want?*", and "*Which factors can trigger a passive IT talent to consider changing employer?*".

This thesis was assigned by a company that operates in the staffing and recruitment industry, both with direct recruitment and outsourcing assignments. Fontinha et al. (2012, 833) suggest in their study that the client companies of IT outsourcing businesses often expect immediate access to specialised skills and knowledge. This was also very true in the case company, and thus, the client's demands mixed with the IT talent shortage presents challenges especially within the IT sector. However, it was not only the issues and challenges that the case company was facing, but instead they had recognised the potential opportunities that may arise from the passive candidate market. Therefore, it was evident that research within this topic was important for them. As the phenomenon of the talent shortage is not only nation-wide, but also a global phenomenon, this research is also important for the IT sector and the labour market.

The research approach used in this thesis was qualitative, because the research questions aimed for deeper understanding regarding the factors that influence a passive candidate's decision to change employer. Moreover, the case study method was chosen because the research aimed to understand a complex social phenomenon (Yin 2014, 4). The empirical part of the thesis was implemented by conducting semi-structured interviews with passive IT talents and IT recruitment

specialists in order to identify some of the factors that affect the decision of a passive IT talent to change employer. The answers were analysed using content analysis. Based on the findings concrete suggestions on what factors affect passive IT talent attraction and what affects their motivation were provided for the case company. Furthermore, suggestions for future studies were also given.

The phenomenon can be researched through employer image studies or studies regarding career models and motivation. The employer image studies aim to look for the reasons why candidates would choose a certain employer. On the other hand, career model studies and motivation studies focus on the development in career models, what kinds of careers the candidates are looking for and what motivates them. This thesis combined all these angles and looked at the factors that contribute towards passive IT talent attraction.

This thesis begins with a literature review of talent shortage, careers, motivation, and organisational attractiveness. The third chapter introduces the methodology used in this thesis. It also describes the empirical part of the thesis and methods that were used to analyse the data. The fourth chapter discusses the data analysis and the results that were obtained from the interviews. The discussion chapter provides a deeper description of the results by comparing the results with previous research on the field and possible new findings. Moreover, the chapter discusses the credibility of the study, provides suggestions for future research on the topic and suggestions for the client company on what to focus when attracting passive IT talents.

This thesis aims to increase understanding of the behaviour and motivation of passive IT talents regarding their career moves as well as provide concrete suggestions to the assigning company regarding passive IT talent attraction. The results will benefit the assigning company in understanding how to attract and retain talent. The results can be used also when dealing with the client companies of the assigning company. The research is beneficial also to the recruitment industry as the issue with talent shortage is so vast. The interviews will also provide valuable

information on the motivations of passive IT candidates as well as the recruitment specialists' point of view on the topic.

2 Work motives and career paths

This chapter looks into the different aspects and phenomena in this research. Firstly, it deals with the talent shortage, then careers and motivation. It then proceeds to examine the research on new career models and studies on organisational attractiveness. It concludes by summarising the theories used in this research.

2.1 Talent shortage

The Economist (2006) criticises that the word talent is used as a synonym for workforce in general, whereas it should be used for innate ability, something that is special and scarce for businesses to find and keep. It refers to an individual who "*has the knowledge, skills and values that are required for today and tomorrow*" (Beechler & Woodward 2009, 4). As for the intentions of this research, the word talent is used in the manner described by Beechler and Woodward above because it has been noted in the assigning company and within the industry that IT talents with the right skill sets are scarce.

Talent shortage in turn means the situation where companies are struggling to find the right talent at the right time in the right place (Beechler & Woodward 2009, 10). Cable and Turban (2001, 117) have described the lack of suitable candidates as the war for talent. Businesses have started to see their employees, human talent, as their main asset, which has contributed to this 'war for talent'. There is a paradox in this situation where the developed world is trying to cope with unemployment, while at the same time businesses are saying that they have difficulties in finding people with the right skills to fill their positions (Oxford Economics 2012). The issue is not about the talent shortage as such, but more about the talent mismatch – there are not enough people with the right skillsets in the right place at the right time (Harvard Business Review, 2014).

Talent shortage is not a new phenomenon. Rynes and Barber (1990, 2) predicted that the shortages will increase the importance of talent attraction. Barr and Tessler

(1997) predicted skill gap specifically for software engineers across the entire IT industry. Moreover, the 2016-2017 Talent Shortage Survey found that IT professionals were the second most difficult talent for employers to find (ManpowerGroup 2016).

Bessen (2014) suggests that skills gap is not a result of poorly directed education nor the poor quality of candidates in the labour market, but that it has emerged as new technologies have rapidly entered the market. Educational institutions cannot keep up with the pace of new technologies, and the speed with which new technologies are forming has radically changed work in the last decades. Moreover, there are certain megatrends, forces beyond our reach, that are shaping the labour market and recruitment industry. Some of the effects contribute towards the talent shortage, such as the ageing of the population and the declining birth rates. There are simply fewer people in the labour market, and thus, the competition for talent acquisition becomes more intense. (Beechler and Woodward 2009, 273.)

Not only is the number of people in the job market decreasing, but the type of employees is changing as well. The baby boomers had very different career paths compared to the millennials. Sullivan, Forret, Carraher and Mainiero, (2009, 3), who studied generational differences in work attitudes, argue that the baby boomer generation *lived to work* whereas the later generations *work to live*. Generation X and Y (also referred to as the millennials) have been said to be more mobile and have loyalty towards teams and managers over organisations whereas the baby boomers have a greater respect for authority and hierarchy. The baby boomer generation may have been working for the same company for most of their life, but the millennials are likely to have various employers during their careers. The characteristic of the representatives of these generations are not the only reason because also the job market has changed greatly. However, not only demographic changes are affecting the labour market, as Finlay and Coverdill (2002, 14) suggest that one reason for the contracted employment cycles can be seen in the increased layoffs and contract terminations. Moreover, Greenhouse, Callanan and DiRenzo (2008, 284) study points out that although organisational careers are not only a thing of the past, single

employer careers are no longer a dominant pattern.

New millennials entering the labour market is creating a new kind of challenge. Their career paths are determined more by their own individual choices and they are more likely to job hop and have several employers during their careers. They build their skills and expertise through different employments and see what employers can provide for them. (HumanAge 2.0 2016.) Moreover, Bersin (2016, 30) argues that millennials are not aspiring to follow in the footsteps of the older senior leaders, but are rather reinventing the role of a leader. The role of traditional employees has shifted more towards a free agent –type of thinking where employees are responsible for their own career development as well as for their own competence and skills. Along this free agent –thinking there is a barter where the employees give their talent and gain new opportunities in return. (Beechler and Woodward 2009, 276.) The new career model research calls this keeping the staff "employable" (Baruch 2003, 62).

Due to the demographic changes, recruiters are now faced with the task of finding ways to attract millennials who think very differently about their careers from the previous generations. The old, traditional ways to attract talent, such as salary, bonuses and career advancement opportunities have been challenged by changes in individuals' thinking who want freedom, flexibility and autonomy. New career models have emerged and they have been studied in order to explain that shift.

One can conclude that talent shortage is a major contributor towards the increasing competition in the recruitment industry, which is forcing the industry to find new innovative ways to acquire talent. The recruitment industry is also challenged by recognising the changes in the workforce demographics, which also contributes towards the talent shortage.

2.2 Motivation and career models

Arthur, Khapova and Wilderom (2005, 178-179) say in their study according to Arthur, Hall and Lawrence (1989) that careers have been defined as "*the unfolding sequence of a person's work experiences over time*". Moreover, they can be described either as subjective (an individual's own understanding and desire of their career), or objective (what is observed by the public including positions, situations, and status). This research looks at career from the subjective perspective, as it aims to understand what IT talents want from their career, i.e. their own perspective of their careers.

It is very important to understand what causes and creates motivation in people regarding their careers. Without understanding the root causes of work motivation, it becomes increasingly difficult to recognise the factors that would cause employee retention and loyalty. Intrinsic motivation has been studied widely in psychology. Studies have found that when the three psychological needs, competence, autonomy, and relatedness, are satisfied they result in enhanced self-motivation and vice versa (Ryan & Deci 2000, 68). Intrinsic motivation can be disrupted if there are no supportive conditions, and thus, it needs an environment that maintains and supports it. (ibid. 70.) Cable and Judge (1996) studied the person-organisation fit and suggested that, when the conditions are suitable, they would support the person's intrinsic motivation as well. The P-O fit is described in more detail in the chapter about organisational attractiveness.

Herzberg studied motivation specifically in the work place and developed the motivation-hygiene theory. The next chapters explain Herzberg's theory and the new career models as well as what has led to them.

2.2.1 Hertzberg's two factor theory

Motivation has been of interest to the human kind over centuries. The earliest studies go back as far as the Greek philosophers, and since then, many theories have been developed, including the likes of Taylor's theory on scientific management (which emphasises financial rewards), and Maslow's need hierarchy (which emphasises the basic human needs). Many studies that aim to understand motivation focus on the role of individual differences in motivation. Herzberg, however, studied specifically motivation in relation to one's job and work activities (Steers, Mowday & Shapiro 2004, 379-381).

Hertzberg's two-factor theory regarding motivation was published in 1968. In his theory, he talks about hygiene factors and motivation factors. Hygiene factors are the ones which, if they are missing, create job dissatisfaction. However, if they are there, they do not increase motivation or job satisfaction. Motivation factors, on the other hand, create job satisfaction. Hertzberg (1968, 56) suggests that "*the factors which are involved in producing job satisfaction (and motivation) are separate and distinct from the factors that lead to job dissatisfaction*", and therefore should be considered separately.

Steers et al (2004, 381) explain that Herzberg's theory looks at how challenging the job is, and whether it provides opportunities for recognition and reinforcement, while the "hygiene factors" are considered temporal when it comes to job satisfaction and motivation. Furthermore, Steers et al. (ibid.) give credit to Herzberg in introducing the concept of job enrichment, which is considered a key factor regarding work motivation and job attitudes. Hygiene factors are related to the work context, such as working conditions, relations with the co-worker relations, rules, salaries, and supervisor quality. If employees are dissatisfied with these factors, their motivation goes down. Improving these conditions will decrease job dissatisfaction, but it will not improve work motivation. Motivation factors include achievement, recognition, responsibility, work content, advancement and personal growth. Improving motivation factors leads to increased job satisfaction. (See Figure 1.)

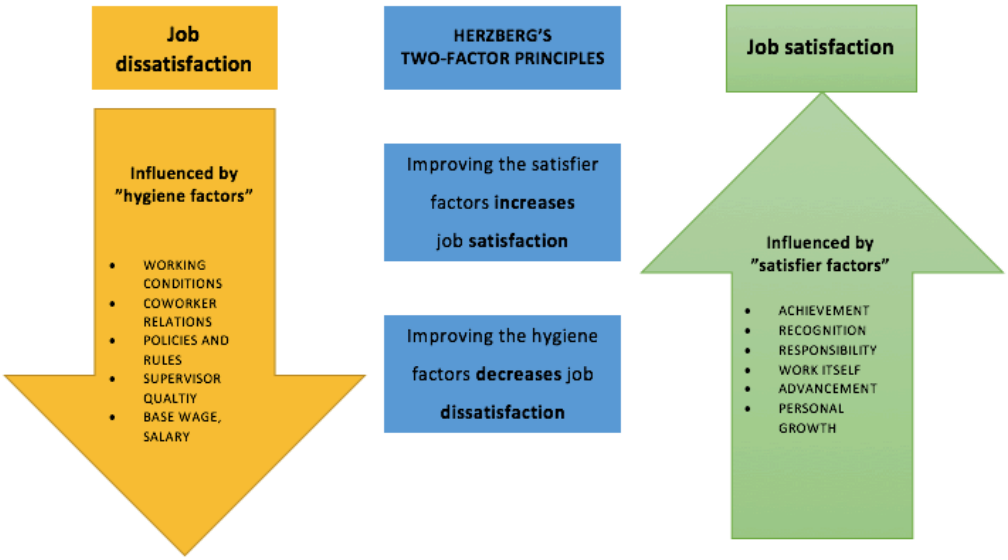

Figure 1. Herzberg's two factor theory (adapted from Kunchala 2017.)

Herzberg's theory on motivation is important for this research as it goes deeper into the root causes of satisfaction in working life. As this research does not only aim to find the factors that attract IT talents to organisations, but also recognise which factors makes them stay in the organisations, it looks at Herzberg's theory on motivation and aims to identify factors that create motivation in IT talents' careers.

However, one must keep in mind that there are always many approaches to obtaining an understanding of the whole spectrum of job satisfaction. Kalleberg (1977, 142) concluded in the end of his study regarding job satisfaction that the sociological approach alone is not sufficient for understanding the relationships that people have to their jobs. It needs to be supplemented by psychological and economic theories in order to understand the behavioural aspects that people have regarding their work as well as understanding labour market factors that affect the process. The same applies to this research as well because decisions to build a certain type of career can be affected by so many factors including educational background, physical location and the possibility to relocate, family situation, but also one's psychological mind set. The external factors such as labour market

fluctuations are discussed and somewhat taken into consideration in this research. Including the aspect of economic theory in the research would help to further understand the external factors that affect the choices that IT talent make regarding their career moves. However, economic theories were excluded from this research in order to maintain its original boundaries and objectives.

2.2.2 New career models

New career models have been largely formed as a result of changes in work life as organisations were responding to recession and unpredictability in the labour market by rearranging operations, increasing layoffs etc (Greenhouse et al. 2008, 279). Due to a number of reasons, companies were no longer able to offer job stability, and as a result, organisations started moving towards keeping their staff "employable" – either in their own service or within some other organisation – through improving their competences and abilities and providing opportunities for continuous learning. (Baruch 2003, 62; Hall & Moss 1998, 26.)

Globalisation is considered to be one of the major driving forces for the shift in careers. As organisations in the global market need to be more competitive and responsive, it has reflected on the employees as well as forcing them to be more flexible and adaptive. (Hall & Moss 1998, 22; Sullivan & Baruch 2009, 1542-1543.) Similar trend is suggested by Sullivan (1999, 457), claiming that the traditional career model was dominant due to the fact that organisational structures supported it. However, with the changes brought by globalisation firms have had to become more flexible in response to different factors, such as advancement in technology and increased global competition. Sullivan and Baruch (2009, 1563) suggest that old hierarchical organisational structures and growing economy supported the traditional career model. Career paths started changing as a result of shifts in the organisational structures and the boundaries of organisations, industries and occupations became increasingly blurred. (Baruch 2003, 60; Sullivan & Baruch 2009, 1563.)

Changes in career models has not been voluntary for everyone. Organisational changes such as mergers, acquisitions, and downsizing have shaped the careers of many, and as a result, organisations started encouraging their employees to start managing their own careers. (Quigley & Tymon 2006, 522-523.) However, the changes are not only due to organisations, but also due to demographic changes such as longer life span, different family structures such as dual-career couples, working single parents or employees who are looking after elderly family members (Sullivan & Baruch 2009, 1543). Although the lack of job stability has been one of the driving forces for the initial formation of new career models, there are many who choose to form their own careers and take their career building into their own hands. This is also supported by Rodrigues and Guest (2010, 3) who claim that research had suggested that the meaning of work is different for the younger generations who want different things from their careers, mostly work-life balance. They also claim that careers have always been somewhat boundaryless and the emergence of new career models is not a new phenomenon.

Typical to a traditional career model is the way that success was determined. According to Valcour, Bailyn and Quijada (2007, 189) career success was "*upward mobility in a managerial or professional field through continuous employment, often with a single employer and typically within a single occupation*". In the past career development was often vertical and advancement came in the form of promotion. In this hierarchical and linear system career success was measured through upward mobility and salary increases. (Baruch 2003, 60.) Sullivan (1999, 457) supports the same view and suggests that according to Levinson (1978) and Super (1957) careers usually consisted of work in one or two firms and the progress was linear. Promotions and salary increases were considered as a part of successful career, which was defined by the organisation, not the employee. Job security was typical to the traditional careers, and in exchange, employees gave organisations their loyalty. Whereas with the new career model thinking employees give organisations their knowledge and performance and get continuous learning and marketability in exchange. (Sullivan 1999, 458.)

Moreover, in traditional career model organisations had the responsibility of individual's career development, but with the changes in career models, individuals started assuming responsibility of their own career development and management (Sullivan & Baruch 2009, 1563). Also emphasising organisational initiatives was typical to research regarding traditional careers, whereas studies on new career models have come to notice that typical careers nowadays involve multiple organisations (Quigley & Tymon 2006, 522). Careers started becoming more flexible and multi-directional in the end of twentieth century. Upwards mobility was no longer the only way to advance in career, but instead new perspectives regarding career success started forming in the form of, for example, life balance, autonomy and freedom. (Baruch 2003, 61.)

Thite (2001) listed some of the most substantial differences in traditional careers and contemporary careers. He divided the frameworks into three areas: environmental context, organisational response and individual response. (Figure 2.) Similarly to other studies, Thite has recognised technology and globalisation as driving forces in environmental context. Technology is also affecting the contemporary framework within the organisational response due to network and cellular structures, enabling working regardless of location.

	Traditional framework	Contemporary framework
Environmental context	Production driven Protected markets Stable technology Familiarity with domestic political, legal, cultural framework	Era of discontinuity and hyper competition at a global level Service driven Technology intensive Global markets with upredictable economic, political and cultural scenarios
Organizational response	Growth at any cost business strategy Mechanistic, product, functional, divisional structures Hierarchical, multiple management levels Supervisor-based performance appraisal Seniority-based, time-bound promotions Command and control management style Responsible for individual career planning and development Uni-dimensional career movements =ladder)	Knowledge and information technology driven learning organization Strategic collaboration with competitors Network, cellular structures Small component of core employees and big component of part-time, casual and contract staff Empowerment of people 360-degree feedback Competency-based outsourcing Self-directed teams Delayering Multi-dimensional career movements =jungle gym)
Individual response	Loyalty to organization in return for lifelong and steady growing employment Minimal responsibility for career management Emphasis on specialization of skills Collective bargaining of employment issues	Diminishing loyalty for organization Focus on employability rather than job Portfolio of jobs and skills Increasing emphasis on life-style issues Acceptance of near-total responsibility for career management Life-long learning

Figure 2. Comparison of traditional and contemporary frameworks. (Thite 2001, 313.)

As well as career models, career stages have been studied. According to Donald Super's theory a person chooses an occupation which will grant them maximum self-expression over time. The stages of career are divided into four categories, 1) exploration (time when education and examining of different career options takes place), 2) establishment (becoming employed, finding a niche), 3) maintenance (holding on to the position, improving skills), and 4) disengagement (phasing into retirement). (Sullivan 1999, 459.) While the theory has been criticised to be somewhat outdated, it can be considered valid for new career models in the sense that stages 1 to 3 occur in between different jobs and life situations. For instance, Sullivan (ibid., 462-463) states that according to Hall and Mirvis (1996) new careers are more characterised as a "*series of ministages of exploration-trial-mastery-exit*" which spans across different work boundaries, including functions and organisations. Moreover, Hall and Moss (1998, 30) suggested that career desires and needs change over time. Early career choices probably won't be best suited for a person in mid-career. In their study they give an example of a 42-year old manager who realised during a self-reflective career planning exercise "Oh, no? I just realised I let a 20-year old choose my wife and my career!".

These changes in career models are also affecting businesses as they are trying to attract talent who are increasingly looking to customise their careers. Organisations have less to offer to candidates who wish to sculpt their own careers rather than let organisations determine their careers. The formation of new career models reflects especially the career types of millennials, who are affected by these new models when they enter their work life. Organisations that are competing over talent should understand the new types of careers individuals are looking for, and how the career aspirations of individuals may change over time. If organisations do not have an understanding of the career desires, it becomes increasingly difficult to know what it is that can be used to attract talent to their businesses. Listed below are some of the most common types of new career models that recruiters should be aware of.

Boundaryless career

In 1996 Arhur and Rosseau introduced the concept of boundaryless career. The boundaryless career model has been described as the opposite of organisational career. People are building their careers through various different organisations and different employments. In boundaryless career thinking, the careers are managed by individuals and not by organisations. They aim to fulfil one's own targets rather than organisational targets. (Greenhouse et al. 2008, 277; Sullivan 1999, 458.) Having portable skills, knowledge and abilities are characteristic to boundaryless careers (Sullivan 1999, 458). Although it has been argued that boundaryless careers are partially the result of organisational changes and not always a voluntary choice (Quigley & Tymon 2006, 522), personal identification with meaningful work has been claimed to also be characteristic to boundaryless careers (Sullivan 1999, 458).

Boundaryless career occurs in different situations. Arthur and Rosseau pointed out six different occurrences, 1) career moves across the boundaries of different employers, 2) career that gets validation from outside the present employer, 3) when a career is sustained by external networks or information, 4) when traditional and hierarchical organisational career boundaries are broken, 5) when a person rejects career opportunities for personal or family reasons, and 6) when a person perceives a boundaryless future regardless of structural constraint. All six situations have a

common nominator, they are all independent and have no dependence on traditional career arrangements. (Sullivan 1999, 464.) Arthur, Khapova and Wilderom (2005, 178) claim that according to studies there is evidence linking boundaryless career and experience of higher-level career success.

Sullivan listed the main differences between traditional and boundaryless careers. (Figure 3.) Issuers regarding loyalty, transferability and individualism are similar to Thite's listing.

	Traditional	*Boundaryless*
Employment relationship:	Job security for loyalty	Employability for performance and flexibility
Boundaries:	One or two firms	Multiple firms
Skills:	Firm specific	Transferable
Success measured by:	Pay, promotion, status	Psychologically meaningful work
Responsibility for career management:	Organization	Individual
Training:	Formal programs	On-the-job
Milestones:	Age-related	Learning-related

Figure 3. Comparison of Traditional and Boundaryless Careers (Sullivan 1999, 458.)

Sullivan and Arthur (2006, 22) described the model through physical and psychological mobility matrix indicating that the boundaryless career is not an either-or –option, but instead has degrees of mobility within it. The career competence depends largely on the "three ways of knowing", which are *know-why*, *know-how* and *know-whom*. *Know-why* refers to individual's motivation and identity, including values, attitudes and lifestyle. *Know-how* means the skills, expertise, competence and capabilities an individual possesses, and *know-whom* refers to the internal and external relationships and networks as well as reputation. Some studies suggest that those individuals that possess higher levels of these three ways of knowing are more likely to be successful in their careers and are more marketable and thus employable. (Sullivan and Arthur 2006, 25; Baruch 2003, 61.) Defillippi and Arthur (1994, 308) call the know-why competencies as the people's beliefs, values and identities that have a

link with the corporate culture. They claim that the know why competencies are closely related to career motivation, personal meaning and identification. This is very similar to the P-O fit described by Cable and Judge (1996), which refers to the degree of how well individual's values meet organisation's values. The P-O fit will be discussed in more detail in the chapter 2.3. Organisational attractiveness.

Boundaryless career theory has been criticised for many reasons, lacking accuracy, overemphasising individual agency over structure, and considering organisational boundaries above anything else. Moreover, the criticism points out that it is too simplistic to consider organisational careers as the opposite of boundaryless career, the concepts are much more complex and shouldn't be overly simplified. (Rodrigues & Guest 2010, 4.) Sullivan and Baruch (2009, 1551) noted that research regarding boundaryless careers haven't distinguished whether mobility between organisations has been voluntary and whether the movement has been up, down or lateral.

One can conclude that there is a great deal of difference between voluntary and involuntary change in employers or whether the possible downward or lateral career move has been voluntary and deliberate. The criticism continues that career self-management isn't the replacement of organisational career management, but instead it complements it (Rodrigues & Guest 2010, 5). However, while the boundaryless career is described as the opposite of organisational career, the reasons for the emergence of boundaryless careers are so many and so varied, that it would be difficult to draw just one conclusion of what boundaryless career is.

Boundaryless career model is often associated with "the free worker ethos", which is typical amongst IT professionals in Silicon Valley (Rodrigues & Guest 2010, 5). Sullivan and Baruch (2009, 1550) also mention the Silicon Valley as an example when talking about boundaryless careers, especially in regards to employees who move across boundaries of separate employers. From the perspective of this research, which is focusing on IT talents, it is important to note that previous research has identified a connection between boundaryless career and IT workers.

Protean career

Protean career model was introduced by Hall in the 1970s and it refers to a career that is managed by an individual, not an organisation. A protean career model is considered to be self-directed as well as values-driven where individual's core values are the driving force for their career development. (Greenhouse et al. 2008, 282; Hall 2004, 1.) As a person and their environment changes, a protean career changes along and can be "reinvented". Protean careers can be considered successful when a person has achieved personal life goals. The thinking is very counterintuitive compared to the old vertical career model where promotions and financial gains determined success (Hall 1996, 8).

A protean career is based on the ideology of self-learning and self-management, skills which have been referred to as metaskills (Hall 1996, 11). This type of career model is somewhat related to Lievens and Highhouse (2003) study on symbolic attributes as well as Cable and Judge's (1996, 297) study on P-O fit. People who find that their values meet those of the organisations are more motivated and committed to the organisation. One can assume that a passive candidate can be strongly attracted to a company which values he or she shares. Figure 4 sums up the main characteristics of protean career. Again, it has many similarities with Sullivan's boundaryless career and traditional career comparison as well as Thite's comparison of traditional and contemporary frameworks. All contemporary career models discussed in this research emphasise the position of individual in construction of their career, but the protean model focuses more on psychological success rather than just career self-management, although it is also an important aspect of protean career model.

THE NEW "PROTEAN" CAREER CONTRACT

1. The career is managed by the person, not the organization.
2. The career is a lifelong series of experiences, skills, learnings, transitions, and identity changes. ("Career age" counts, not chronological age.)
3. Development is
   - continuous learning,
   - self-directed,
   - relational, and
   - found in work challenges.
4. Development is not (necessarily)
   - formal training,
   - retraining, or
   - upward mobility.
5. The ingredients for success change
   - from know-how to learn-how,
   - from job security to employability,
   - from organizational careers to protean careers, and
   - from "work self" to "whole self."
6. The organization provides
   - challenging assignments,
   - developmental relationships,
   - information and other developmental resources.
7. The goal: psychological success.

Figure 4. Protean career contract (Hall & Moss 1998, 26.)

Hall and Moss (1998, 25) described the protean career as a process including all experiences such as education, training, work in different organisations, changes in occupational fields etc., which is managed by the person, not the organisation. Protean career aims for self-fulfilment, and the success of that is defined internally, not externally Protean career requires high levels of self-awareness and personal responsibility (Ibid., 30). While for some, who wish to be in control of their lives and careers this kind of autonomy is aspirational, but not all cherish the freedom. As the protean career has been formed for many of the same reasons as boundaryless career, there are those who may feel more comfortable with secure job and organisational career advancement opportunities and the freedom of protean careers can seem terrifying to them.

When pursuing a protean career, one must develop "meta-competencies" such as self-knowledge and adaptability. Multiple different organisations during one's career are typical to protean career and thus it is important that the employee has the skill to adapt to different positions. Self-knowledge and self-awareness are required in order to recognise when adaptability is required. (Hall & Moss 1998, 31.) Moreover, Briscoe and Hall (2006, 8) points out that a person who is pursuing a protean career is often values driven as well as self-directed. Based on individual qualities, people

have varying degrees of being values driven and self-directed. Figure 5 describes the different categories which were formed based on said qualities: dependent, reactive, rigid, and protean/transformational.

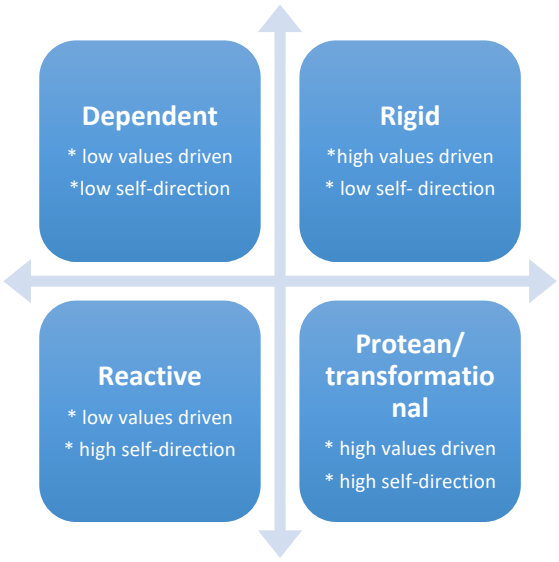

Figure 5. Primary career categories (derived from Sullivan & Baruch 2009, 1549.)

However, it must not be overlooked that the prevalence of boundaryless and protean career models is somewhat unclear and some studies suggest they cannot be generalised beyond industrialised western cultures (Greenhouse et al. 2008, 284).

Kaleidoscope model

Boundaryless and protean career models are often presented together as they have many similarities. Kaleidoscope model, however, was developed independently from boundaryless and protean concepts. (Sullivan & Baruch 2009, 1557.)

The kaleidoscope model looks at three different parameters: *authenticity*, *balance* and *challenge*. *Authenticity* refers to the values individual has and how they align with the organisation's values. *Balance* refers reaching equilibrium between work and non-work. *Challenge* indicates the type of work individual does, how much responsibility, autonomy and challenge one faces within their tasks and their career advancement. The name, kaleidoscope model, comes from the assumption that as

one's life situations change, the career changes along and the three parameters move around like a kaleidoscope. (Sullivan et al. 2009, 10.)

The reasons for the changes in life situations can be multiple, caused by organisational challenges, e.g. layoffs or internal changes such as career maturation. The assumption with kaleidoscope model is that a person is always looking for "*the best fit that matches the character and context of his or her life*". While the parameters shift, like in a kaleidoscope, one parameter takes priority with the other two moves to the background, but remain present and active. (Sullivan & Baruch 2009, 1557.) For example, if a life situation requires for better work-life balance, then *balance* parameter will take priority while authenticity and challenge move to the background. In another life situation *challenge* parameter may take priority when *balance* moves to the background.

Mainiero and Sullivan (2005) who studied specifically women's careers through the kaleidoscope model created an illustration of how the kaleidoscope model can be used. (Figure 6.) It portrays how the three parameters of kaleidoscope model can take priority over different career stages, while the other parameters remain on the background.

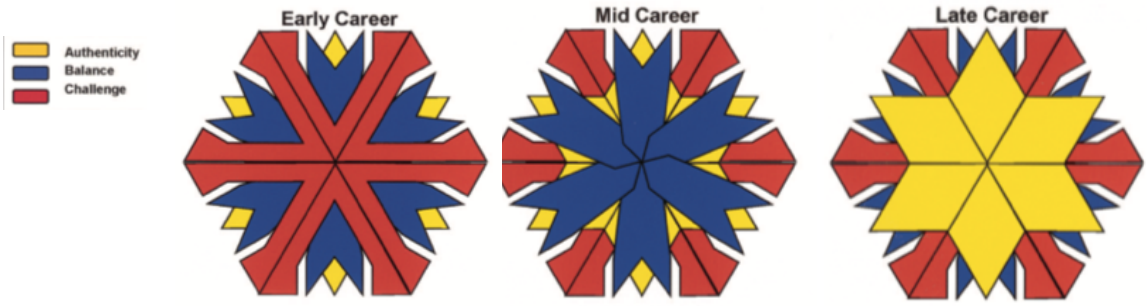

Figure 6. The ABC model of Kaleidoscope Careers for Women. (Mainiero & Sullivan 2005, 115.)

Career customisation, flexible careers, hybrid careers and portfolio careers

Another new career model is customised careers. Valcour et al (2007, 190) argued that "*traditional career is built on assumptions about the separation between work and non-work spheres of life, with employment given the highest value and priority*." This kind of statement has led to especially women opting out from career opportunities as they have found it impossible to fit demanding working life with family life. New career model thinking takes into consideration all different aspects of life and how to fit them together with working life. Customised careers offer the flexibility to do that, instead of either opting out or staying and trying to meet the expectations customised career can be "the happy medium". However, the content to which careers can be customised is largely dependent on the organisation, work culture, labour market situation, work practices etc. (ibid.)

Valcour et al. (192-192) also pointed out that taking time off work used to be seen damaging to one's career. However, part-time work, interruptions in career and different employment relationships are characteristic to customised careers. For instance, part-time work used to be seen as something negative, but it is now getting more widely used in professional careers and there have been studies suggesting that part-time work and job sharing has resulted in increased productivity.

Traditional careers also used to be uninterrupted from the beginning until retirement. Customised careers are more likely to have interruptions over the years due to individuals' life situation and needs. Different employment relationships can mean e.g. temporary contracts over permanent ones and independent contracting or agency work over organisational employment. (Valcour et al, 192-193.)

The benefits of customising a career have been noted in research as well. Productivity and satisfaction have been reported to increase when changing from full-time to part-time employment. Also, those who moved from traditional careers to independent contracting have reported greater work satisfaction. (Valcour et al, 200.)

Tomlinson et al (2018, 5) criticised previous research on the lack of holistic approach, as it has been focused on independent and free career agents, especially boundaryless and protean models. Tomlinson et al (ibid., 6-7) research looked at the bigger picture taking into consideration the institutional arrangements as well as organisational policies connecting a life course dimension into them. They argued that there are multiple actors and stakeholders involved when defining careers and also gender and social categories (e.g. age, nationality etc.) which affect individuals' career decisions. They proceeded to argue that flexible careers are formed in interaction with individual's career decisions, organisations and institutions and that they vary across different life stages. (Figure 7.)

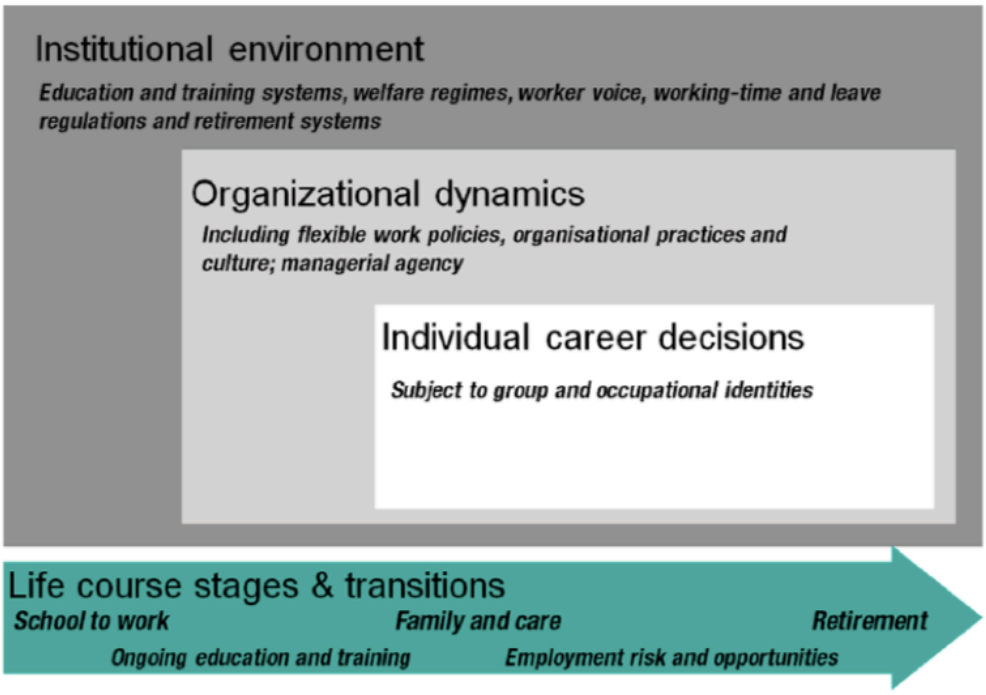

Figure 7. Determinants of a flexible career (Tomlinson et al. 2018, 6.)

Another approach is hybrid careers. The main emphasis is on the word hybrid – it combines elements from both, traditional and contemporary careers. Hybrid career can thus include elements of job security, upward mobility and salary increases while combining boundaryless elements such as continuous training and protean elements

like control over one's own career development. (Sullivan & Baruch 2009, 1556-1557.)

Lastly, another new career trend is portfolio careers where people perform assignments for various organisations over exclusively working for only one organisation (Valcour et al 2007, 192). Portfolio careers can include work not only in different organisations, but in different fields as well (Clinton et al 2006, 179). It captures the true idea of independent work, that of a free agent and is very similar to freelance work. This type of work is common in the IT sector where there are a lot of independent agents working in different projects in different companies.

To conclude, careers are changing due to organisational needs and individuals' needs. This should be taken into consideration when thinking about the factors that attract candidates to companies or positions as companies should think what types of careers they can offer to attract talent. Organisations' abilities to adapt to different individuals' needs can be a determining factor for candidates who are considering changing employer.

2.3 Recruiting of passive talent and organisational attractiveness

The concept of passive candidates is still somewhat new and it has not been greatly researched. A lot of the data available is from blogs and businesses' own surveys, but academic research material on passive candidate attraction is scarce. However, one can loosely conclude that anyone who is employed can be "labelled" a passive candidate, thus most recruitment research will provide information on the subject. Information for candidate attraction can mostly be derived from studies regarding recruitment, organisational attractiveness, and company image to name a few.

Many studies on recruitment criticised the previous research from different aspects. Breaugh (2008, 108) pointed out that the studies focus heavily on post-hire

outcomes such as the staff turnover, but lacks focus on pre-hire outcomes (i.e. studying if different recruitment methods result in better candidates). Melaye (2014, 4) argued that most research regarding candidates is performed on university students and that do not necessarily provide the information that employers are seeking as they are more interested in the candidates that already possess the skills and techniques and are ready to get to work and create some profit. Therefore, research into passive candidate attraction is important.

Moreover, Breaugh and Starke (2000, 405) noted that the research into recruitment has not been well designed, it has been too narrow in focus and it has lacked a theoretical base. Another challenge is that researching recruitment topics is not easy partially because there are various definitions of the term, recruitment (ibid., 431). Considering the challenges that the recruitment industry is facing, talent shortages, changes in the labour market and the fast pace the industry is developing, and the changes in career models, the recruitment industry is still rather under-researched. Breaugh (2000, 103-104) pointed out that especially candidate attraction remains a new area for research. Additionally, it has been very difficult to find studies that would compare the results of the so-called traditional recruitment to passive candidate attraction outcomes, e.g. turnover or job satisfaction rate.

Many researchers are referring to marketing literature to study company attractiveness (Cable and Turban, 2001, Lievens and Highhouse, 2003). This was also noted by Ferreira (2016, 10) suggesting a lot of the previous research on recruitment is referring to branding theory and focuses on employer branding. However, Cable and Turban (2001, 118) pointed out that researchers who have studied employer image uses the terms “image”, “culture”, “reputation” and “familiarity” interchangeably. Therefore, it can be challenging to draw coherent conclusions from the previous researches without making vast assumptions. Moreover, a lot of research on recruitment focuses largely on how to generate applicants and maintain the applicant status. Thus, the available research is focusing on the active job seekers, their behaviour and how businesses are attracting them.

Earlier studies in the field of recruitment focused on realistic job previews (i.e. the accuracy of information given to candidates regarding the open position) as well as traditional recruitment and recruiter characteristics. As the recruitment industry has become more fine-tuned with drastic advances in technology, the research has shifted their focus towards issues such as the timing of recruitment actions, recruit site visits and e-recruitment. (Breaugh 2008, 103.)

To facilitate further research on recruitment Breaugh and Starke (2000, 405) developed a framework of the recruitment process that can be utilised in future research. It includes five phases: 1) Establishing recruitment objectives, 2) Strategy Development, 3) Recruitment Activities, 4) Intervening/Process Variables and 5) Recruitment Results. For this study on passive IT talent the focus is mostly on phase 4, *Intervening/Process Variables*, which includes applicant attention, applicant comprehension, message credibility, applicant interest, accuracy of applicant's expectations and self-insight (Ibid, 408). When sourcing or headhunting for passive talent one might suggest that it is vitally important to gain the interest of the applicant and promote the company and the available position while staying truthful and not promising too much. Considerable amount of research has been done regarding realistic job previews (RJP). Many of those studies suggest that there are unmet expectations and that new hires often feel like the company or the position is not living up to the agreed-upon arrangements (Breaugh and Stark 2000, 415., Breaugh 2008, 105). Therefore, as accurate as possible information regarding the company and position should be given, including favourable and un-favourable information.

Cable and Turban (2001, 120), who derived their recruitment study from marketing literature, also argue that the concepts of "brand equity" (value of consumer's brand knowledge, or job seeker's knowledge of said job and business) and "brand knowledge" can help in understanding the role of organizational knowledge in recruitment. They describe *recruitment equity* as the value of the job seekers' knowledge of said employer, which in theory, means how they feel about information related to an organisation. This means that the recruiter must

understand the different dimensions of knowledge regarding the organisation and how those feelings will affect the job seeker's responses to information about the company as a prospective employer. (Ibid, 123.)

In marketing literature, brand familiarity is considered very important when it comes to consumer's decision making. Cable and Turban (2001, 125-128) thus argue that brand familiarity adds value to the recruitment process. They proceed to argue, based on previous marketing literature, that if a job seeker is unaware of a firm it makes them question the legitimacy of the company as an employer. A known company would seem like a legitimate employer with possibilities for future existence, stability etc. Regarding passive talent attraction these statements makes sense, especially if the candidate is unfamiliar with the company that reaches out to him or her. One can suggest that when a passive candidate is contacted by a well-known company with a strong brand he or she can feel attracted to the company without even knowing the position. Therefore, businesses with a less known brand might have to work harder to sell the position to the candidate.

Lievens and Highhouse (2003, 77) identified different attributes (instrumental attributes and symbolic traits) that attract applicants to jobs or organisations. Instrumental attributes are concrete and factual attributes such as pay, bonuses, benefits, flexible working hours, location etc. These are the types of attributes which can trigger candidates' initial attraction to jobs or organisations. Symbolic attributes are subjective and intangible, such as organisation's innovativeness or prestige. Research has found that candidates are more drawn to organisations that have similar traits as their own traits. (Slaughter et al, 2004, 93.)

Melaye (2014, 60) found that while factors such as company image and reputation are considered important in the early stages of recruitment process, the work itself, in regards to how interesting, challenging and innovative it is, was the most crucial factor. Moreover, Ferreira (2016, 14) stated that studies have found no significant correlation between salaries and employee attractions. However, compensation sets

a certain baseline in attracting applicants and can be a deal breaker in the early phase of recruitment process.

Many researches in the recruitment field mention the act of self-selection. It means when the applicant decides whether to proceed in the process or drop out. Research confirms that job seekers look for the same "personalities" in organisations that they recognise within themselves, i.e. applicant's personal characteristics align with organisational attributes (Cable & Judge 1996). For instance, an environmentally conscious person can be drawn to eco-friendly organisations over other companies. If the candidate does not identify their own values and attributes within the said organisation, they can be more likely to drop out of the recruitment process. This also supports Lievens and Highhouse findings mentioned above. In passive candidate attraction the concept of self-selection can vary as the candidate has not approached the available position themselves, instead they have been approached by a company.

Research has also found that self-selection based on the P-O fit (Person-Organization fit) can lead to future job satisfaction and improved commitment (Cable and Judge, 1996, 296). The P-O fit refers to the fit between individual's and organisation's values, similar to that mentioned above. As there is proven importance of perceived P-O fit between the candidate and the organisation, it should also be considered in passive candidate attraction. One can suggest that a candidate that perceives no P-O fit with the approaching organisation will not necessarily become the most motivated and committed worker. Chapman, Uggerslev, Carroll, Piasentin and Jones's (2005, 938) meta-analysis also confirmed the findings that the perceived fit between the applicant (their own needs and values) and the organisation is one of the strongest factors in applicant attraction. To further support the theory, LinkedIn also concludes in their annual Talent Trends report: "As *talent is increasingly keeping one eye open for their next opportunity, make sure your organization is consistently building a positive reputation as a great place to work."* (LinkedIn 2015).

Passive talent attraction is closely related to head hunting. Finlay and Coverdill (2002, 5) compare headhunting to the idea of adverse selection in insurance industries, the ones that need the insurance the most are the least attractive clients for insurance companies from the risk perspective. According to their analysis, the same applies to headhunting, the ones that are the least satisfied in their current jobs or the most desperate for a job are often the least desirable candidates for open positions, whereas top performers, so called ”star players”, are often the most attractive candidates for other positions as they are performing well in their current positions and are often satisfied workers. The theory has somewhat negative ring to it, but it does make sense as also suggested by Hanigan’s (2015, 38) segmentation of candidates -model. She created a model to identify passive and active candidates according to their behaviour and motivation in the talent pool. The segmentation lists candidates from passive to active according to their likelihood of changing employer. She emphasises the importance of recognising the career stage in which the passive candidate is in and communicating the message accordingly as individuals in different stages of career have different needs and desires regarding their potential future jobs.

2.4 The theoretical frame used in this thesis

The theories used in previous studies were not directly and conclusively transferrable to this study that aimed to find out what are the factors that could get passive IT talent to change employer and what motivates them. Studies on career models were used as a basis to understand how careers have changed over time and what kind of careers IT talents want. Motivational factors were considered to be the drivers for career construction and thus Herzberg’s hygiene motivation -theory was used to examine IT candidates’ career motivations and possible triggers to change employer. Lievens and Highhouse (2003) researched attributes that attract applicants to jobs or organisations. These are *instrumental attributes*, which are concrete such as pay or bonuses, and *symbolic traits*, such as values, sincerity, innovativeness, competence, prestige and robustness. (37-38.) They complement Herzberg’s theory, many of the instrumental attributes are similar to those listed as hygiene factors in Herzberg’s

study and symbolic values largely corresponds to motivation factors. Moreover, Cable and Judge (1996, 296) researched the P-O fit claiming people with good P-O fit are more motivated and committed to the organisation. This also complements Herzberg's theory on motivation as a factor increasing job satisfaction. Moreover, employer image was added as a factor as it has considerable influence when choosing employer, as studied by Cable and Turban (2001) and Lievens and Highhouse (2003).

Ehrhart and Ziegert (2005, 912) found in their study that the fluctuations in labour markets can alter candidate's set criteria for an ideal employment. Factors such as labour market uncertainty or unstable economic situation may cause a candidate to accept a position compromising symbolic traits such as personal values. For example, a candidate might not be willing to work for a company in the oil industry for environmental reasons, but unstable labour market conditions and/or attractive job position may influence the decision to accept the job. Rynes and Barber (1989, 13) described the labour market's influence on organizational attractiveness as "*the supply of available workers, relative to demand, determines the severity of an organization's attraction problem. As the magnitude, duration, or anticipated duration of shortages increase, organizations become increasingly willing to employ more costly attraction strategies*". Thus, the labour market conditions affect also the organisation's willingness to influence their recruitment policies. These refer to the external/societal attributes in the framework used in this study, and they were considered to affect the careers of IT candidates.

Figure 8 shows the theoretical framework used in this thesis. Career models formed the basis, which was influenced by motivational factors based on Herzberg's motivation theory. Herzberg's motivation theory was complemented by Lievens and Highhouse findings on instrumental attributes and symbolic traits and Cable and Judge's study on the P-O fit. External factors were also taken into consideration as they may influence the motivational aspects as well as career construction aspects of IT candidates. Motivation was placed inside the career as it is the driving force in career construction and external factors can affect both, motivation and career

construction and was thus placed so that is it somewhat overlapping with both. Employer image overlaps with motivation as it relates to symbolic traits, the P-O fit and somewhat to Herzberg's motivation theory as well.

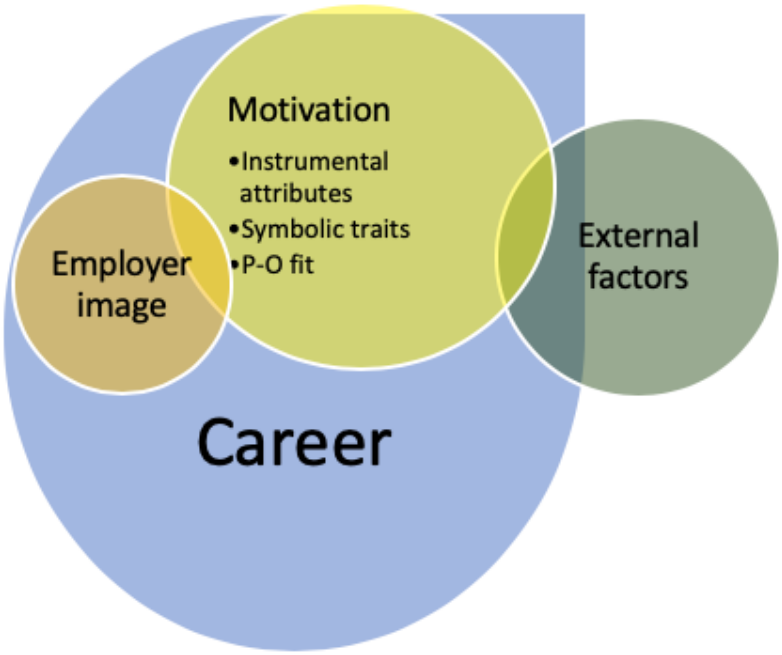

Figure 8. Framework of theories used in this research.

3 Methodology

This chapter describes the methodology that was used in this research. It explains the research approach, design, data collection and data analysis methods and discusses the credibility of the research as well as the ethical concerns.

3.1 Research questions and research design

The original purpose of this research was to find out how organisations can attract IT talents. However, just researching that question would have answered how the IT talents can be attracted to an organisation, but not how to make them stay. It would have left a void regarding the IT talents' commitment to the organisations. Therefore, a different approach was chosen with the aim to find out *what IT talents want from their careers* and *which factors affect their decision to change employer*. Based on those findings the research aimed to provide suggestions to organisations regarding what they could do to attract IT talent and how they could keep the talent.

This thesis was an assignment for a company that operates in the staffing and recruitment industry. The topic was important for the company as they had identified within their own business that the IT sector is the most lucrative while also the most challenging one to find candidates for. As the phenomenon of the talent shortage is not only nation-wide, but also a global phenomenon, this research is also important for the IT sector and the labour market.

The research was conducted by using an intensive case study approach. Eriksson and Kovalainen (2008, 118) suggested that an intensive case study should be used when the researcher wants to gain understanding of a unique case from the inside. Moreover, Yin (2014, 4) stated that case studies aim to understand complex social phenomena. The approach was chosen for this research as the aim was to form a deeper understanding of the motivations of IT talents and as the phenomenon was rather a complex one.

Furthermore, Eriksson and Kovalainen (2008, 133) suggested the phenomenon studied in a case study should be theoretically or practically interesting and relevant. Talent shortage amongst IT workers is an ongoing phenomenon, and it is widely discussed in recruitment related publications and within the industry. This is what makes the case so unique and worth investigating. Yin (2014, 16) also specified a case study as an empirical enquiry that "*investigates a contemporary phenomenon (the 'case') in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident."* The case study method was thus very appropriate for conducting this research.

The concept of talent is not so clearly evident as it may differ from organisation to another. Therefore, the aim was to investigate the phenomenon within its real-world context by directly approaching the people who were either IT talents or who worked within IT recruitment.

Case studies have been criticised as "*essentially intuitive, primitive and unmanageable*", but Yin counter-argued by stating that some studies have so many variables that standard experiments and survey designs become irrelevant (Yin 1981, 58). The same applied to this research, as it aimed to identify factors within careers, motivation and triggers to change employers. The variables were so abundant and in different contexts, so that a qualitative study, specifically a case study, was the most appropriate method to use.

The research process was very cyclical. It was developed around a conceptual framework that was based on a few different existing theories. As the process evolved, the theory and approach were fine-tuned through further review of literature as was also suggested by Eriksson and Kovalainen (2008, 43). Due to the cyclical nature of the process, the decisions regarding the research design and strategy changed along the way as the research topic was further defined. It has also

been argued by Mason (2002, 24-25) that thinking about the strategy and design should not stop after producing first research design and blueprint.

As the research approach was a case study, Yin's (2014, 29) five components were used (Figure 9.) for the research design: 1) A case study's questions, 2) Its propositions, 3) Its units of analysis, 4) The logic linking the data to the propositions, and 5) The criteria for interpreting the findings.

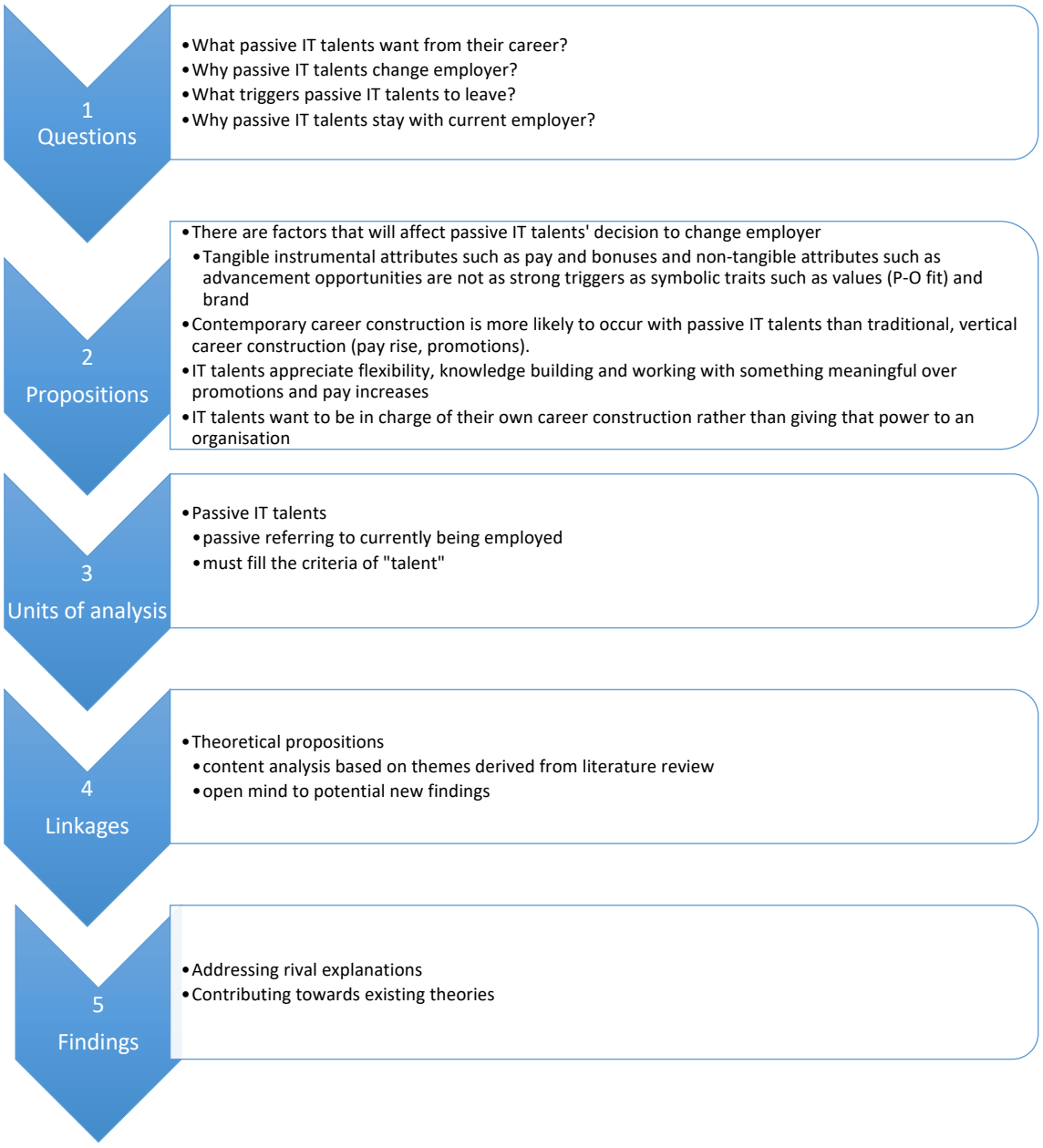

Figure 9. Research design. (Adapted from Yin 2014.)

3.2 Research context

The assigning company is a multinational organisation operating in the recruitment and staffing industry. The need for the research arose from the talent shortage that had been causing difficulties for the company to fill their clients' IT positions. The clients of the assigning company have somewhat different needs: one client company may need Java developers, another one SharePoint developers and a third one a combination of both. Thus, the concept of IT talent can differ from organisation to organisation. Therefore, it was not justifiable to adapt the research only to the assigning company's needs as the needs could vary according to different clients. For those reasons, a different angle was chosen and the research was put into the context of the candidates and their career desires. In this way, the results could provide information on what the IT talents wanted from their employers. With that information, suggestions could be made to the assigning company regarding what they could do in order to attract the IT talents to their client companies.

The IT talent shortage is not only an issue for the case company, but it is a global issue affecting businesses within most industries. All organisations have some level of IT within their operations, and thus, they are not excluded from the problem of finding suitable IT candidates to fill their positions. Moreover, IT talent shortage is not expected to decrease in the near future as more and more organisations are digitalising their operations, and as technology is continually advancing in the fields such as robotics, artificial intelligence and big data.

3.3 Data collection

The empirical data for this research was gathered by performing semi structured interviews to passive IT talents and IT recruitment consultants. Interviews were chosen as a method for data collection for this research because the data required was not available in other forms (Mason 2002, 66). More specifically, semi-structured interviews were used as it leaves the possibility to change the wording as well as the order of the questions in each interview (Eriksson & Kovalainen 2008, 82). This was

particularly important as the interviews concern the IT talents' and recruiters' own experiences, aspirations and desires and thus a less structured and informal setting was more appropriate to encourage a free flow of conversation. However, there was a challenge of ensuring that all topics were covered while being prepared to probe for more in-depth responses from the interviewees (ibid.). A checklist was used in order to ensure all necessary areas were covered. Interviews were started only after extensive literature review in order to have a good understanding of the theories used in the research. In between the interviews, more literature review was conducted as new aspects came to light.

Yin (2014, 36) cautioned that it may be difficult to identify when sufficient data has been collected. Sometimes there may be too much data, sometimes too little for a proper analysis. Therefore, data collection and analysis were done in somewhat overlapping manner in order to better evaluate when appropriate number of interviews were done to answer the research questions. In addition, as new topics emerged, further literature review was conducted adding to the cyclical process of interviews and analysis. (Figure 10.)

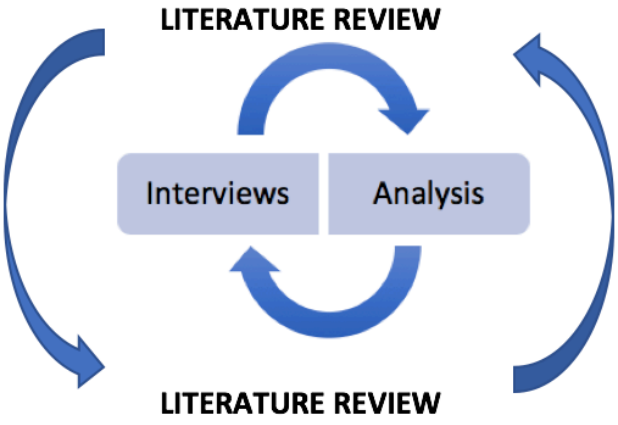

Figure 10. Cyclical nature of data collection, analysis and literature review.

Interviews were conducted on passive IT talents and IT recruiters. The interviewees were decided according to whether the researcher considered them to fulfil the concept of 'talent'. Defining the concept of the word 'talent' can be challenging. What constitutes talent for one organisation may not be the same for another organisation. A list of the interviewees' titles can be found in the appendixes to give an idea what type of IT talents and IT recruiters have been interviewed (appendix 1). The recruiters that were interviewed had knowledge and experience specifically within IT recruitment in order to be able to provide insight on the topic. Factors such as age, gender or nationality were not considered important in choosing the interviewees because the research was not focusing on those factors. There were no requirements for the interviewees to be from certain organisational or occupational background either as long as they were related to the IT industry and that they could be considered to be 'IT talent' or work in recruitment of 'IT talent'.

Access to the interviews was available from the researcher's personal connection with people in the IT and recruitment industry as well as an open invitation via LinkedIn, that provided further interviewees outside of the researcher's personal network. The interviews were planned ahead, taking into consideration different subject areas and question formation regarding whether an IT talent or recruiter was interviewed. A short introduction to the research and its topics was sent to the interviewees before the interview in order to familiarise them with the topic and to explain why their opinion and experience was important for this research.

The interviews were conducted face-to-face when possible, but mostly over technology aided conferencing tools or telephone as the interviewees were mostly living in different cities. The interviews were all recorded and transcribed. The interviews were conducted in Finnish and in English, depending on the native language of the interviewees. A total of nine interviews were conducted, four on IT talent and five on IT recruiters. The duration of the interviews varied between 21 minutes and 1 hour 9 minutes. The interviews were transcribed personally by the researcher in order to familiarise the topics throughout the process and increasing credibility of the research. Transcriptions were done in between the interviews in

order to identify potential new topics that were not discussed in previous interviews. The interviews produced total of 6 hours and 6 minutes of recorded data and 83 pages of transcribed text.

Confidentiality was of high concern. Yin (2014, 78) stressed the importance of gaining *informed consent* from all persons who are part of the case study. The interviewees were informed about confidentiality and the data was processed and presented in a way that a single interviewee cannot be identified. The interview topics are not particularly sensitive in nature, thus there were no significant ethical issues. To make sure of the ethical issues and respondent consent, which Mason (2002, 82) emphasised to be of importance, detailed information regarding the data and its use was given to the interviewees.

Mason (2002, 69-72) suggested qualitative interview themes should be planned by breaking the big research questions into mini-research questions to identify the interview topics. Once the topics have been identified, interview questions can be planned so that they can provide data to answer the research question. A step by step cross reference must be conducted in order to confirm that each topic and question is related to the big research question. (Figure 11.) This approach suggested by Mason was followed in conducting the planning for the interviews. The research propositions were taken into consideration when forming the mini-research questions and interview questions. Moreover, the interview questions were mostly open-ended questions in order to produce more detailed responses (Eriksson & Kovalainen 2008, 84).

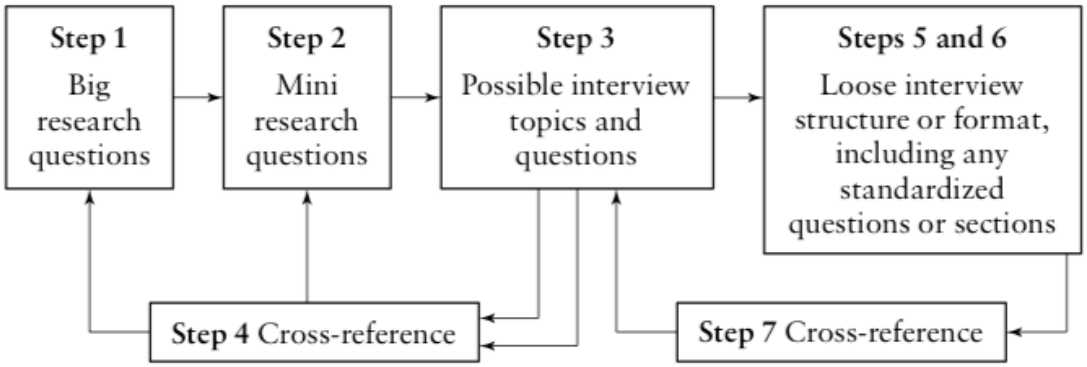

Figure 11. Planning and preparation for qualitative interviews. (Mason 2002, 72.)

The big research questions were broken into themes according to the research propositions that provided the guidelines for the interviews. Below are the themes that were discussed with the IT talents:

1. Career plans, desires, aspirations
2. Factors that affect decision to change employer
3. Experiences from working life that have increased motivation and decreased motivation

These topics were discussed in the interviews with the IT recruiters based on their experience attempting to attract IT talent:

1. The reasons/factors that have led to a candidate to accept or reject the offer
2. What kind of career development the candidates want/what kind of career plans they have

As mentioned before, the questions were formed according to the flow of the interview in order to keep a free flow of conversation that may result in areas of discussion that have not been noted in the literature review (Eriksson & Kovalainen 2002, 80). Discussion regarding some areas occurred more naturally, some areas required further questions.

A checklist of all topics was used during the interviews to make sure that all areas were covered. The checklist included instrumental attributes, symbolic traits, external factors, career models and motivation factors as described in the section regarding theories used in this research. Yin (2014, 76) warned that case studies should not be used to substantiate a preconceived position. If the research has too many predetermined themes when conducting the interviews, there is a risk of that happening. Therefore, while the literature review was being used as a guideline for some of the themes, an open mind was kept in order to be open for any potential new findings. This happened as the interviews progressed and new topics came to light, these topics were then added in later interviews and further comments were asked from previous interviewees by email.

Data from the interviews was derived partially in a literal manner, meaning that the words are taken for what they are, i.e. their literal substance, and partially interpretive manner, meaning attempting to read what the interviewee is saying (Mason 2002, 78). Interpretive manner was needed to be able to analyse the data. Especially as the IT talent and the IT recruiters discussed same topics with different words, assigning meaning to some words was necessary.

The data analysis was done using content analysis. First the interview data was reduced and then rearranged into new categories and themes as demonstrated in table 1 below.

Text	Reduced	Category	Theme
Definately the interesting tasks. Not for everyone of course but generally speaking most people want to work with the most modern technologies and do the newest things and not with a 30 year old technology which is already dying. So definately interesting tasks is the motivating factor. That you can learn new skills and advance your own know how, it's more typical than wanting to do the same thing over and over, but there's all sorts of people out there. But mostly that the tasks needs to be interesting and motivating	Intersting tasks, new technologies, motivating factors, learning new skills, advancing know how	Content of work tasks	Modern technologies, skills development
Well one thing is that people within the IT sector are usually fairly aware of eachothers wages, in some cases. And then if you feel like that other person who is less qualified is getting more salary than you, that of course has an effect on the matter, it decreases motivation.	Aware of wage development, feeling of being underpaid, decreasing motivation	Motivating and demotivating factors, instrumental attributes	Salary

Table 1. Data processing

4 Data analysis and results

This chapter first discusses the data analysis and then the results derived from the empirical study in order to answer the research questions *What kind of careers do IT talents want?*", and "*Which factors can trigger a passive IT talent to consider changing employer?*".

4.1 Data analysis

The data analysis plan included five sections: *theory, coding agenda, data documents, information,* and, *analysis/interpretation*. (Figure 12.)

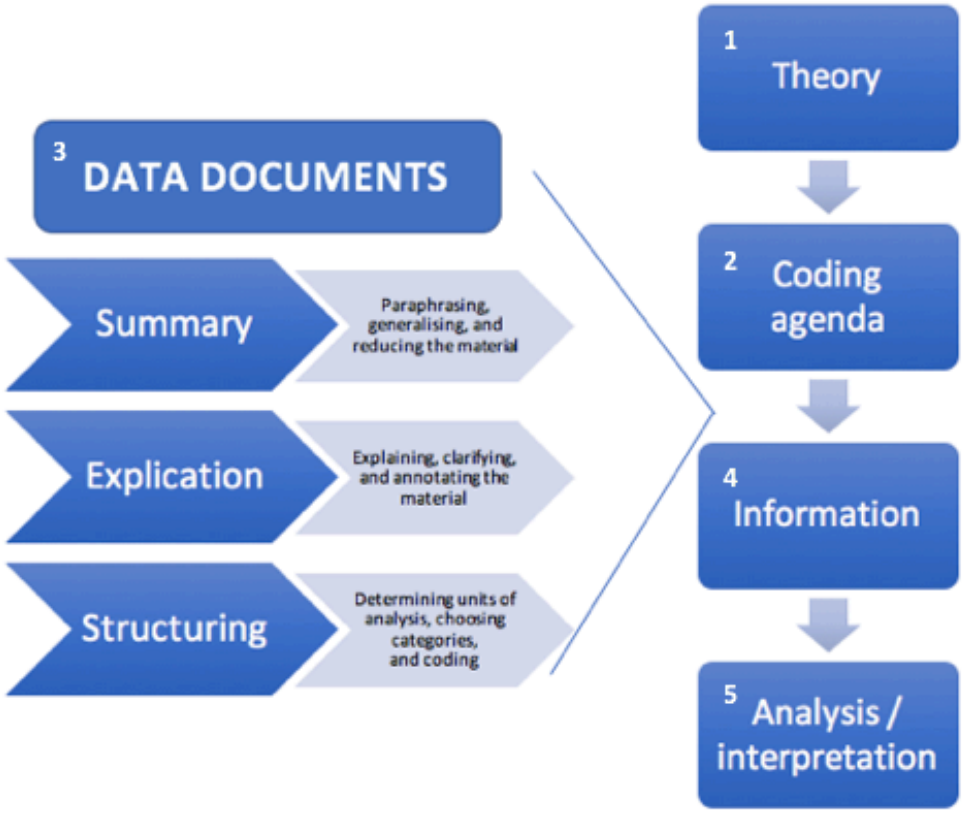

Figure 12. Data analysis plan (adapted from Kohlbacher 2006.)

According to Yin (2014, 136) data analysis strategy can be constructed according to theoretical propositions. He proceeded to argue that originally the objectives and design of the study were most likely based on propositions, and they reflected on the research questions, reviews of the literature and new propositions. The same approach was used in this research. The basis for the analysis was provided by the existing theories and the themes that have arose from them, while keeping an open mind to any new findings that may arise from the data. Moreover, according to Kohlbacher (2006), Gläsel and Laudel (1999) claimed that content analysis synthesises two contradictory methodological principles, openness and theory-guided investigation. The analysis had somewhat deductive approach, with theoretical propositions being used as a basis for the categories and themes (Figure 12 sections 1 & 2 *theory* and *coding agenda*).

Before the data analysis began, the data documents (i.e. transcribed interviews) were summarised, explicated, and structured so that categories could be identified (Figure 12 section 3 *data documents.*). Moreover, Mason (2002, 149) suggested that it should be considered beforehand how to read the data that has been accumulated. The data was processed in excel file under pre-determined themes which were derived from the literature review and then reduced into plain statements. Some level of interpretation was necessary as people talked about the same topics with different words. While it was possible to further clarify the answers during the interview process, there were occasions when something was still left open for interpretation. Therefore, while the data was read in a literal way, some level of interpretation and reflexivity was required. (ibid.) For example, whereas one interviewee referred to ‘work atmosphere’ by its name, other interviewee mentioned that a ‘good buzz’ in workplace results in better motivation. In this case, ‘good buzz’ was interpreted as good ‘work atmosphere’.

Yin (2014, 135) suggested that the data should be searched for patterns, insights, or concepts. This search was conducted throughout the process, during the interviews, in between the interviews, during transcriptions and when reducing the data. Some patterns emerged immediately, such as the topics that were reoccurring, some

emerged when conducting the interviews, such as topics that were not mentioned in the literature review or by other interviewees.

Yin (2014, 135) suggested using matrix of categories and data displays such as flowcharts and other graphics to examine the data. Once the data was reduced and new themes identified, the data was reorganised into categories according to the new themes. Figure 13 below illustrates the step by step analysis.

Figure 13. Data analysis process step by step.

The new themes were divided into significant findings and notable mentions depending on how much significance the themes received in the interviews. For instance, the topic of self-improvement and continuous learning emerged in all interviews when discussing the factors that could get an IT talent to change employer, motivating factors as well as career in general. The uncertainty of the future of work and thus the importance to keep oneself employable with an up to date skillset emerged in many of the interviews and thus was taken into a closer examination in the research.

Another theme group, notable mentions, was created to point out topics that were not vastly discussed in all the interviews but that were interesting points that came up in some of the interviews. One of those topics was the attraction or “pulling-power” of a guru, an IT talent that is so well known for their abilities that they could be an asset for the company in attracting other IT talents.

Moreover, a topic of women in IT emerged in some of the interviews. Opposite to early on decision not to focus on genders in this research, the issue is so prominent

that it could not be ignored. In addition, the future of IT work came up in the interviews and was thus added into the mix. Figure 14 demonstrates the division of predefined themes, new themes, significant findings and notable mentions.

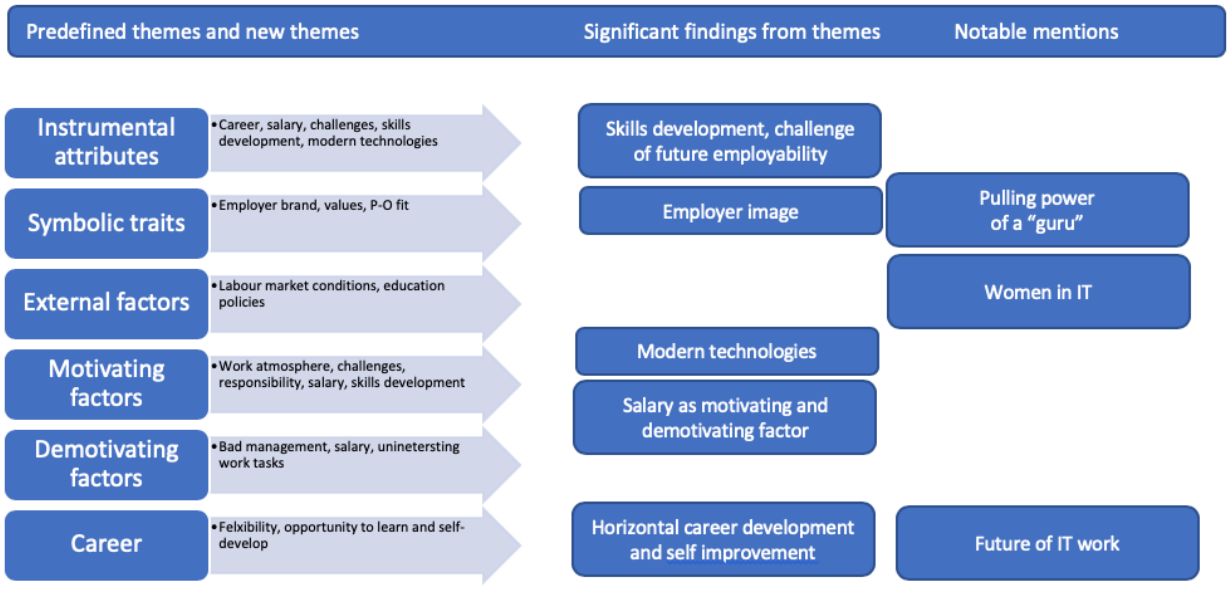

Figure 14. Process of identifying themes.

4.1 Results

In this section the results of the interviews will be displayed. The results are divided into subchapters according to the themes that emerged from the data analysis. The results are presented in an order, first the findings that relate to the literature review and then the new findings.

4.1.1 Career paths

IT talents' work usually requires expertise and specialisation. Horizontal advancement was seen as more common way to proceed in career than vertical advancement. Many respondents even mentioned that the word, career development, was unsuitable as it referred to old fashioned, pyramid type

advancement. IT talents often want to advance within their expert positions and deepen the knowledge rather than aim for higher management positions.

Moreover, another respondent felt that the word career path did not describe the nature of advancement in specialist work. Developing own skills within the work tasks can lead to horizontal or vertical development without reflecting on the title.

> ” *Developing in your work task doesn’t necessarily mean that you proceed in your career, like first you’re a junior and then you’re a senior one day, but that you can develop your own area of expertise either horizontally or vertically*.” Employee 4

Vertical career advancement was seen unsuited to IT specialists’ career. More often IT specialists’ career decisions were driven by further challenge, learning a new skill or deepening current skills and knowledge or working with the most modern technologies rather than advancing into a position of power. However, when discussing vertical career advancement, the titles that came up were team manager or a project manager, but there were no mentions of a desire to advance to higher management positions.

The issue with bad management came up in most of the interviews, either as a trigger to change employer or as a motivation decreasing factor. The IT industry is still relatively new and while there may be heavy investments into operative and technical matters, IT companies do not often invest into management training. A notable opinion one respondent shared was that vertical advancement in career happens when good performance is rewarded by promotion without paying attention to the person’s management and leadership skills. While the reasons for bad management may be plentiful and were not discussed in detail, wrongful reasons for promotion may explain why bad management happens like the following extract depicts:

> ”*One of my previous manager’s said that the company had a culture where the most qualified designer was chosen as a project manager and that created two issues at the same time, you lose your best designer and get a bad project manager. I get a feeling that in the IT business, in the current form as it’s happening now, it’s much more fresh industry than say metal industry. Here many people have a career path… that advancements in career has been directed by completely different things rather than demonstrating excellent leadership skills. Many has been technically very talented who has been doing brilliant work and that brilliance has been rewarded by promotion within the organization.*” Employee 3

Respondents felt that they would want to have career growth opportunities laid for them by their employers. Especially recruiters’ answers reflect that wish from IT talents’ side. However, when questioned whether employers provide career paths for employees, there was hesitation. Sometimes bigger companies that employ hundreds of people might have difficulties in setting up systems to track peoples’ aspirations and plan and offer customised career paths for them as the industry is developing so rapidly that competitors may be quicker to offer those opportunities for IT talents. Companies’ structures may be too slow to respond to the desires of the IT talents and they may get to their career goal quicker by changing employer.

Large, multinational businesses are in a different position due to their size and may thus be more inclined to offer clear and transparent career paths for employees. One respondent brought up an example of a multinational company where career paths and promotions were built up in a transparent and structured way. Once a certain skill was mastered and the employee signalled interest towards further development the company would seek to provide more challenging work task for the employee. However, some people may find these kinds of processes too stiff and slow as moving on to the next level usually requires obtaining the skills of the previous levels.

According to the responses the initiative usually comes from the employee themselves regardless whether the company has ready career paths or not. The employees that have a clear idea of what they want from their career usually also pursue their goals with one or multiple employers. Knowing what you want from

your career makes it easier to pursue those goals either with current employer or a new employer.

The current labour market situation is favourable for IT talents which has the effect that people are more prepared to change employer compared to many other industries. There may be situations where people who normally would rely on long, comfortable career within the same employer might take a “risk” by changing employer due to the opportunities that there are in the job market. Moreover, when the skills of IT talents are so vastly desired, people may become empowered to aim higher and build their career paths regardless of whether they possess a certain skill or not. For instance, a person that is unemployed doesn’t necessarily get to turn down a job offer or “shop around” for a job the same way that a person who regularly gets contacted by a head hunter. Many respondents also felt that due to the labour market situation there are more opportunities to allow one’s values guide process of choosing employer.

The length of employment within single company or reaching retirement from a long-term employer was seen as an old-fashioned trend. Many respondents referred to a generational difference, where younger people seek to build their careers through multiple employers while the older generation prefers more stable career and thus can have longer employment relationships with one company. Younger generations may see the freedom of choice more as a value, whereas the older generation may have considered a consistent and stable work as a value in itself.

All respondents felt that temporary work contracts within the IT industry seemed almost unnatural in this labour market situation. IT recruiters mentioned that it would be next to impossible to fill the IT positions if temporary contracts were offered whether the employee intends to stay in that job for a longer duration or not. IT employees felt that people do expect permanent contracts and one respondent mentioned that it would be seen as a vote of no confidence if a temporary contract was offered instead of permanent one. However, it did come up

that there seems to be an increasing trend where younger generation is more open for temporary contracts. Moreover, there are certain positions that are not conducted through contemporary employment relationships, but rather through sub-contracting contracts. These are usually management positions that don't require a long-standing position within the company, e.g. project manager roles like described in the following extract:

> "*Then you have these people who do projects, the project managers in the IT business, the ones who are the hard core experts. They don't come to work on payroll, you can't recruit them, because they have their own businesses. They price themselves like hundred, hundred and fifty per hour and they do precisely what they want to do because they are always in demand, that kind of project managers*."
> Recruiter 2

However, it is not necessarily just the project managers who look for sub-contracting solutions, but an increasing amount of IT work seems to be shifting that way. More and more opportunities arise for light entrepreneurship and increasing amount of work is moving to cloud. Not all are enthusiastic about that shift and hope that traditional ways of employment will remain.

4.1.2 Employer image

The interviewees were asked about factors that could get IT talents interested in changing employer. Employer image was mentioned by every respondent. Topics regarding employer image included themes such as company reputation, brand, size and stability of the company. Many respondents said that they consider the reputation of the company important when considering changing employer, however, only two IT talent respondents said they wouldn't be likely to join a previously unknown business. Moreover, company image wasn't seen as the most important criteria, the values of the company and the way they are practiced were considered more important than just the image.

When discussing how values affect the choice of employer, almost all respondents talked about the values of the company, referring to employer image. In connection

with company value, flexibility was mentioned several times. Flexibility is expected and very common within the IT industry. The nature of IT work is usually not location bound and as IT industry is the one that provides solutions to remote working, flexibility seems to be taken for granted.

Moreover, regarding employer image, many respondents emphasised the importance of "walking the walk". Respondents said that businesses' values are not only words in a strategy, but implemented throughout the businesses' everyday life. Companies that don't follow through on their values are quickly recognised and their reputation spreads fast. The responses also suggested that IT talents let their personal values drive their choice of employer and they are not likely to compromise their own values for the sake of building their career.

> "*If there was even the smallest reason to suspect that anything to do with the employer would go against my own values, based on that one bad experience, I would avoid them, regardless of how dream job that would be. I wouldn't intentionally go and hurt myself with that.*"
> Employee 3

People do not usually change employer if they are satisfied. Every respondent mentioned satisfaction as the main reason for not changing company. Many of the reasons were related to matters that reflect employer image, such as good team, salary, opportunities to learn and self-develop, flexibility, company's values and culture, and good work atmosphere. One respondent mentioned loyalty as one reason for staying in current work. On top of other reasons, the respondent feels that by leaving there would be a momentary skill void that would be difficult for the employer to fill.

> "*I have a kind of loyalty reason why I haven't changed employer yet, because if I leave it will cause a rather large knowledge gap and I don't want to cause any harm to the company and client. They'd be pretty messed up for a while. I aim to get my job done to the point*

where I'm no longer needed, in a way I'm trying to make myself redundant. Then I'll consider changing employer." Employee 2

4.1.3 Salary

The topic of salary came up in all the interviews. It was an important factor when changing employer as well as a motivating factor, but not the determining factor when changing employer. It was mentioned that all other factors were considered more important than salary, for example the make-up of team, what kind of organisation and what projects there are.

IT talents' work is specialist work and to get to that point there usually is some certain level of income that has been reached. Thus, their current level of salary is a base line of income that is assumed that and once that base line is met, salary is not an important factor. As one respondent mentioned, all companies pay salary, it is the other things that matter.

Changing an employer is usually the moment when there is a good opportunity for wage negotiations and a possible raise like the following extract depicts:

"*Well it's one important factor and my experience and understanding is that wage negotiations are kept when starting a new position. So.. it's pretty much my experience that you can get a raise by changing employer. But it has never been… there has never been a situation where I want more money and I go looking for a new job, they have been totally different reasons. But at the same time, I've negotiated my salary.*" Employee 4

IT recruiters brought up a question whether a person who is only motivated by money would be a good choice for a company to hire. They were questioning whether a person that is willing to change employer only because of a higher offer would stay if next month they were given a better offer by competitor.

While people expect a raise in salary when changing employer, it is not completely unheard of to change to a position with a lower level of salary if there is something else within the new task or the culture of that business that makes it worthwhile.

> "*But when I have conducted exit interviews for people who were leaving the companies where I previously worked, not all change because of salary, in my experience that is quite minimal. Many people change to a job with the same salary or even lower salary if the task or the business culture meet their own interests.*" Recruiter 3

Respondents also mentioned about a generational difference regarding the motivating power of salary. The responses suggest that younger people or the ones that are new to the industry are more motivated by money. The longer people have worked within the IT industry and the older they get, the less significance money has as a motivator or a trigger to change employer.

4.1.4 Modern technologies

Technology is obviously at the very heart of IT work. The topic of modern technologies emerged in various different parts of the interviews. When discussing reasons to change employer, companies with modern technologies and modern tools were seen as attractive. Moreover, modern technology was mentioned as a reason to stay with current employer. If a company invests heavily on new, modern technology, that could as well be seen as a reason to stay within that company.

New technologies were also brought up when discussing motivating factors at work. Many respondents felt that working with outdated technology can be a demotivating factor. IT recruiters emphasised the importance of modern technologies and modern tools in the work tasks, mentioning that finding candidates for a project which is

conducted with outdated technology is very difficult whereas projects that use the newest technologies can be very attractive to IT candidates.

In IT industry there are some companies that are heavily relying on a single technology. As that technology becomes redundant the skills of the IT employees in these companies become redundant as well. People who have built long careers in the same company can find themselves in a situation where it becomes increasingly difficult to find new work. This issue was mentioned in the recruiters' answers, describing that there are IT workers who seek to transfer from a so-called single technology company to another employer where they get to work with varying technologies like the following extracts depicts:

> ”*And then of course skill development, if a person is interested in moving from a product firm to a consultant firm where they use a wider array of different technologies.*” Recruiter 4

> "*There are a lot of people for example with career background in Nokia, who have simply fallen off the wagon skills wise, they haven't updated their skills enough and realised at some point that the skill that they have been using for the last fifteen years is not used in any other job*.” Recruiter 4

4.1.5 Skill development, employability

The IT industry is one of the fastest developing industries in the world. New technologies emerge continuously and there is more pressure to keep skills up to date than in most other industries. The opportunity to learn and receive new challenges came up in every interview. IT talents want to learn new skills and be able to develop their current skills further, this is something that came up when discussing the reasons to change employer, motivating factors and careers overall. Moreover, the IT recruiters mentioned the ability to develop oneself as an important factor when IT candidate is considering changing employer. Overall, IT talents have a

desire to continuously learn new technologies, keep their know-how up to date and self-develop.

> *”Definitely think that overall skills are changing, not just from IT perspective. I would say the largest demand will be having some sort of digital set of skills for any job. And then for IT specifically, if you’re thinking IT workforce specifically, definitely better understanding of how AI works and how to deal with that will be.. is already even quite important. So those guys that only know how to deal with the basic support and things like that in the IT side, fixing you know fixing Microsoft office, that’s gonna be gone very quickly. So in short, yes. Agreed and I would consider a new job if clear upskilling was offered.”* Employee 1

The fast pace of the IT sector and keeping oneself employable was not considered a pressuring factor as such. The desire to learn, develop and deepen skills was seen more as an internally motivating factor than an external pressuring factor. As mentioned earlier, there are people who may have worked in companies that heavily rely on a single technology, if they become unemployed from that work, they will face a strong pressure to acquire new skills to become employable within the IT sector.

4.1.6 Guru

One new phenomenon that came up in the interviews was the “pulling power of a guru”. That refers to a person who is considered an expert like a guru who is so well known within the IT industry that other IT talents are drawn to that company because of that person. It is not so much to do with employer image rather than the image of that single person.

> “*And one important thing is what kind of people there are in the company where you’re applying to. Super talent often attracts other super talent, so if there is a guru of some sort in some company it may attract other people to join the company as well. Talent attracts talent.*” Recruiter 4

This is a phenomenon that has been noticed in other industries such as sales or marketing, where creating a personal brand is more common than in IT. However, IT recruiters mentioned that is a phenomenon that is not yet prevalent, but on the rise also in the IT industry. Businesses may start noticing that the pulling power of a guru may also be a factor when talking about employer image.

4.1.7 Women in IT

There was no intention to separate genders in this research, but the topic of women in IT came up in the interviews and was thus discussed further. The respondents felt that there is a significant underrepresentation of women in IT business and would be happy to see more women in the IT industry. However, there is very little that employers could do to attract women to apply to IT positions. Recruiters were especially careful about the matter as there are strict laws regarding discrimination in recruitment, even positive discrimination. Due to the laws there cannot be e.g. different kind of reward system for women in order to attract them. However, companies can build systems that will encourage young people with families to apply. One respondent gave an example of a company that encourages fathers to take parental leave and pays for a child minder on days when the child is sick. The company provided different kinds of solutions to families in order to allow more flexibility for workers who had to merge together work and family life. While this is not something that is done specifically to attract female workers, it can be one practice that can make IT industry more appealing to women as well.

When considering the reasons for why women are so underrepresented within the industry many respondents felt that the division of guiding boys towards STEM subjects (science, technology, engineering and mathematics) and girls towards languages and artistic subjects begins as early as primary school level. By the time they start thinking about further education, the division is so considerable that there is not much that universities can do to attract women. There could be huge potential in attracting more women towards IT industries. Changing the preconceptions

regarding the industry and more openly promoting the various tasks within IT jobs was seen as an important step to create interest towards IT sector for women.

> "*One topic that we haven't discussed yet is the gender difference, that of course there's still a lot of male dominance in this sector and I hope that there would be more opportunities for women to get into this sector. Perhaps education is the key factor here, I feel that especially boys get directed from an early age towards different things and girls towards different. There would be a huge potential there if we were to get more women interested in IT sector and to change the preconceptions that how you get there and what kinds of jobs there are.*" Recruiter 4

However, not all respondents felt that women are underrepresented in the IT industry. One respondent had experienced that women and men were evenly represented in the workplaces where she had been working. Moreover, a current IT project that she was undertaking had more women working in the team than men.

4.1.8 Uncertainty of the future of IT

The IT industry has been steadily growing and the speed in which the industry is changing is noticeable. Respondents felt that the industry is not going to show signs of slowing down. However, IT recruiters felt that the type of work is likely to change with increasing amount of robotics, artificial intelligence and data analytics. Basic coding will be increasingly generated by robots, with IT talent being responsible for higher level coding. The internet of things is likely to continue and further develop. Moreover, there are still many big companies that has not gone digital, thus work within digitalisation will continue. Many public entities have outsourced their IT departments, but are now awaking to issues regarding data protection and are creating their own IT departments.

The need for skilled IT workers is assumed to continue. Many respondents felt that educational institutions are lagging behind to fill the needs of businesses. While there is not enough domestic supply of IT talent, companies are increasingly looking

abroad to recruit people.

> ”*Well, there has been a lot of talk about it, the shortage of IT workers is so huge that it is not likely to change in the near future. All the time there's more optimisation, robotics, artificial intelligence and stuff like that. I believe that in the near future as all sectors haven't gone digital yet, and the trend is that way inclined, I believe this sector will continue strong. And the educational institutions that train people into IT, they can't keep up, and that contributes towards the talent shortage.*” Recruiter 3

IT work is likely to become even less location bound and remote working will increase. Technological solutions are being developed rapidly and they are quickly utilisable by the consumer markets, that could in turn create new kinds of jobs.

As increasing amount of IT solutions are brought to all different industries the type of people required in their development is likely to diversify. One respondent compared the future of IT solutions development to the work of criminal investigators where multiskilled teams are brought in to investigate complex crimes, teams including historians, anthropologists etc. Same kind of diversity would be important when co-creating IT solutions.

5 Discussion

World of IT is suffering from a global shortage of IT talents which is causing dilemmas to many businesses who need IT people but find it increasingly difficult to attract them. The assigning company felt that due to the IT talent shortage it is important to find out what triggers could get IT candidates to consider changing employer. While this is an important question for the assigning company, it is also of high interest to the IT sector as a whole as the IT talent shortage is not showing any signs of slowing down and the educational institutions cannot respond to the needs of the businesses at a sufficient rate. Throughout the research the topics have been fine-tuned as new issues have emerged, for example, originally the questions were focusing on the triggers that could get an IT talent interested in changing employer. However, it soon became apparent that just finding out what the triggers for changing employer would be would not answer what predominantly motivates IT talents. Thus, the aspect of motivation and career models was taken into consideration in this research in order to provide more comprehensive understanding of the motives of IT talents, what attracts them and makes them stay with the company. In order to find solutions to that dilemma, the research questions were *What kind of careers do IT talents want? Which factors can trigger a passive IT talent to consider changing employer?*

5.1. Answers to research questions

In this section the answers to the research questions will be presented. First are the answers that are related to the types of careers that IT talents want and then are presented the various triggers that could get IT talents to consider changing employer.

5.1.1 Careers of IT talents

The careers of IT talents that came up in the interviews follow largely the boundaryless and protean career models that were described in more detail in the

second chapter. IT workers aim to be in charge of their own career development and they are motivated by learning.

In boundaryless career the responsibility for career management is with individual and in protean model this is even more emphasised. While the responses heavily suggested that IT talents want boundaryless or protean careers, their answers reflected that they were hoping or even expecting to have career paths laid for them by employers. Most employers do not offer career paths and thus IT talents are directed towards more individual career management. Moreover, respondents found that it is often easier to go towards personal career goals by changing employer rather than waiting for the opportunity to be offered by current employer. This refers strongly to protean model where the person manages all aspects of career, not the organisation (Hall & Moss 1998, 25).

Kaleidoscope model perhaps could be used to explain the lack of women in IT sector, as one parameter takes a dominance over others when person's life situation changes. Mainiero and Sullivan (2005, 115) studied women's careers through kaleidoscope model and suggested that 'balance' parameter takes over during mid-career. IT talents' careers are usually within the challenge parameter at that stage and women may choose to emphasise family over career at that stage. However, this is only an assumption and would need further investigation in order to draw more comprehensive conclusions.

Many considered there to be some level of generational difference when it comes to changing employer. The younger generation is more prepared to change employer more frequently than the older generation. Thus, the younger generation perhaps leans more towards a protean career model than a boundaryless career model. Hall (1996, 8) states that protean career can be considered successful when a person has achieved personal life goals. However, the answers reflected that while IT talents generally have values guide them in their selection of employer, the people who have been working longer in the industry or who are older, had stronger emphasis on

values guiding their decision-making process. There could be varying reasons for this. The older the person gets, the more stable their life usually becomes and the more opportunities there can be regarding making career decisions guided by intrinsic motivation.

Beechler and Woodward (2009, 276) discussed how millennials have a free agent - thinking where an employee barters their talent in return for an opportunity. The results of this research support that finding, the IT talents are motivated and driven by challenge and opportunities to learn. If an employee is capable of offering a satisfying rate of those, they are happy with the barter and less likely to change employer. Satisfaction to the level of challenge and opportunity to learn new skills were mentioned as reasons for not changing an employer. The notion of demographic differences in career aspirations is also in line with previous research. Rodrigues and Guest (2010, 3) have also suggested that boundaryless career model is favoured especially by younger generations who seek for more balance between work and personal life.

A lot of emphasis was put on continuous learning and self-development when discussing different topics with the interviewees. That is very characteristic to protean career model. One could not help but think how much this is related to the speed of which IT sector is developing and the pressure to keep ones' skills up-to-date and remain employable. While there were some elements of pressure of remaining employable, further questions into the matter revealed that there may be some elements of that. However, it seems to be more in the nature of specialist workers to aim for deeper understanding and continuously learn new skills or deepen current knowledge. IT talents aim mostly for horizontal career development, which is very much in line with the desire to learn and self-develop. However, the impact of the external forces (such as the speed that the industry is developing at) should be more carefully examined before making assumptions on the root causes for the IT talents desire to self-develop deepen know-how.

It should not be overlooked that future of work is going to face big changes due to the speed of the development in technology. Many of the current jobs that we have today will be disrupted or made redundant because of technological advances (McKinsey, 2017). IT workers are at the heart of this. For instance, while developing new technologies, a competitor might come up with a different technology that could disrupt the solution that the company is working with. Examples like this came up in the interviews where recruiters had noticed that some IT talents had built long careers with a single company that was focusing on their own technology. When that technology became redundant, their skills were not relevant elsewhere despite their long experience of working within the IT sector. While lifelong learning and self-development is important in all industries, it is highlighted in the IT sector due to the rapid change of technological advances.

Working as a subcontractor was also discussed in the interviews. They are seen to be on the increase especially within the IT industry, especially in the roles of project managers. In contemporary career study this is called portfolio career. People perform assignments for various organisations over exclusively working for only one organisation (Valcour et al 2007, 192). They have even more freedom to choose where to work and with whom and for what price as the IT talent shortage extends to them as well. The added freedom compared to an IT talent who is an employee in an organisation comes from the freedom of being their own boss.

IT talents wanted permanent contracts over temporary ones. It was very interesting to notice how all respondents shared the opinion that it is common to change employers various time throughout IT talents' career. However, most respondents found it unheard of to offer temporary contracts to IT talents. Even if the person has no intention to build their career in a single company and assume to change employer after a few years, they expect a permanent contract. Whether it is due to the favourable labour market situation or some other reasons, it was an interesting finding that permanent work contracts are still so deeply rooted in the minds of IT talents. For a long time there has been a lot of talk about the changing nature of work. People have more interruptions in their careers due to various reasons and

careers can be very differently constructed than before. Still, within IT talents, permanent contracts are assumed automatically. Further research should be conducted in order to find out what the reasons for that could be.

To conclude, IT talents careers follow boundaryless and protean models. This is in line with previous research, especially linked to findings by Rodrigues and Guest (2010, 5) and Sullivan and Baruch (2009, 1550) that boundaryless career has been associated with IT professionals in Silicon Valley. IT work is often not location bound and thus allows various forms of flexibility within tasks, allowing a lot more freedom than many other professions. Therefore, IT work suits boundaryless career well and allows a lot of movement within the profession. IT talents expect flexibility, challenge and learning from their careers and they actively seek for those qualities in order to achieve their career goals. Protean model is becoming more common in IT tasks such as project manager where people work independently and perform projects in different companies. They have almost full autonomy to decide where, when and for what price they want to work for. Some level of generational difference can be detected, somewhat different factors guide younger generation's career aspirations compared to older generations. Younger IT talents want to achieve their goals quicker and they have a different kind of mindset from the previous generations. The importance of educating oneself came up in all interviews. In order to determine whether it is a built-in quality with IT talents or an external pressure to keep up with the development would need further research on the matter.

5.1.2 The factors that could trigger a person changing employer

Several different factors came up in the interviews regarding triggers that could get IT talents interested in changing employer. The findings are categorised under following topics: *employer image*, *task*, *salary and rewards, values* and *external factors*.

Employer image

Employer image was considered a very important factor when thinking about changing employer. Companies that wish to attract IT talents should pay attention to their employer image, brand and reputation. Cable and Turban (2001, 125-128) argued that similar to marketing, also in recruitment brand familiarity is important. People may even question the legitimacy of a business if it is unknown to them. This came up in the interviews as well, people who value factors such as stability would be very unlikely to accept a job offer from a previously unknown business.

One factor causing negative impact in employer image is experience of bad management. It came up in many of the interviews, respondents mentioned it as a factor causing dissatisfaction and it reflected on employer image. Recruiters also mentioned how difficult recruitment can be if the organisation has a reputation of suffering from bad management. Sometimes all it could take is one person's experience of that and the word spreads causing issues to the organisation's future recruitment efforts. Organisations are not focusing on their employer image and brand for no reason as word spreads fast and wide in the digital age. Many respondents also mentioned that it is important for the organisations to follow up on their written down values, walk the walk not just talk the talk, as people will see if the company is not genuine with their values. This is in line with Cable and Judge's (1996, 296) research on the P-O fit where they state that people with good P-O fit are more motivated and committed to the organisation.

Some IT talents want to build their personal brand and aspire to work in companies that would support it. As the phenomenon of personal branding is becoming more common, the effects of it are spreading to the IT sector as well. IT recruiters recognised that personal branding has been occurrent in industries like marketing and sales and is now showing signs that it is spreading to IT sector as well. Some has even recognised that there are people with a "guru" status that may attract other people to work in that company. Thus, people may follow a personal brand over a company brand. Recruiters predicted this kind of phenomenon to grow in the future.

This should be noted by companies as well, as it could turn into a powerful marketing asset for them.

The concept of a pulling power of a guru is very interesting finding as no mentions of it came up in the literature regarding the researched topics. While personal branding is no new phenomenon, companies availing of people with such status is not yet common in the IT sector in Finland. In an interview with Finnish Talouselämä magazine a recruiter Mark Firth from an international Tapflow recruitment company reminded that 40% of current jobs didn't exist 15 years ago and linked the comment to the importance of building a personal brand (Hakola, 2018). As the speed of technological advances is not predicted to slow down in the near future, it is likely that the importance of personal branding will increase. People in the IT sector need to prepare themselves to remain employable as the industry goes through changes. However, that being said, many of the more traditional IT sector jobs will remain, for now, unchanged.

Task

Another trigger that could get IT talent interested in changing employer was regarding the task: how challenging it is, what kind of technology and tools they are using and what could be learned from the task. This finding, unsurprisingly, is in line with previous study. Melaye (2014, 60) found that candidates are drawn towards work tasks that are interesting, challenging and motivating.

The interview responses reflected that modern technologies were some of the most motivating factors. Modern technologies and tools were seen as a reason to change employer or remain with current one. In the rapidly changing IT sector companies that are involved with the most recent technologies thus can have an advantage in attracting IT talents.

Salary and rewards

Salary was discussed in every interview and while it was found to be an important factor, it was not a determining factor for any of the respondents. This finding was in line with previous research as well. Ferreira's (2016, 14) study found that there was no correlation with salaries and employee attractions, but similar to the findings in this research, a certain baseline had to be met. Moreover, it is also in line with Herzberg's motivation theory, as increase in salary was not seen as a motivating factor. However, a decrease in salary or the feeling of being underpaid was a demotivating factor.

The interviews were conducted with people who work in Finland. Finnish work legislation and collective agreements set a certain base line for salaries, work times, holidays, medical care etc. Employers in Finland thus do not usually compete for workforce with benefits such as medical coverage for the family, extended holiday times etc. If interviews were conducted with people who work in different countries some very different incentives from the employer's might have come up. The interviews revealed that pay and bonuses are often quite similar regarding same work tasks in different companies, also IT workers are often well aware of the current wage level within their work tasks. Thus salary, bonuses and benefits were not notably important factors.

Values

When setting to start the research, the expectation was that people would let personal values guide their career choices and decisions. In the literature regarding the subject areas P-O fit and symbolic values are discussed a considerable amount. For instance, Chapman, Uggerslev, Carroll, Piasentin and Jones' (2005, 938) meta-analysis found that one of the strongest factors in applicant attraction is the perceived fit between the values of the person and the organisation. When discussing values with the interviewees, the topics that were brought up were regarding co-workers, team spirit, good work atmosphere and culture, so called soft values. Moreover, flexibility, which could also be considered as a value, came up in

all the interviews. People in the IT sector expect flexibility and employers should be very aware of it.

Symbolic traits came up in several forms. In the literature they have been described as intangible attributes such as sincerity, innovativeness, competence, prestige and robustness (Lievens and Highhouse 2003, 37-38). A company that works within the most modern technologies and the most modern tools could be described with many of those attributes. IT businesses are at the top of development and thus reflect many qualities that are connected to state-of-the-art attributes. However, while many modern IT companies are working at the high end of development and innovation, it should not be overlooked that as IT sector is so vast, there are many positions that do not necessarily correspond to such attributes.

To conclude, the findings were very much in line with previous study as mentioned above. Also, the findings in Herzberg's study reflected on the values, many of the hygiene factors were discussed in the interviews, i.e. working conditions, co-worker relations, supervisor quality, salary. Satisfier factors were also the same, achievement, recognition, responsibility, advancement and personal growth. Interestingly, one factor that gained more weight over the others was the ability to learn, educate and self-develop ones' skills, which has also been noticed as a value within the younger generation.

External factors

The labour market situation is very favourable for IT talents. People who possess the most desired skills can select where they work. In a situation like this the company image becomes increasingly important. A person who can choose where to work is more likely to choose an organisation that has a good reputation, brand and image.

Educational policies were mentioned as external factors that might affect the IT labour market situation. However, educational policies are set according to the

current situation and predicted future prospects of it and thus do not rapidly enough respond to the needs of the businesses. In 2017 Tekes (The Finnish Funding Agency for Technology and Innovation) estimated that in the next decade the shortage of skilled IT workers could raise to as high as 50 000 in Finland (Yle 2017). If educational policy decisions are made based on this figure, by the time the coders will graduate from universities, the companies have found different solutions to their staffing problems, possibly by hiring from abroad. This solution on its own does not solve the problem either, as the IT talent shortage is global and all countries are facing the same problem. Moreover, technology will have moved forward and regardless of the educational institutions best efforts to keep education up-to-date, some skills will be outdated by the time of graduation due to the rapid development in the IT sector. Companies will still need to do considerable amount of the training by themselves.

5.2. Practical implications

The future of work is changing and mostly unknown. Many of the current jobs will be made redundant due to technological advances such as automation, robotics and artificial intelligence. Technology will play a large role in the future jobs as well and thus the shortage for IT sector workers is not likely to show any signs of easing any time soon. Companies must find ways to attract IT candidates and retain them. In order to understand how to attract IT talent, companies need to know what kind of careers and motivation factors drives IT talents.

This research identified different factors to attract and retain IT talents, many of them confirming findings from previous research. Below are listed suggestions that companies should consider when recruiting IT talents. Moreover, the results of this research can be used as discussion openers regarding the most highlighted findings of this study, the pulling power of a guru in IT industry, the importance of education and self-development within the sector and how to attract more women towards IT sector jobs.

Career paths

Findings suggest that IT talents want to be in charge of their own career development, but still wish that the organisations where they work would lay out career paths for them. Employer image was considered as a very important factor when considering changing an employer. Thus, companies that are capable of demonstrating that they have a model and opportunity for career development could have an advantage in attracting IT talents. An organisation that has different opportunities for developing individualised career paths for their staff is also more likely to retain their staff if the staff feels that their needs are being met.

Skills development

Providing opportunities to learn and develop goes hand in hand with offering career paths. The findings suggest that IT talents are interested in advancing horizontally in their careers and this often means self-development and learning of new skills. Organisations that promote and offer opportunities for IT talents for learning new skills are more likely to attract and retain their IT talents.

Guru

Companies within the IT sector should pay attention to personal branding of their staff. As the findings of this research indicated, the phenomenon of a pulling power of a guru is on the increase within the IT sector. As companies now understand that people are their most valuable asset, this could be emphasised when building the employer image and company branding.

Women in the IT sector

As women make up almost 50% of the workforce (The World Bank, 2018), it can be considered as a loss of potential that women are so underrepresented within the IT sector. Finnish IT professional magazine, Tivi, researched gender diversity within Finnish IT companies and discovered that women make up an average of 27% of their

staff (Tivi, 2018). The respondents felt that there is very little that organisations can do to attract women as there are so few female applicants. They felt that the division into boys' subjects and girls' subjects happens as early as primary school. Further down the line, this results in lower intake of girls studying IT in higher education. This is a societal issue and it is global. Societies needs to tackle this issue and start thinking about ways to attract women towards IT education. By getting more women into IT sector is likely to also help with the IT talent shortage.

Generational differences

Companies should pay attention to generational differences regarding the aspirations of different generations. This research was not comprehensive enough to draw direct conclusion, but the results suggests that younger IT talents and the ones that are new to the industry are more driven by challenge and somewhat by salary. People who have been working longer in the industry are more values driven and are more on the lookout for a P-O fit. Moreover, IT talents, regardless of age, are looking for freedom, flexibility and autonomy within their careers.

5.3. Recommendations for future research

The topic of this research has not been vastly researched. The aim was to find out what factors could get *passive* IT candidates to consider changing employer. Plenty of research has been conducted in the field of recruitment, but it has focused more on candidate experience or active job seekers. As headhunting has moved from executive recruitment to white and even blue-collar recruitment, the whole industry of recruitment has changed. Headhunting and candidate sourcing is becoming the norm and regular recruitment practices are changing. Thus, more research should be conducted on passive candidates and the business of headhunting.

Secondly, the importance of self-development and continuous learning that came up in the interviews was a very interesting finding in this research. Further research

should be conducted on whether it is customary specifically for IT sector or is it a wider phenomenon in different industries. Moreover, it should be studied how much the fast pace of the development within the IT sector is impacting the desire to self-develop.

Third interesting topic for further research is the phenomenon of a pulling power of a guru. How common the phenomenon is globally and how it shows across different industries in Finland including the IT sector.

The fourth issue worth researching further is the lack of women in the IT sector. What are the reasons why so few women choose IT and what could be done about it? The sector is losing potential due to the lack of diversity and number of workers as women are opting out from the IT sector. This is a matter that affects businesses globally. Governments and educational institutions should pay special attention to it.

5.4. Credibility

Mason (2002, 7) stated that all qualitative research must involve active reflexivity from the researcher through the process where the researcher must continuously evaluate their own role in the research process. Throughout the research the effect of researcher's own bias has been acknowledged and taken into consideration with the attempt that it shouldn't influence the process.

Not all workers and candidates that hold IT positions are within the talent shortage. It should be noted that their career construction and the factors that could attract them to organisations can be very different from those that are considered 'IT talent' and are headhunted. Moreover, as IT is required in all businesses there are companies that do not operate in IT sector but may still have an IT department. Thus, people who work in IT can be a very diverse group. The people interviewed for this

research are working within IT sector specifically. Therefore, the results of this research cannot be interpreted to include all IT related activities.

Moreover, it is not such a great concern of external validity, as case study findings rarely can be generalised to a larger context. Using multiple sources of evidence (interviewing both IT talent and IT recruiters) and establishing a chain of evidence (the methodology chapter) will provide better basis to evaluate the credibility of this research than the generalisability of the results (Yin 2014, 46-49). The analysis shows that the individual IT talent's answers and the IT recruiters' answers are similar in most areas. From these answers, one could draw generalised conclusions and some level among IT workers. Only a small number of IT talents were interviewed, but adding the IT recruiters' experience of talking with hundreds of IT talents added to the credibility. While their knowledge on individual people may not be in-depth, they had a good general understanding on what drives IT talents towards their career construction and possibly changing employer.

This research was assigned by a company where the researcher is an employee. The researcher does not work as a recruitment consultant and is not in contact with the IT talents during the recruitment processes. Moreover, there is no power relationship between the researcher and interviewees, which provided a confidential and relaxed setting for an open and honest conversation. However, it should not be overlooked that despite her role in the company, the researcher is somewhat biased and holds some preconceptions on the topic. While the company hoped to gain some insight through this research, it did not have an input or a role in the implementation of the research, the analysis of the data and the results. This research did not receive any funding. Thus, any outside parties are not financially affecting the implementation of the research or its results.

Both IT talents as well as IT recruiters were interviewed in order to get a more comprehensive understanding on the matter. However, a notable concern regarding validity was brought to attention during the interviews. While all respondents

emphasised horizontal advancement over vertical advancement one recruiter's response was different. When expressing interest towards a differing answer, the recruiter mentioned of possible bias where a candidate may very well be saying different things in a job interview situation than in an interview like in this research. In a job interview the candidate is more likely to say things that the candidate assumes the recruiter wants to hear, for example, expressing interest towards career advancement while not actually having desire to vertically advance in career. While it should not distort the results of this research too much, it is worth taking into consideration.

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Appendices

Appendix 1. List of interviews titles.

Code	Employee/Recruiter	Position
R1	Recruiter	Sourcing Consultant
E1	Employee	Project Manager
R2	Recruiter	Delivery Manager
E2	Employee	Senior Business Analyst
R3	Recruiter	HR Manager
E3	Employee	Solution Specialist
R4	Recruiter	HR Specialist
R5	Recruiter	Recruitment Consultant
E4	Employee	CEO, Founder