

Austrian labor market attractiveness for highly qualified professionals in information technology occupations

Master Thesis

Submitted in Fulfillment of the Degree

Master of Arts in Business (MA)

University of Applied Sciences Vorarlberg
International Management and Leadership

Submitted to Dr. Johannes Berger

Handed in by Larisa Barkovskaia

Dornbirn, 28.07.2020

Abstract

The boom of information technology development created high demand for skilled labour force in IT occupations. IT professionals install, test, build, repair or maintain hardware and software and can do the job from any location in the world.

Demand for the workforce significantly outstrips the global supply. In a situation of staff shortage employers have to compete on local and global labour markets. The ability of a firm to attract and retain the best talent would become a source of its sustainable competitive advantage.

Aim of the study is to understand what influences perception of employment attractiveness by IT professionals the most. This study intends to expand the existing knowledge about employees' needs and "psychological contract" concept.

The research was conducted with the participation of 4 IT and 4 HR English-speaking experts who live and work in Austria. In the study the grounded theory approach and the descriptive qualitative methods were applied.

The research findings explain which factors influence the decision of IT professionals to join, stay or leave an employer. The results are discussed in relation to talent attraction and retention practices of Austrian employers.

Table of Contents

List of Figures	1
Chapter 1. Introduction	2
1.1. Research Background and Context	5
1.2. Statement of the Problem	6
1.3. Aim and Objectives of the Research	7
1.4. Research Questions and Structure	8
Chapter 2. Literature Review	9
2.1. The Resource-based View	10
2.2. HR Strategies	11
2.4.1. Key Indicators	19
2.4.2. Labour Force in IT Occupations	27
2.4.3. Summary	29
Chapter 3. Research Methodology	30
3.1. Data Collection	31
3.2. Data Analysis	32
3.3. Assumptions	32
3.4. Limitations	33
3.5. Ethical Assurance	34

Chapter 4. Results and Findings	35
4.1. Objective 1.	35
4.2. Objective 2.	36
4.3. Objective 3.	39
4.4. Objective 4.	40
4.4.1. Analysis of the Findings	40
4.4.2. Summary and Theory Construction	44
4.4.3. Answers to the Research Questions	47
Chapter 5. Conclusion	48
5.1. Discussion of the Research Results	48
5.2. Implications	52
5.3. Conclusions	52
References	55
Appendix 1. Ideal Employment Conditions Desired by IT	60
Appendix 2. Important Factors during Job Search	64
Appendix 3. Positive Facts about Current Employment, IT	67
Appendix 4. Career Path with Current Employer , IT	69
Appendix 5. Career Path with Current Employer, HR	71
Appendix 6. Invitation Letter to Participate	73
Appendix 7 Interview Questions	74

Appendix 8. General Information about Participants

78

Statement of Affirmation

80

List of Figures

Figure 1. Projected change in the old-age dependency ratio, 1980-2050	22
Figure 2. External and internal migration in 9 Länder	27
Figure 3. Comparison of the factors influencing attraction	41
Figure 4. Factors that influence IT talent attraction	42
Figure 5. Comparison of the factors influencing retention	43
Figure 6. Factors influencing IT talent retention	44
Figure 7. Factors influencing IT talent attraction and retention	45

Chapter 1. Introduction

The responsibilities of the professionals who work in IT field include network administration, software development and installation, planning and management of an organization's technology life cycle, including hardware and software maintenance, upgrade and replacement. ("Information technology" 2019) This group of professionals is known as highly qualified IT professionals.

The world economies and people everyday lives are becoming more digital and automated. The global information technology industry grows and in 2019 intends to reach five trillion dollars. ("IT Industry Outlook 2019" 2019).

The degree to which technology is used for driving strategic business goals has changed significantly over the past 20 years. If earlier main function of IT was tactical, with the focus on business processes and costs optimization, today it drives the strategic goals of business. ("Information technology" 2019)

This shift stimulates the need of IT professionals to work much closer with business units and shapes IT jobs' requirements. Qualified IT professionals today have to combine technical skills with strategic business thinking and effective cross-department collaboration skills. ("Information technology" 2019)

Top hiring challenges reported by employers globally are:

1. finding workers with skill/experience in emerging areas (e.g. IoT, AR, AI, etc.)
2. finding workers with the desired soft skills
3. intense competition for tech talent
4. rising salary expectations
5. limited pool of available workers in local region

("Information technology" 2019)

The shortage of specialists in local regions and the IT technologies globalisation created for this category of workers a variety of career opportunities.

The global demand for the skilled IT professionals is extremely high and results in the low unemployment among them and the high competition level among the employers. Considering

that the technology industry generates a big number of jobs, nowadays many dedicated conferences emerge to unite the recruiters specialising on IT talent acquisition. (“Tech Talent In-house Recruitment Conference” n. y.)

HR professionals in Austria also face the challenge of manpower shortage and often have to recruit from abroad. Filing IT vacancies with the right talent is important not only for the particular businesses and countries, but for the performance of world economy.

Today Information and Communication Technology (ICT) industry in Austria secures about 290,000 jobs, being an important market for such global corporations as Infineon, Siemens, Philips and Microsoft. Also a large number of Austrian ICT suppliers have managed to achieve top market positions in the world with their products. (“ICT sector in Austria | Invest in Austria” 2019)

The main drivers of Information and Communication Technology (ICT) sector in Austria are investments in research and development and the government support.

Austrian government promotes the “Vision for Austria 2025: The aim is for our country to play a leading role in shaping digitization as an innovation leader. Only then can we ensure that everyone in Austria can benefit from the advantages of digitization.” (“Digital Roadmap Austria” n. y.)

In accordance with Migration Council report “In Austria, as in the rest of Europe, companies are complaining of a lack of skilled workers, especially those with qualifications in mathematics, informatics, natural sciences and technology“(“Report by the Migration Council for Austria” n. y.)

The shortage of highly qualified labour in technology occupations together with shrink of working population is considered as a threat of Austrian economy. (“Report by the Migration Council for Austria” n. y.). These factors have direct impact on technological progress and implementation of “Vision for Austria 2025” (“Digital Roadmap Austria” n. y.). To address the shortage of skilled labour Austrian government invents different programs and supports the attraction of foreign labour in technology occupations. (“Report by the Migration Council for Austria” n. y.)

Since 2019 the list of shortage occupations was extended and could be defined by each province. The work access for “very highly qualified” workers was simplified to facilitate the migration and address the business’ needs.(“Austria EMN Country Fact Sheet” 2019)

At the same time the leading technology companies , such as Microsoft, Oracle, Google report that they can retain their employees for less than 2 years. (Peterson 2017)

“Many studies show that the total cost of losing an employee can range from tens of thousands of dollars to 1.5-2 annual salary.”(Bersin 2013) The cost includes cost of new hiring, onboarding, loss of productivity, engagement, training cost, cultural impact. While the longer an employee stays with an organization the more productive, he or she gets, due to the acquired knowledge and the skills.

In such a way economic value of an employee increases over the time and high turnover among rare professionals becomes an issue for a business.

In accordance with Austrian Federal Economic Chamber “Austrian companies are among the best in the world, particularly in the fields of environmental engineering and energy, life sciences, infrastructure and traffic technology, as well as mechanical and power plant engineering, automation, and communication technology. Leaders in research and development, they offer products and services characterised by cutting-edge innovation, which enjoy strong worldwide demand.” (Austria 2011) I assume that such environment together with the quality of life in Austria should attract and retain highly qualified professionals from all over the world and act as a competitive advantage in the global competition for IT talent.

As HR Manager of an IT company based in Vorarlberg, I also face the challenge of IT talent attraction and retention due to the staff shortage in the area and the need to compete with border countries for personnel. Due to Vorarlberg’s location in the far west of Austria, where it shares the borders with Switzerland, Germany and Liechtenstein the labour migration is a common practice and the international competition for the qualified personnel is especially high. IT Professionals from other regions of Austria are not eager to relocate and the long recruitment process often ends up hiring foreign workers.

My professional experience motivated me to conduct the research of employment attractiveness phenomena and to investigate the ways to gain a competitive advantage on the labour market.

1.1. Research Background and Context

Consultants from McKinsey agency Beth Axelrod, Ed Michaels and Helen Handfield-Jones argue that "...winning the war for talent is about much more than recruiting tactics" and "it's about recognizing the strategic importance of human capital because of the enormous value that better talent creates." (Michaels; Handfield-Jones; Axelrod 2001)

However, the competition is tough and attracting the highly qualified talent is not an easy task. Small and medium size companies (SME) prevail in Austrian economy and compete for the same talent with the large ones (LSE). The SME's can offer flexibility, that LSE are not able to compete. With the increased of job mobility employees became more eager to explore different virtual jobs and relocate abroad for a job opportunity. They also prefer to change jobs more often than before." ("The war for talent - and how to win it" n. y.)

The information revolution and the ability to do work at any place and any time made some organizations recognise the need to adapt and change their policies and practices. They introduce "flexible working" and opportunity to work from home as employee benefit programs aimed at people with family commitments. But still this way of working, when an employee is in control of his or her own time or has full autonomy is treated as an exceptional working conditions and a benefit.(Thomson 2020)

Individuals started to realize that their work and life balance is also a valuable asset and no longer agree to exchange it for a pay check. A professional with scarce skills would prefer to change jobs when it is too much work, recognizing time as an asset, that is more valuable than money. Such individuals are searching for work environments with space for private life and are not ready to sacrifice for a career.(Thomson 2020)

While people clearly prefer flexibility, many companies in Austria are struggling with implementing the culture of trust and rely more on the working time control mechanisms. (Vered 2019).

The trend towards businesses automation, data exchange with cyber-physical systems, the internet of things, cloud computing, artificial intelligent has been massively developing across the globe before COVID-19 pandemic outbreak. Many jobs were automated, and many new professions emerged, especially in IT field. With additional shock of virus and the measures taken to deal with it, the way people work has changed significantly. Implementing work-from-home during the epidemic became a matter of survival for many companies. The remarkable

move towards creation of remote workplaces happened around the world withing just a few months.

These obstacles warmed up an already high demand for tech professionals. “ According to Dice’s report, Silicon Valley saw double digit growth in job postings between February and March—likely due to demand for “products and services vital to remote work and life, from messaging software to email and cloud platforms. In the big demand are the jobs related to the cybersecurity and the jobs that support remote shopping, such as net developers and system engineers ”(“Tech Jobs in the Time of COVID - IEEE Spectrum” 2020) The need of digitalisation and new technology escalated the scarcity of IT skills and the competition for the best talent , because now it became vital for any business and irrelevant of the size.

“On the basis of employment by task, WIFO identifies a home office potential of around 45 percent; this potential is slightly higher for women than for men.” (“Austrian Institute of Economic Research” 2020) In my opinion, after the pandemic many organisations will get back to the usual way of work and, at the same time, many of them will realise much better the benefit of flexible and remote working. Another positive implication is that fast and massive digitalisation of business and learning processes created additional opportunities for society and economy that would have taken in normal circumstances many more years.

It is important to mention that world economy and many people seriously suffered from impact of the pandemic, losing their jobs or switching to the short time working. At the same time the number of remote jobs increased and forced employers to adapt the talent acquisition and talent management practices. With remote work labour market became more open and companies started questioning the need of employee’s relocation and office work. “Many organizations, such as Allianz Global Investors and Cisco, have already set up internal project marketplaces that break down work into tasks and projects that can be matched with people from anywhere in the organization with relevant skills and availability”. (Jesuthasan; Malcolm; Cantrell 2020)

1.2. Statement of the Problem

If we treat highly qualified IT professionals as a resource for which employers compete on labour market, we can assume that an employer’s ability to attract, exploit and retain this resource better than competitors do would construct an competitive advantage.

The topic of competitive advantage belongs to the strategic management field. The academic research on the sources of sustained competitive advantage was previously “focused either on isolating the firm's opportunities and threats (Porter, 1980, 1985), describing its strengths and weaknesses (Hofer & Schendel, 1978; Penrose, 1958, Stinchcombe, 1965), or analysing how these are matched to choose strategies” (Barney 1991). Basic human resources strategies used by organizations to get the right people on board were researched and introduced by Silzer and Dowell (Silzer; Dowell 2009).

The concept of employer and employee's relations and expectations from each other was first introduced by Chris Argyris and Harry Levinson in 1960 as “psychological contract” and further researched by Kottler in 1973. Leigh Branham in his research defined the employees' basic needs to be met to influence their engagement and retention. (Branham 2004)

In the situation of personnel shortage in IT technology occupations and labour market globalisation the problem of IT professionals' needs and expectations from employment is not enough researched in academic literature.

The specific problem that I intend to solve with this study is the insufficient knowledge about the factors that impact on IT talent attraction and retention. The research contributes to the “psychological contract” theory and also extends knowledge of “sustained competitive advantage” of a firm.

1.3. Aim and Objectives of the Research

Aim of this qualitative research is to determine the factors that influence the most on IT talent attraction and retention and to describe the sources of Austrian employers' competitive advantage.

Objective 1.

Explore ideal employment conditions desired by IT Professionals who live and work in Austria.
Formulate the criteria of employer's attractiveness from their own perspective.

Objective 2.

Investigate the current employment experience of IT Professional in Austria. Formulate which criteria have the most influence on IT talent retention.

Objective 3.

Define the factors that have the greatest impact on IT talent attraction and retention from HR perspective.

Objective 4.

Conduct the comparative analysis of the interview answers from IT and HR perspectives. Construct a theory describing and explaining the perception of employment attractiveness by IT professionals. Formulate the hypothesis about the sources of competitive advantage of Austrian employers.

1.4. Research Questions and Structure

Research Questions:

- 1. what factors have a major impact on IT professionals` attraction and retention?*
- 2. what could be a source of competitive advantage of Austrian`s employers in the competition for IT talent.*

The research will be conducted with the following 5 steps.

Step 1. Preliminary Research

The literature research among published papers, e-journals and textbooks, scientific databases (e.g. Austria and Europe Statistics, The Chamber of Economics, Migration Platform of the Austrian Federal Government, etc.) with keywords including “Information Technology and Communications Professionals”, “highly qualified labour attraction”, “IT Talent attraction and retention”, “IT jobs in Austria” etc. to develop the overview of Austrian labour market and the issue of IT talent demand and supply and the employers` challenges. Specifying interview questions based on the secondary data analysis.

Step 2. Qualitative Research

Reaching out to the pre-selected at LinkedIn IT and HR professionals, inviting them to take part in the research. Conduct and record for the further transcription and analysis the online interviews

Step 3. Data Analysis

Primary data analysis using open, axial and selective coding methods to formulate the core categories, trends, and relationships among the data. Systematic comparisons between observations and between the compared categories. For organizing, analysing and visualizing the data were used MAXQDA software tools.

Step 4. Hypothesis Generation

Developing logical links between the gathered data from IT and HR experts, the argument formulating based on the analysis. Conceptualizing the findings to construct theory -hypothesis and to answer the research questions.

Step 5. Conclusion

Reviewing related theories in academic literature to figure out how the developed hypothesis fits within it. Determine the limitations, and implications for further research.

Chapter 2. Literature Review

This chapter reviews the theories explaining employer-employee relations and competitive advantage criteria.

Taking into the consideration high demand and limited availability of the qualified IT professionals on Austrian labour market we can classify them as a strategic resource of an organisation. The companies, that need to acquire this resource for implementing the business strategy act as competitors on the labour market. To explain the factors influencing success in the competition the resource-based view and dynamic capabilities frameworks were revised.

2.1. The Resource-based View

Barney's 1991 article "Firm Resources and Sustained Competitive Advantage" is widely cited in the context of the resource-based view. "The resource-based view (RBV) is a managerial framework used to determine the strategic resources a firm can exploit to achieve sustainable competitive advantage." ("Resource-based view" 2020). RBV proposes that firms possess heterogeneous resources and can have different strategies.

"The RBV focuses managerial attention on the firm's internal resources in an effort to identify those assets, capabilities and competencies with the potential to deliver superior competitive advantages." ("Resource-based view" 2020).

From this perspective highly qualified IT professionals could be considered as a strategic asset, capable to drive the business processes digitalisation, company capabilities and competitiveness on the market.

Capability of a firm to acquire and exploit such resources as well as inability of current and potential competitors to duplicate the same strategy make the competitive advantage sustained. (Barney 1991)

Though IT jobs` scope and the skills required may be very similar in different companies, ability to attract and retain the best talent often varies. Successful employers have to review and adapt the way of work addressing the internal and external change to stay competitive.

In 1997 Teece, Pisano and Shuen developed further "Dynamic Capabilities Framework" as an extension of the resource-based view, trying to understand how can firm adapt to a constant changing environment. Dynamic capability is "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environment" (Teece; Pisano; Shuen 1997)

"The basic assumption of the Dynamic Capabilities Framework is that core competencies should be used to modify short-term competitive positions that can be used to build longer-term competitive advantage." (Teece n. y.)

Talent acquisition refers to the corporate resourcing strategies and includes the ways companies recruit and retain human resources. People`s knowledge and experience are the firm`s resources, intangible asset that contributes into competitive advantage and overall success of organisational strategy. (Johnson; Scholes; Whittington 2008).

The digital world is changing the way we communicate, search for a job or attract talent. The old recruitment strategies are becoming less and less effective. Nevertheless “many organisations are stuck in the classic way of doing recruitment”... “they recruit as a response to a resignation or a newly created role with a particular set of skills and competencies to meet.” (Alston n. y.).

To guarantee the right talent availability at the right time the companies need to apply long term talent acquisition strategies, modify the recruitment and talent management practices, develop new competencies.

“Teece’s concept of dynamic capabilities essentially says that what matters for business is corporate agility: the capacity to (1) sense and shape opportunities and threats, (2) seize opportunities, and (3) maintain competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the business enterprise’s intangible and tangible assets.” (Teece n. y.)

“The necessity of rapid adjustments to sudden shocks and frequent shifts in the environmental conditions in which firms competes, becomes of paramount importance if firms wish to survive and grow” (Teece; Pisano; Shuen 1997)

“Whenever a firm faces an uncertain situation the DCs creates stability and order for how to proceed with any change needed.”(“Behavioural Foundations of Dynamic Capabilities Framework” 2019)

The ability to scan environment, get the information timely and interpret it accurately belong to the enterprise’s intangible asset.

In such a way the dynamic capabilities framework can be applied to highly qualified IT professionals attraction when we recognise them as a valuable and rare resource and a firm’s ability to adapt HR practices as it’s dynamic capability.

2.2. HR Strategies

Silzer and Dowell (Silzer; Dowell 2009) defined four strategies, that organizations use to get the right people onboard: buy, build, borrow, and bind.

“Buy” strategy is effective in a situation when an organisation goes through transformation and needs new perspectives and skills fast. (Silzer; Dowell 2009) When the change pace is very fast in business environment, or skill requirements are seasonal, hiring talent for specific tasks or projects on a short term –“borrow” strategy is adopted. In a situation when an organisation is willing and capable of expending human resources and develop talent internally it adopts “build” strategy. And, finally, when an organisation needs the particular talent to achieve long-term business objectives and its replacement brings additional risks and efforts, an organization adopts “bind” strategy through specific HR policies, practices (professional and career development opportunities, coaching, mentoring, etc.) and employment contracts. (Silzer; Dowell 2009)

In addition to the rapid change of technology and staff shortage challenges, new generations coming to labour market require employers’ adaptation.

In accordance with the global research of candidate short markets the most popular employer strategy to overcome the shortage impact was the focus on getting more out of existing employees. “42% of surveyed employers have provided staff with opportunities for training or the chance to take on new responsibilities, 25% of employers were implementing new policies to fast-track career progression. 85% of respondents adopted talent succession planning to address the staff shortage.” (Whitepaper 2019)

In accordance with Gallup agency survey 87% of millennials rate "professional or career growth and development opportunities" as factor of the greatest importance to them in a job. They search for a job with the development opportunities and it is also a top factor in retaining them. Millennials strong desire for development is one of the key “differentiators between them and other generations in the workplace”. (Adkins; Rigoni 2016)

Today job posting and applications review process is automated and is much faster and cheaper than five or ten years ago. At the same time recruiters face many new challenges. In the situation of high competition for the top talent on the labour market organizations start perceiving candidates as consumers and must deliver the personalized communications and convenient application processes for them. Modern recruiters very often have to apply the skills of sales representatives to convince the candidates in the employment attractiveness.

Recruitment process today is no more employer’s choice and decision, but the mutual evaluation, where both parties should make a good impression on each other. Considering

the shortage of good professionals in almost all the fields, employers try to make a positive impression on all the candidates, because not a right candidate today, may become a right one tomorrow. ("Council Post: Nine Big Changes That Have Shaped The Modern Recruiting Process" 2019):

All these changes have a direct impact on recruiters' job scope, competencies, and HR practices in a company. Though, the adapted talent acquisition practices and qualified recruiters do not lead directly to victory in the competition for the scarce resource. Even very effective talent acquisition practices should be further supported with talent retention measures transforming human resources into a long-term competitive advantage of a firm.

2.3. Psychological Contract

In 1973 John Kottler revealed the results of the research undertaken at one of the world's leading research institution MIT's Sloan School of Management to explore problems in joining-up process. At the heart of the research model was the psychological contract concept, which was first introduced by Chris Argyris and Harry Levenson in 1960, related to employer and employee expectations of the employment relationship. (Kottler 1973)

The psychological contract is "an implicit contract between an individual and his organisation which specifies what each expect to give and receive from each other in their relationships."(Branham 2004) An employee may expect to receive advancement opportunities, salary, status. While an employer's expectations may include technical skills, time, energy, commitment, etc. (Kottler 1973)

The research finding was that those people, who established a contract that matched an employee's and employer's expectations had a more satisfying and productive first year and remained longer with the company than those people, whose contract had fewer matches.

The contract is difficult to observe and, in most cases, neither an employee or an employer can recognize it. But in case of mismatches, that may occur by accident or out of neglect, an employee begins to feel disappointments, demonstrates the reduction of productivity and leaves. (Kottler 1973)

It was also discovered during the research that in most of the cases the mismatches of individual's and organisation's expectations refer to the personal development opportunities,

amount of interesting, meaningful, and purposeful work with the higher expectations from individuals. While the organisations had higher expectations towards the amount of security they offer and the individual's ability to take on organisational values, goals, and commitment. (Kottler 1973)

Another interesting finding of the research is that “the clearer an individual understood his own expectations on an item, the higher probability of a match. Likewise, the clearer an expectation was to the organization, the higher the probability of a match.” (Kottler 1973)

Later developments in the psychological contract literature were implemented by Denise Rousseau, who specified how employers and employees could understand the employment relationship (Rousseau 1989) and became one of the main authors of psychological contract concept. Her research focus was the expectations that employees had about their obligations to the employer and the employer's obligations to them.

Rousseau determined four phases of psychological contract and described influencing factors at every stage of the process:

1. Pre employment: professional norms and social believes
 2. Recruitment: active promise exchange and signals evaluation
 3. Early socialization: continuing promise exchange, information seeking
 4. Later experiences: intermittent promise exchange incorporated into existing contract
- (Rousseau 2001)

David Guest (1998) conceptualized the psychological contract in such a way that it could be adopted by human resources management specialist. He defined three key components of the contract: trust, fairness and delivery of a deal. He saw the contract as the combination of influences on individual wider social norms, expectations and organization. (Christeen 2010)

Later researches discussed psychological contract as a perceived promise where a promise is defined as “any communication of future intent” and explored the impacts of culture on the contract. (Westwood; Sparrow; Leung 2001) It was argued in academical literature that for professional workers this promises might come from different sources: individual subjective perception, profession and organization. (Christeen 2010) p.10

In academical literature psychological contract is usually described as either transactional or relational. The transactional contract is focused on the contract terms related to the monetizable exchanges. The relational contract describes the aspects of emotional

involvement. (Christeen 2010) The difference between these types of contracts is summarised in the table below. (See Table 1.)

	Transactional contracts	Relational contracts
Employment relationship characteristic	“New deal” e.g. outsourcing, contracting, portfolio work, agency or other forms of short/temporary relationship	“Old deal”: a promise of “a job for life”
Employee expectations	Financial reward Enhancement of CV Training Status Financial perks	Job security Quality workplace relationships Broad experience Interesting and challenging work
Organizational expectations	Erosion of specialist work Stress on multi-functional team working Investment of time and energy Knowledge, skills and talent as needed	Commitment Loyalty Sharing of values Quality performance
Key employee outcomes	Immediate financial gain Employment flexibility Employment choice Change and variety	Reduced workplace uncertainty Feeling of self-efficacy and empowerment Reduced workplace stress
Key organisational outcomes	High levels of flexibility: Functional, financial and numerical	Reduced need for direct supervision of workers or other intensive surveillance techniques Attitudinal commitment Social capital
Associated HR Strategies	Monetary/financial rewards Remuneration based on performance or measurable contribution Rewards for productivity gains Tightly specified job descriptions Professional and managerial development	Induction and socialization practices Intensive in-house training Personal development Promotion Extra-role opportunities Simple and broad job classifications Frequent assignment changes Welfare-focused policies

Table 1. The nature of transactional and relational contracts

Source: (Christeen 2010)

In my research I would like to continue developing the theory of psychological contract investigating how well IT professionals are aware of their own expectations from a job and how well employers understand the needs and expectations of IT Professionals. Modern organizations are forced to become faster, more flexible and change the hierarchical structures into the flat ones. As a result, the security level of any job has dropped significantly and the

reward criteria has moved from the seniority-based pay into the contribution and performance based. (Sharpe 2003)

These factors make personnel development more difficult to manage and plan by employer. In the flat hierarchy the possible internal career moves are not that transparent as in the classical organizational structure with many hierarchy levels and transparent career development steps.

There is still no universal agreement about the content of the psychological contract among researchers, but all of them generally acknowledge that the psychological contract has changed over recent years.

Paul Sparrow (Sparrow 1998) in his research defined a number of key features that distinguish the “old” contract from the “new” one.(See Table 2.)

	Old Contract	New Contract
Change environment	Stable, short term focus	Continuous change
Culture	Paternalism, time served, exchange security for commitment	Those who perform get rewarded and have contract developed
Rewards	Paid on level position and status	Paid on contributions
Motivational currency	Promotion	Job enrichment, competency development
Promotion basis	Expected, based on time served and technical competencies	Less opportunity, new criteria, for those who deserve it
Mobility expectations	Infrequent and on employer’s terms	Horizontal, used to rejuvenate organisation, managed process
Redundancy/tenure guarantee	Job for life if perform	Lucky to have a job, no guarantee
Responsibility	Instrumental employees exchange promotion for more responsibility	To be encouraged, balanced with more accountability, linked to innovation
Status	Very important	To be earned by competence and credibility
Personal development	The organisation’s responsibility	Individual’s responsibility to improve “employability”
Trust	High trust possible	Desirable, but expect employees to be more committed to project or profession

Table 2. Changes in the Psychological contract
Source:(Sparrow 1996)

As soon as the psychological contract is something that does not lay on the surface and often stays neglected by a direct manager of an employee I assume that the level of transition from the “old” to “new” contract may significantly vary between organisations. I believe that the awareness of an organisations about an employee’s needs and expectations together with management desire and capability to adjust HR practices has the direct impact on overall capability of an organisation to acquire and retain the right talent.

Nowadays employment, as well as the psychological contract is not perceived as a long-term proposition. A life-time employment is rather an exception, than a common practice.

Constantly changing environment requests not only organisations to adapt. Lifelong learning became a vital skill for any kind of professional, but a mutual responsibility of an employer and an employee. As a result of technological advancement and the shortage of labour, especially noticeable in technology occupations, today individuals must combine several jobs and go through several career moves during their professional life.

The successful organisations are capable of building a learning and development environment withing their organisational culture and values and adapt the management and leadership styles. In such companies the mutual responsibility for skills` development and professional growth replaces the continued employment, that has been offered before. People managers also have to change their leadership style from the command control model to the empowering survivor’s approach. The new organisational culture is shaping though managers understanding of the individual factors that have impact on the individual’s motivation. (Birch; McDonald; Phillips 1999)

In the circumstances of lifelong learning the schools, universities and training institutions also need to change the concept of learning and professional career. The new generation of highly educated professionals find changes easier to accept, but at the same time they want more development opportunities, autonomy, flexibility and meaningful work. Older workers, particularly those over fifty more often demonstrate the backlash to the new psychological contract and would prefer a career with one organisation in spite of the clear evidence that it is not likely to happen. (Sharpe 2003)

Of course, we need to keep in mind that the psychological contract is linked to individual’s needs that may differ at any given time, dependant on the individual’s age and the length of

service in the organisation. But when the psychological contract is broken, and an employee decides to leave the organisation the reasons do not vary much.

Leigh Branham, identified in his research “four basic needs that weren’t being met put employees on the path to disengagement and quitting a job.” (Branham 2004)

Amongst his findings was that the reasons for turnover were more based on strong feelings, rather than ration choices and less than 20 percent of employees decided to leave for better pay. Branham analysed the research data of Saratoga Institute, that had been conducting an employee commitment, satisfaction, and turnover study during the period from 1996 to 2003. There were current and former employees from eighteen different organizations involved in the survey. All the reasons for leaving he grouped into four fundamental human needs. (Branham 2004)

Amongst the needs were:

1. *The Need for Trust*- expectations that the company leadership delivers on their promises to employees, is honest and open in communication, invests in them, and treats them fairly. (Branham 2004)
2. *The Need to Have Hope*- believe that an employee will be able to grow, develop his/her skills and have the opportunity for advancement or career progress. (Branham 2004)
3. *The Need to Feel a Sense of Worth*- employee’s confidence in that if he/she works hard, do his/her best, demonstrates commitment and makes meaningful contributions, he/she will be recognized and rewarded appropriately. (Branham 2004)
4. *The Need to Feel Competent*: expecting that he/she will be matched in jobs where his/her talents align with the challenges of the work, receive the necessary training to perform the job capably and obtain regular feedback on the performance. (Branham 2004)

Branham’s research reveals that 95 % of the reasons an employee decides to leave are preventable by an employer, while “70 percent of the reasons are related to the factors controlled by direct supervisor.” (Branham 2004)

The influencing factors on the psychological contract and staying under direct supervisor's control are:

1. The job or workplace not living up to expectations
2. The mismatch between job and person
3. Too little coaching and feedback
4. Too few growth and advancement opportunities
5. Feeling devalued and unrecognized
6. Stress from overwork and work-life imbalance
7. Loss of trust and confidence in senior leaders

(Branham 2004)

In such a way strategical management and the psychological contract display any exchange relationship between an employer and an employee. To dive deeper into this subject the greatest theoretical and empirical attention was devoted to an individual's and an organization's needs and expectations. This study attention are the needs of the specific employees' group and the "deals" exchange process.

2.4. Austrian Labour Market

2.4.1. Key Indicators

Eurostat regularly conducts the assessment of the European Union member countries and updates the key indicators with the emphasis on the unemployment rate, as the main aspect of the labour market.

The Vienna Chamber of Labour (AK) examines a broader spectrum of labour market issues and in collaboration with WIFO and ETUI (European Trade Union Institute) experts identified five *key labour market dimensions* (Huemer; Mahringer 2019):

1. *Overall labour market performance*, that relates to the labour market in the context of the economic situation of the country, including employment and unemployment, economic growth and productivity.
2. *Participation*, that captures the integration of different groups of people (women and men, youth, etc.) into the labour market.

3. *Exclusion risks* on the labour market, that show the ability of the country to provide a fair access to the labour market and ability to stay employed (includes availability of education, childcare infrastructure, etc.)

4. *Distribution of earnings*, that indicates the level and distribution of income, based on the following parameters: the average level of earnings, the functional and personal distribution of incomes, taxes on labour, the gender pay gap and the proportion of the low wage earners including "working poor".

5. *Redistribution by the Welfare State*, that measures the effectiveness of state expenses on social protection and education.

Below I summarize the evaluation of Austrian labour market based on its five key labour market dimensions.

1. Overall Labour Market Performance

"There are 8 898 457 people living in Austria (as of 2019); based on the annual average for 2019, 3 797 304 (42,6%) were wage earners, 799 483 (21%) of whom were foreign employees, with 487 098 (60%) EU/EEA nationals including Swiss nationals." ("EURES - Labour market information - National Level - European Commission" 2020)

In accordance with the dimension market performance Austria belongs to the upper middle field among the EU countries with a slightly lower rating than EU top field countries: Ireland, Netherlands, Germany, Denmark, Sweden. (Huemer; Mahringer 2019)

GDP per capita in Austria in 2019 is 37,810 € ("Statistics | Eurostat" 2019) and the country was ranked at 14th place among all the world economies, 4 countries ahead of Germany with GDP 35,860€. ("Countries by GDP (nominal) per capita 2019" 2019)

In 2020 Austria's economy has been hit hard by the pandemic, especially the trade and services sectors. The economic activity is declined at 30% due to the lock down measures in the country. As a result "GDP is projected to contract by 6,2% in 2020 if there are no further virus outbreaks (the single-hit scenario), and by over 7% if there is a renewed outbreak later this year (the double-hit scenario)." ("OECD Economic Outlook Volume 2020 Preliminary Version" 2020)

Unemployment rate is 4,9% of labour force and is decreased in 2019 versus the previous year up to 4,7%. Due to the recent significant increase of the number of unemployed workers the average unemployment rate in 2020 may increase up to 5,5%. (“OECD Economic Outlook Volume 2020 Preliminary Version” 2020)

The record high jobless monthly rate in Austria has been registered in April 2020 and is 12,8 percent.(“Austria Unemployment Rate | 1960-2020 Data | 2021-2022 Forecast | Calendar” n. y.)

Long-term unemployment rate refers to “the number of people who are out of work and have been actively seeking employment for at least a year”. In 2018 the percentage of such unemployment was 28,9% and reduced in 2019 up to 25,1%, that is significantly lower than in Germany 38,1%. (“Unemployment - Long-term unemployment rate - OECD Data” 2019)

2. Participation

The employment rate in Austria is higher than average in EU-27 countries (72,4%) and makes 76,2% of its population. (Huemer; Mahringer 2019)

Female employment, as a percentage of the female population aged 20 to 64 in Austria is 71,7%, that is higher than average among EU-27 countries (66,5%). (Huemer; Mahringer 2019)

Male employment in the country is slightly higher than average in EU-27 and is 80,7% versus 78,3%. (Huemer; Mahringer 2019)

Youth employment in Austria as percentage of the population aged from 15 to 24 is 53,3%, that is significantly higher the EU average 32,9%. (“Labour market facts and figures” 2019)

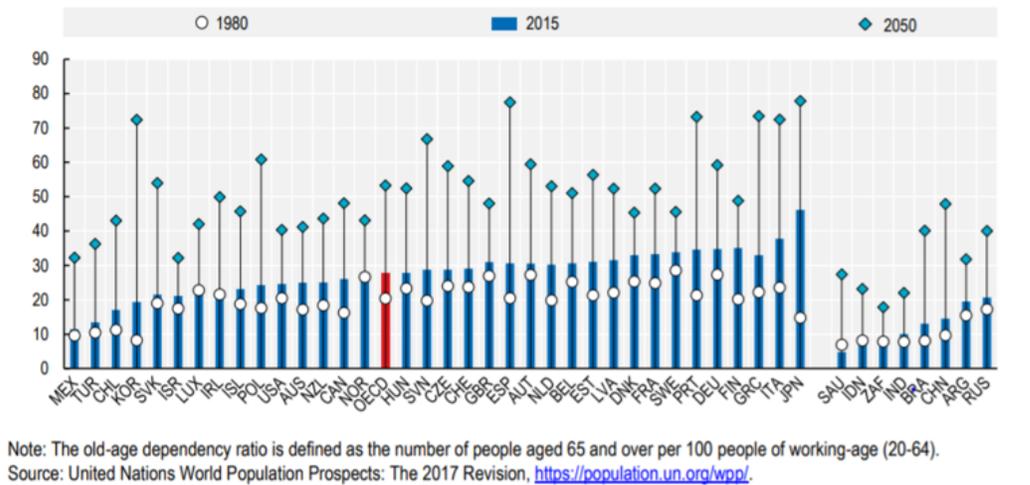
Senior employment in Austria, as percentage of the population aged 55 to 64 is 54% that is 3,9% lower than EU-27 average. (Huemer; Mahringer 2019)

Employment gender gap indicator measures the difference between the employment rates of men and women aged 20 to 64. Across EU-27 countries the average gender employment gap is 11.8 p.p. Austria’s employment gender gap is 9%, that is 2,8 p.p. lower than average. Since 2005 there was register 2,9 points gap reduction in the country. (“Statistics | Eurostat” 2019)

The working age population in Austria is projected to fall by 14% until 2050, while the number of people aged 65 and over per 100 of people of active working age (20-64) will increase twice for the period from 1980 till 2050 (see Figure 1). The same trend will be observed in most of EU countries. (“Austria - OECD Data” 2019) These demographic change should affect the Austrian labour market in terms of technology adoption and consumption patterns. The shortage of labour force may lead to faster automation or measures for immigrant workers attraction. Both factors impact on skill demands, the job types at the market and the makeup of population in the Austrian economy.

The shortage of workers in technology, engineering or mathematics occupations may result in the higher percentage of foreigners occupied in these professional fields.

Projected change in the old-age dependency ratio, 1980-2050



StatLink  <http://dx.doi.org/10.1787/888933966008>



Figure 2. Projected change in the old-age dependency ratio, 1980-2050
Source: (“Austria - OECD Data” 2019)

In the survey conducted in by Austrian Federal Economic Chamber (WKÖ) 87% member companies answered that they felt the shortage of skilled workers. This was also reported as the main reason for the companies to refrain from capacity increasing investment and the drop of sales. The lack of skilled labour is experienced especially intensely in medium-sized companies, in tourism and technical fields where the positions could not be filled for more than 6 months. (“ibw-research brief” 2018)

The expenses of employers in Austria for staff searching, the salaries and providing training and education significantly increased. Due to the shortage less qualified applicants also often need to be recruited while the possibilities of innovation and the development of new products are restricted. (“ibw-research brief” 2018)

To address this issue the government reviewed immigration policies adjusted it to the needs of the labour market supporting the skilled immigration and freedom of movement within the EU. (“Austria - OECD Data” 2019)

Austrian government sees immigration as a measure to offset population ageing and sustain growth, investing in different social projects to support immigrants’ effective integration and further contribution into the economy development. The government also intends to attract more skilled foreigners into “shortage occupations” and to retain foreign graduates of local universities in Austria. (“Economic Surveys. Austria” 2019)

The percentage of immigrants in Austria is higher than in comparable countries, such as Germany, Netherlands, Denmark and is constantly growing. In 2018 the share of immigrants was 21 percentage that is twice bigger than in 1999. If to take into consideration the natives with foreign-born parents then, around one third of Austrian population is of migrant origin. Until 2000s Yugoslavia and Turkey had formed most of the migrant labour. Withing the last years the majority of immigrants in Austria come from Germany (“Economic Surveys. Austria” 2019)

Cross-border commuting is about 4% of total employment in Austria and is a beneficial specifics of Austrian labour market due to 1 300 kilometres of borders with new EU member states. Commuters find Austrian employment attractive as it allows to combine higher earnings with lower cost of living at the home country. (“Economic Surveys. Austria” 2019)

As soon as the country labour market is capable to integrate well different groups of people, Austria is amongst top field countries in the dimension “participation”. (Huemer; Mahringer 2019)

3. Exclusion Risks on the Labour Market

The participation of older workers is lower in Austria than in comparable countries and the share of part-time work is high. As a result, the number of work hours per working age person remains one of the lowest in Europe. (“Austria - OECD Data” 2019)

The percentage of part-time working women in Austria is significantly higher than men, which is the third biggest gender gap indicator in EU. Women in Austria are four times more likely to work part-time (48%) than men (12%). The concentration of women and men in different sectors of the Austrian labour market is uneven. In science, technology, engineering and mathematics (STEM) occupations work fewer women (5 %) than men (38 %) in Austria, while in education, health and social work more women (28%) than men (8%).(“Austria | Work | 2019 | Gender Equality Index | European Institute for Gender Equality” n. y.)

At the same time the labour demand has been stable during three years in a row and has helped to increase women’s and older workers’ labour force participation. (“Economic Surveys. Austria” 2019)

Childcare infrastructure is also one of the exclusion risks factors, because the employment chances of parents, especially mothers depend on the availability of the care offers.

In comparison with other EU27 countries the childcare infrastructure and care offer in Austria for the kids of age 0-3 is ranked at 21st place out of 27, due to its shortage. For parents of small kids in Austria, it is still rather challenging to find a childcare offer for 30+ hours per week, that leads to the exclusion of the active labour force from the market. Due to care duties the percentage of inactive Austrian population is 1,4 %, and 8,7% of population works part-time. (Huemer; Mahringer 2019)

In the last few years, the federal government together with the provinces and the municipalities has implemented various initiatives to create more care places and increase the opening hours and managed to achieve an improvement in this area.

In 2019 the childcare enrolment-rate of 0 –3-year olds was 29%, 3 – 6 year olds was 94,7% and 15,5% of 6 – 10 year olds. (“Startpage: Women, Families and Youth - Federal Chancellery” n. y.)

The size of the population of the active labour force (25-64 years) in Austria with the lower level of education is 14,7 %, ranking the country at 11 place among EU 27 countries.

Population size with university education is 32.7% ranking Austria at 8th place among EU 27. (Huemer; Mahringer 2019)

The size of population with a low level of education (maximum secondary level) in Austria is 14,7% out of 25- to 64-year-olds, while 32,7% of the population of this age group have post-secondary education. These indicators show that the population with low level of education is smaller in Austria than average in EU 28 countries (21,9%), though the high education is at almost average level with EU28 countries (32,3%). (Huemer; Mahringer 2019)

To increase the number of highly qualified professionals on the market Austrian government implements different measures. The number of Universities is growing to respond to labour market's demand. A new Law on the Recognition of Qualifications facilitates the immigrants and refugees to certify their professional aptitudes and academic degrees in different areas. ("Austria - OECD Data" 2019) "To stimulate the inter-regional mobility of young workers and reduce interregional skill mismatches, a new "b.mobile" programme was recently introduced to facilitate cross regional apprenticeship placements". ("Austria - OECD Data" 2019)

In such a way, due to the lower numbers of older people and women full time employment Austria is ranked in the dimension "exclusion risks on the labour market" at the lower middle field among EU 28 countries. (Huemer; Mahringer 2019)

4. Distribution of earnings

The average level of annual earnings in Austria (compensation per capita) is 42,414 EUR, that is 14% higher the average in EU-28 countries (37,219 EUR). (Huemer; Mahringer 2019)

The employees compensation in Austria equals 48% of GDP, that is very close to EU-28 countries average (47.7%).(Huemer; Mahringer 2019)

The income quintile share ratio in Austria - a measure of the inequality of income distribution between the highest income and the lowest income population is at 4.0 level, that is lower than average in EU28 (5.2%). (Huemer; Mahringer 2019)

The total percentage of low wage earners (working poor) is 14,8%, that is also lower than EU28 average 17,2%. (Huemer; Mahringer 2019)

At the same time the Gender Pay Gap and the percentage of women among working poor is higher than average in Austria. In average women in Austria receive 19.9% less salary than men. (Huemer; Mahringer 2019)

The size of taxes on labour in Austria is 55.3% of total taxation, that is 12% higher EU-28 average 49.7%. (Huemer; Mahringer 2019)

All together these indicators refer Austria to the upper middle field among EU-28 countries in the distribution of earning dimension, while mainly unequal distribution of income among men and women prevents the country from being ranked at top field.

5. Redistribution by the Welfare State Measures

In this dimension of the labour market indicators Austria belongs to the top field countries, due to the effectiveness of its social welfare distribution at all levels through different social protection benefits and education expenditure. (Huemer; Mahringer 2019)

Education in Austria has long history, good reputation and is numbered among the best in the world. In order to further build upon the high standards, Austria invests 4.8% of its GDP on it, that is slightly higher than EU28 average percentage (4,6%). (Huemer; Mahringer 2019)

At the same time the average investment per student in Austria is 14 345 USD that is significantly higher than average in OECD countries 9 732 USD. ("Austria - OECD Data" 2019)

The social expenditure in Austria is relatively effective, as soon as it keeps percentage of population at-risk-of-poverty rate at low level 14,3% versus EU28 average 17,1%. For the effectiveness of state expenses on social protection and education Austria is ranked at 6th place among EU28 countries and at the 1st place for its expenses on unemployment control. (Huemer; Mahringer 2019)

To summarize the above evaluation of Austrian labour market in comparison with EU28 countries I should say that in most of the key indicators it is placed either among top field or upper middle field countries. The strengths of Austrian labour market are the low unemployment and poverty levels, generous social protection and education expenditures and integration of different groups into the work force. To the areas for development belong the exclusion from full time employment of the parents, especially women and the gender pay gap.

Regional specifics of Austrian Labour Market

The shortage and mismatch of skills vary between the regions, mainly between Vienna and western Austria (see Figure 2). Skill shortages increased faster in Western regions than in Vienna. The difference can be explained by the reluctance of Austrian population to move between regions and the inconsistency of career prospects under changing industrial structures in different regions. Families with double earners would also prefer relocation to Vienna and other large cities to minimise the employment risks, while most Austrian regions expect decline in the working-age population, especially Carinthia and Styria. (“Austria - OECD Data” 2019)

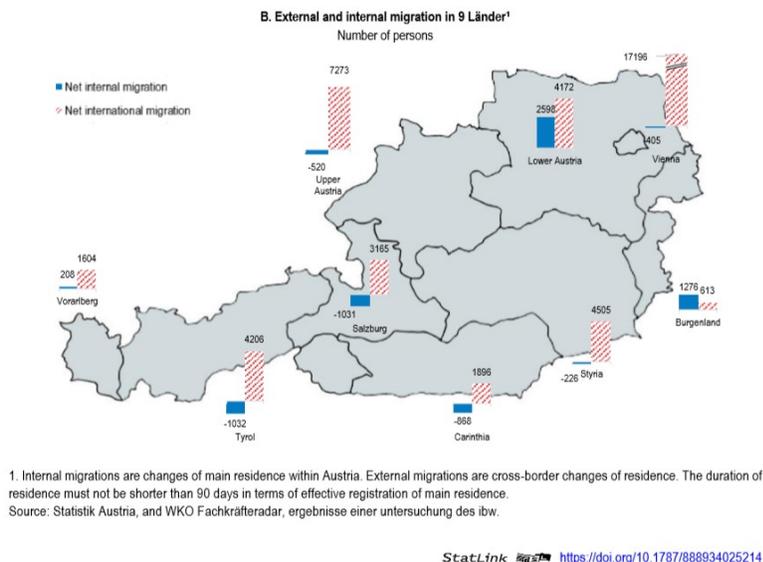


Figure 2. External and internal migration in 9 Länder

Source: (“Austria - OECD Data” 2019)

2.4.2. Labour Force in IT Occupations

Austria ranks 13th out of 28 EU Member States in the Digital Economy and Society Index (DESI) 2020. The country is an above average performer in the Human Capital indicator of DESI dimensions, such as digital skills, software skills, ICT graduates and specialists, but performs below average in Connectivity and Integration of digital technologies. Though these indicators are slightly improving the distance with top performing countries is increasing as well. (“Digital Economy and Society Index (DESI) 2019” 2020)

Unfortunately, nowadays Austrian companies still do not take full advantage of the digital technologies, such as cloud services or big data, though the percentage of companies using social media and selling online increased, especially during the pandemic period. The pandemic fostered attention to the indicators relevant for a stronger and more resilient digital transformation such as high capacity networks, digital skills, advanced digital technologies for businesses and digital public services. (“Digital Economy and Society Index (DESI) 2019” 2020)

In the human capital dimension of DESI index, Austria ranks 9th out of 28 EU countries and is above the EU average in all underlying indicators. The proportion of Information and Communication Technology (ICT) specialists in Austrian workforce is higher than the EU average (4.5% compared to 3.9% in the EU). ICT graduates in Austria account for 3.9% of all graduates in the country, that is slightly above the 3.6% EU average. (DESI) 2019” 2020)

At the same time Austrian enterprises lack staff with the right IT skills. The main reasons for skills shortages are insufficient skills supply and increasing demand of ICT skills in other economic sectors, such as medicine, education, etc. Based on the annual average for 2019 in Austria was registered a significant rise in the number of vacancies in the ‘information and communication’ sector (+5.9%). (“Austria: Mismatch priority occupations | Skills Panorama” n. y.)

The essential soft skills with the high demand in almost all areas and sectors of Austrian economy include communication, customer focus, flexibility, ability to handle stress, a willingness to learn and intercultural skills, excellent knowledge of English and other languages. (“Austria: Mismatch priority occupations | Skills Panorama” n. y.)

Fostering the digital transformation is one of the strategic priorities of Austrian government. In 2019, The Federal Ministry for Digital and Economic Affairs launched a review of apprenticeship programmes to develop updated and new apprenticeship training content to address the lack of skilled workers. In parallel with upskilling the domestic workforce, the Austrian Business Agency supports Austrian companies in finding digitally skilled workers abroad to work in Austria. (“Digital Economy and Society Index (DESI) 2019” 2020)

Also the government implemented numerous initiatives, such as providing funding for girls and young women between 15 and 21 years of age for completing apprenticeship training in technical occupations, short studies (3 semesters) in web development and applications

development to attract more young people in the shortage field. (“Austria: Mismatch priority occupations | Skills Panorama” n. y.)

Additional measure were taken by the government to reduce the barriers for the migrants in the ICT shortage occupations, such as application developer, system analyst, system consultant, software engineer, software tester and many others IT jobs. (“Shortage occupations for highly qualified” 2020)

Due to the systematic approach in IT technology field and the taken measures Austria has the opportunity and a good “potential to become a forerunner and innovator in the ICT sector in the EU. The country is already home to a large number of innovative ICT companies, software development and Austria's medical technology sector has generated highly impressive achievements” and enjoys an excellent reputation. (“RTR - ICTs in Austria” n. y.)

2.4.3. Summary

The mentioned above strong labour market performance, government efforts and the country potential in IT technology and human capital development creates an attractive environment and new career opportunities for ICT professionals in Austria.

I believe there are several opportunities that the labour market performance gives to the companies operating in Austria:

- ability to develop human capital internally, especially in IT occupations with the higher than average percentage of dedicated studies. High government investments into education, research and innovation programmes.
- capability of foreign labour attraction due to the beneficial location and higher than average labour market performance: strong economic situation, low unemployment level, generous social protection, available integration programs for migrants. The strong labour market performance also acts as a retention factor for the country human capital.
- ability to integrate and attract all groups of population. Additional childcare support could increase percentage of full-time working employees.

Chapter 3. Research Methodology

The specific problem studied with the research is a perception of employment attractiveness by IT professionals in the context of Austrian labour market. Also, the research was intended to investigate employers' awareness about the factors influencing that perception.

The research strategy was guided by the research objectives, the researcher's access to resources and the time frame.

Interpretivism was selected as a *research philosophy* to study and describe the factors of employment attractiveness through the participants' real life experiences interpretation. The collected qualitative data was further supported with the information about Austrian labour market from reliable sources.

This type of study was conducted without preconceived ideas with the meanings and hypothesis emerged towards the end of the research process. The study method is called grounded theory and is widely used in sociology. The grounded theory approach was first described by Barney Glaser and Anselm Strauss in 1965 who proposed systematic qualitative data analysis as a method for generating theory. (Charmaz 2006)

The Grounded Theory method should include the following components:

- simultaneous data collection and analysis
- constructing analytic codes and categories from data, but not from preconceived hypotheses
- making comparisons during each stage of the analysis
- developing theory during each step of data collection and analysis
- writing memos to elaborate categories and specify their properties, define relationships between categories
- sampling is focused on theory construction, not on the population representativeness
- conducting the literature review after developing an independent analysis.

(Charmaz 2006)

All the above components were engaged in the research to control the process and create an analytical value of the study.

I chose *structured interviews* as the *inductive data-collection method* to build a deeper understanding of employment attractiveness phenomenon from the perspective of the labour market participants. The structured interview design was chosen because it gives the necessary focus and allows to compare the answers of two types of experts in line with the qualitative research. This research provides a conceptual foundation for further quantitative studies.

The objective of the research method is to explain the relationships between the theoretical concepts and a wide range of empirical observations. (Charmaz 2006) In accordance with positivism approach the developed theoretical hypothesis generalises the preferences of IT Professionals, explains the underlying factors and predicts their behaviour in the studied context.

3.1. Data Collection

The target population of the study consists of two groups of experts with the following major characteristics:

IT professionals: have high education and experience in IT field, live and work in Austria, speak English fluently.

HR Experts/Managers: have an experience of IT talent attraction and retention on the Austrian labour market, speak English fluently.

A sample was purposefully selected and consisted of 8 experts (of 4 IT and 4 HR). The guiding principal for choosing a sample is the expertise in the topic and data saturation, but not the statistical determination. (Charmaz 2006) The pre-selection of interview participants and approaching to them was executed with LinkedIn social network tools. The demographical and general information of the study participants is presented *at Appendix 8*.

The interviews were conducted online and recorded with Microsoft Teams software tools. Each interview took around 60 minutes time and was conducted in English. During the interviews, the purpose of the study and participants confidentiality were additionally clarified.

The interview recordings were transcribed and further analysed with MAXQDA software.

The interview questions intended to collect the same type of information from different groups of experts (IT and HR), but the wording of the questions had to be slightly adjusted to the experts' field.

3.2. Data Analysis

Theorizing process in the grounded theory involves a set of coding procedures and analysis used to develop a logical argument. The coding and analysis were commenced in parallel with interviewing to highlights gaps in the existing data set and reveal the new data.

The collected data was analysed and categorised using constant comparative method of data analysis. The notes data with the transcripts of the key vocabulary and phrases was summarized into several themes- categories. The data analysis started after the first interview and consisted of open, axial and selective coding.

During open coding with line by line analysis the data was organised under various heading depending on the content for its further categorization and comparison. In the axial coding the sub-categories were organised into specific categories. In the selective coding was analysed and conceptualized the relations between the categories for further defining and developing the theoretical hypothesis from the empirical evidence.

Presentation of research findings in grounded theory is not straightforward, that is why I was writing and rewriting memos and categories names after each interview analysis, to bring out arguments, provide the links and context.

3.3. Assumptions

This study operated with the following assumptions:

1. representative picture of the whole population under review is gained with 8 study cases. The grounded theory logic invokes saturation as the criterion to apply to the sample size. (Charmaz 2006) My assumption is that this sample size is representative, because it is confirmed with the credibility and the relevance of experience of the study participants.

2. HR managers, responsible for recruitment are able to represent the position of the employer about the expectations from IT professionals. In this research I'm interested in the solid recruitment experience for different IT roles and with different hiring managers.

3.4. Limitations

This study has four limitations. In this paragraph is described each limitation and the steps taken to mitigate it.

Sample

It was expected that the participants will represent English speaking IT professionals of different age, cultural background who live in different regions of Austria. The fact that many IT respondents were foreign nationals living in Vorarlberg region might negatively affect the generalizability of a study. Most HR participants of the study were living in Vorarlberg as well. As soon as in a qualitative research homogeneous sample strengthen the validity and meaningfulness, the sample limitation was addressed by the relevance of professional experience of IT respondents. All of them had significant working experience in Austria and several years of experience in the occupations referred to the highly qualified IT professions, such as Software Developer, Software Tester, SAP Implementation Manager and Software Quality Engineer.

All of the HR respondents had relevant experience with IT professionals and in their scope were included several Austrian regions. The detailed information about the participants is presented in Appendix

Language

The second limitation was English level fluency of the respondents. All the communication was conducted in English, but in case a participant was not able to express his ideas completely the option to provide the written response or review and adjust the transcript was offered.

Personal Bias

The third limitation was related to the researcher's bias, having the similar professional experience with HR members of the sample. To overcome this limitation the following strategy was used:

- I stayed away from sharing personal experience during interviews
- An interview guide and the structure were strictly followed

Validity of the Study

The fourth limitation of the study relates to a subjective nature of the data impacted by personal viewpoints of the respondents. That is why the generated hypothesis at the end of the research should be further tested with the quantitative study to check to what extent the findings could be generalised. At the same time the primary data generated with interpretivism method can have a high level of validity as soon as the interviews tend to be open and honest.

To enhance validity of the study the profiles of research participants were preliminary scanned for the relevant experience before interviews. To collect the information about the participants was used LinkedIn social network.

To ensure quality of data interpretation recording of the interviews and the transcripts was made. The transcripts were checked by interview respondents to avoid misinterpretation.

All the participants expressed the willingness to take part in the study and didn't have any conflicts of interest sharing their experience.

3.5. Ethical Assurance

The following steps were applied to guarantee the study ethics:

- The participants were well informed about the purpose of the study, the process, and the way in which the results will be used. (see Appendix 7)
- Prior to interview the questions were shared with the participants and the ability to answer this question was confirmed prior to the interview. (see Appendix 6)
- The participants confidentiality was guaranteed before the interview.

Chapter 4. Results and Findings

4.1. Objective 1.

From the conducted qualitative research among IT professionals, the below employment conditions were defined as *ideal* (see Appendix 1.):

- business success and company reputation
- investments in IT technology
- opportunities for the professional and career development
- fair treatment and fulfilling the promises by employer
- regular work results evaluation and feedback
- appreciation of a good work
- trusts of management and flexibility in the way of work
- good and competitive reward for the knowledge and experience
- open and friendly corporate culture
- additional support to the foreign employees

The following factors influence the most IT Professionals` attraction during *job search process* (see Appendix 2.):

- technology and the tools to work with
- referrals from professional network
- employer`s image and brand awareness
- availability and transparency of online information about a company and a job
- personal contact with employees and HR during the recruitment process
- fair and competitive salary package for the skills and the experience level
- convenient location of an employer

IT professionals shared that the local and global labour markets are overloaded with standard IT vacancies, such as IT support specialist, system administrator etc. , though the number of vacancies for highly qualified IT professionals, such as ERP consultant, Business Intelligent Analyst, IT team lead is limited and the competition is high. In such a way the entry level or standard jobs are often not attractive for IT professionals with several years of experience in a

similar role. That could explain their low activity in applying similar vacancies. The jobs where people management skills or the knowledge of a new technology is required are more attractive to them, though it is a big challenge for an IT Professional to be considered as a candidate without exactly the same previous experience.

4.2. Objective 2.

All IT participants were satisfied with the current employment experience and evaluated it positively, though were able to define a few *areas for improvement*.

Based on the IT Professionals' answers analysis the following *current employment conditions* were evaluated *positively*:

- opportunity to influence on the company performance results
- possibility to speak up openly, appreciation of professional point of view
- regular salary reviews
- comfortable working environment and conditions
- family company culture when everyone knows everyone
- flat hierarchy
- social support provided and organised by an employer (kindergarten, sport activities, relocation and family support)
- friendly relations in a team and peer's professional expertise

The highest evaluation of the employer attractiveness was given by those IT Professionals who are at the intensive learning on the job phase. (See Appendix 3)

I should mention that career advancement and development were presented by IT Professionals as something to be provided by an employer with trainings delivery or with the line manager's support and challenging tasks assignment.

As an area for improvement was defined an internal career path due to the below factors (see Appendix 4.):

- career path practices are not transparent enough
discussions with the line managers and internal promotions are more exceptions, than a common practice

- employers support the development in the current roles, but not in the next level role. The development depends on the line manager. Internal stretching assignments are an exception.
- rotation between the projects and promotion with people management responsibilities is possible, though IT professionals are not aware how they can influence on their own internal career progress.

Additionally, was mentioned the old IT technology used at some manufacturing companies in Vorarlberg, as one of the factors that keeps their business behind the competitors.

As *unique* were identified:

- the convenient working infrastructure for employees with a kindergarten availability;
- the possibility to work for a Swiss employer living in Austria and getting higher salary

The average seniority of colleagues at the current employer was evaluated as “normally high”, due to the majority of employees with more than 5 years length of service for the same company. It was also recognised by IT Professionals as “normal” for young people to switch the jobs more often than average and for older people more seldom. HR managers confirmed the trend and mentioned that in Austria generally and in Vorarlberg particularly the average length of service of IT Professionals is higher and close to the average with other employees.

Here are the excerpt from interviews with IT participants: “At our company we have many IT people who have been working 10, 15 years.”, “..from what I heard, it is customary to work long in Austrian companies, for years”, “...there are also those who switch jobs much quicker, especially among the young professionals”. (See Appendix 9)

The interviewed HR Managers also evaluated employment conditions in their companies as attractive for IT professionals.

As the most *attractive* were mentioned:

- career and development opportunities
- flexible working conditions
- corporate events
- team climate and the way of work

IT technology attractiveness was evaluated differently, as its advancement level varied within the same company. In some cases, the technology was evaluated as “the state of the art”, in other cases as old and less attractive. Here is an example from HR participants’ interviews: “...there are some departments which are quite attractive, because they use the newest technology.”.(See Appendix 9)

The internal career development opportunities for IT Professionals were evaluated by HR Managers as very attractive with a variety of career move and development options (see Appendix 9.). Though it was also mentioned that the initiative should come from an employee and then supported by a line manager applying individual approach. The horizontal moves and technical expert careers in IT departments were more common than horizontal moves with people management and leadership assignments. (See Appendix 5)

As an area for development HR Managers highlighted the opportunities for stretching assignments especially for young professionals or internal candidates. Here HR faces the confrontation with hiring managers who prefer to work with experienced experts, rather than taking a risk and contributing into an internal candidate’s development. This is one of the reasons for the external hiring and relocation.

The following aspects were mentioned about internal career opportunities by HR: “...we are always looking for the specialists who already know everything and don’t have to learn it, because everything is so complicated, because we think nobody can learn it and I think we should work more with this.” “...it depends on the team. The bottle neck is always a line manager.” “we do not offer this kind of typical career ladder from junior to senior.” (See Appendix 5)

To formulate the criteria that have the most influence on *retention* were analysed the factors influencing the decision to stay or to leave.

From IT Professionals point of view the factors that influence the decision *to leave* are:

- misunderstanding and bad communication with the line manager
- lack of development at the current job
- employment insecurity, financial instability of the business
- personal emotional discomfort: feeling of unfair treatment, pressure, stress, frustration
- regularly approaching head-hunters and many job opportunities available

- not competitive and behind the market salary level for the current job

The factors that influence the decision *to stay* are:

- desire to stay in the comfort zone, familiar environment
- professional development at the current job: getting new skills, knowledge, experience
- good relations with the line manager and the team
- transparent (with no bureaucracy) and flexible way of working

As soon as amongst the respondents the majority were foreigners “good salary” and “high quality of life in the country” were mentioned as additional attractive and creating a comfort zone factors. Family people did not consider relocation for a job and would prefer to stay at their current location because of the family interests.

Those respondents who have already had previous international assignments or relocation experience would consider a move for a job more eagerly.

4.3. Objective 3.

From HR Managers` perspective the following factors influence the most IT professionals *‘attraction*:

- attractive salary and relocation package
- development opportunities in the company: challenging assignments, new technologies, tools, professional networking
- flexible way of working, flexible working hours and home office
- job scope, the projects` complexity and the size
- company location with minimum time on commuting
- the latest technologies and innovations used by an employer
- corporate culture with informal, open and friendly atmosphere
- comfortable working environment and office space

From HR managers' perspective the factors, that have the most influence on IT professional's *decision to leave* are:

- no development at the current project, with the current job scope and the technology, no time for learning and creativity
- no flexible working conditions
- more attractive salary at another company
- misunderstanding with the boss, too much workload
- bad relations in the team

The factors that influence the most on the *decision to stay* are:

- the perception of current employer as a comfort zone, while the company change as an additional efforts and stress
- self-identification with the company, it's culture, people, the way of work
- learning and development on the job, expert career possibilities
- attractive and modern technology to work with

4.4. Objective 4.

4.4.1. Analysis of the Findings

Attraction

After comparative analysis of the factors mentioned by both groups and generalising the codes categories the following similarities and mismatches were identified in the talent *attraction* criteria:

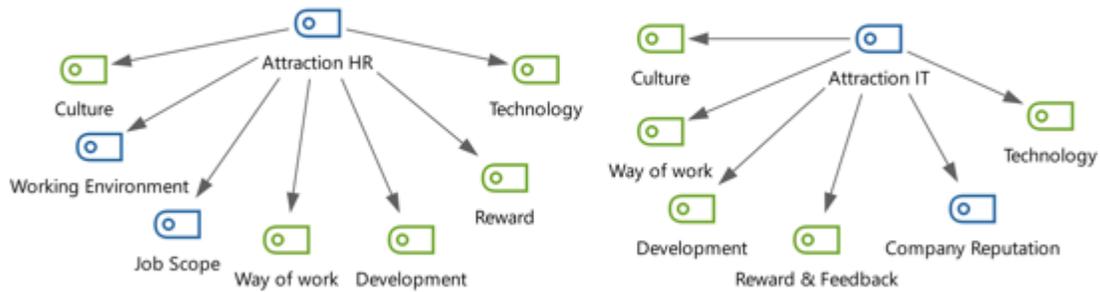


Figure 3. Comparison of the factors influencing attraction

Source: Own depiction. Barkovskaia 2020

HR professionals mentioned almost the same factors as IT professionals, drawing special attention to the modern technologies, learning and development opportunities, flexible way of work, corporate culture, and attractive compensation. The factors mentioned as very important by HR managers and IT professionals are marked green and presented in the Figure 3.

IT Professionals additionally mentioned fair treatment, appreciation, and regular feedback as attractive and desired conditions for them. By the IT Professionals who moved from abroad to work in Austria were mentioned additional support from an employer with the relocation, visas, work permits and other legal aspects as attractive employment conditions.

Following the selective coding method, the defined categories by IT and HR professionals were grouped in accordance with the meaning and importance. (See Figure 4.) The categories defined by both groups are marked green.

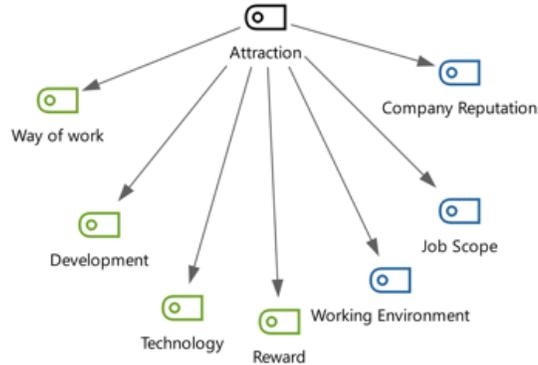


Figure 4. Factors that influence IT talent attraction

Source: Own depiction. Barkovskaia 2020

In such a way the below categories were defined to characterize the factors that have the greatest influence on IT talent *attraction*:

1. **way of work**: corporate culture, flexibility, flat hierarchy, open and friendly atmosphere, trustful relations with management and the team, regular feedback
2. **development**: opportunities to apply and enhance knowledge and skills
3. **technology**: investments into the latest IT technology and tools, availability of the knowledge and innovation in the company
4. **reward**: competitive salary package, regular reviews, appreciation of performance and contribution
5. **working environment**: company location and the office space
6. **job scope**: challenging assignments, tasks complexity and the size of projects
7. **company reputation** – business success, employer’s image, fair treatment and fulfilling promises

Retention

The comparison of the retention factors showed many similarities in the evaluation of HR and IT as well. Misunderstanding with the line manager, lack of the development on the job and

compensation were defined by both IT and HR experts as the factors significantly influencing the retention.

There were two factors identified by both groups as influencing the decision to stay: the desire to stay in the comfort zone and the professional development at work.

Additionally, IT professionals mentioned some emotional factors that create psychological discomfort and force them to leave: unfair treatment, employment insecurity, psychological pressure, stress, frustration.

After comparative analysis and data coding the factors acknowledged by both respondents' groups were selected as very important factors for IT talent *retention*.

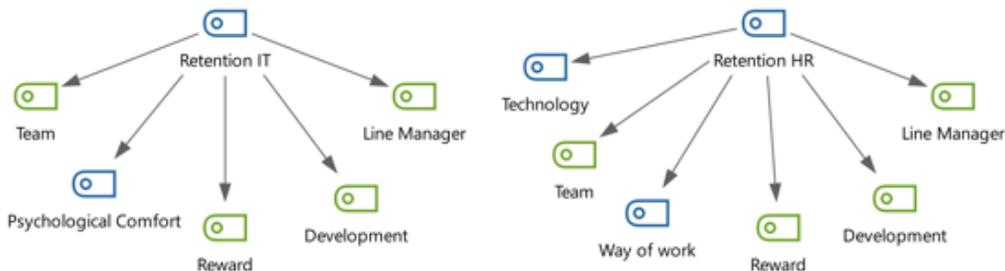


Figure 5. Comparison of the factors influencing retention

Source: Own depiction. Barkovskaia 2020

Applying selective coding method, meaning and significance were analysed and the below core categories were determined. The factors mentioned by both respondents' groups are marked in green. (See Figure 6)

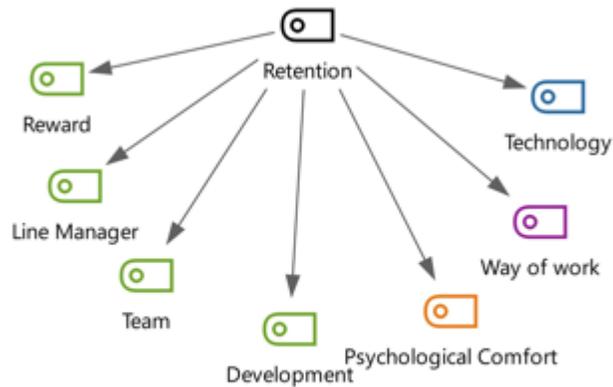


Figure 6. Factors influencing IT talent retention

Source: Own depiction. Barkovskaia 2020

The following categories represent the factors of the greatest effect on IT professionals' *retention*:

1. **reward**: salary competitiveness with the labour market
2. **line manager**: communication and the relations with the direct manager
3. **team**: relations and collaboration withing the team, peers support
4. **development**: opportunities to apply and enhance knowledge and skills
5. **psychological comfort**: the feeling of psychological comfort and identity with the company.
6. **way of work**: flexible working, transparent policies with no bureaucracy
7. **technology**: investments into the latest IT technology and tools, availability of the knowledge and innovation in the company

4.4.2. Summary and Theory Construction

The research findings demonstrated that Austrian employers are well aware of IT professionals' needs and the factors that have the greatest effect on their attraction and

retention. Most of the factors named by IT professionals and HR managers were matching. The current HR practices used to attract and retain IT professionals were adapted to their needs, the external challenges and adequately evaluated by HR and IT. The ability to attract and retain the right people on board was proved with the high length of service of IT professionals in the researched organisations and their positive evaluation of the employment experience.

The perception of employment attractiveness for IT professionals is defined by the specific factors and criteria. The study results show that some categories refer to both attraction and retention. Following grounded theory approach were defined the core categories representing the factors influencing IT talent attraction and retention the most and were visualised in the Figure 7. The combination of these factors might explain *the perception of employment attractiveness* by IT professionals.

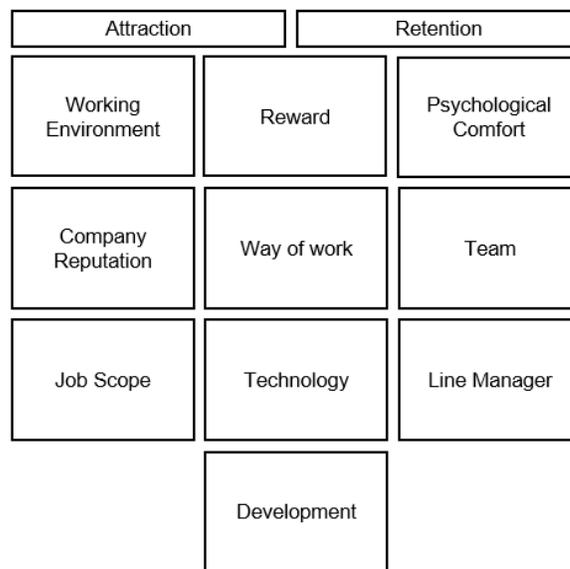


Figure 7. Factors influencing IT talent attraction and retention

Source: Own depiction. Barkovskaia 2020

The constructed model visually describes the factors to target by a firm’s talent management strategy for the purposes of high qualified IT professional’s attraction and retention. Total

evaluation of the factors reflects the perception of employment attractiveness by IT professionals.

The defined factors could be divided into two groups:

1. Transactional:

- working environment: office design and space, convenience of the location
- reward: the compensation offered for a job
- technology: IT technology and the tools

2. Relational:

- way of work: the norms of interaction
- company reputation: employers' image perception by employees and customers
- job scope: the combination of tasks and its complexity
- psychological comfort: the ability to minimise the distractions
- team: people and relations
- line manager: leadership and management style, relations

Hypothesis: *The combination of the defined relational and transactional factors has the greatest impact on IT talent attraction and retention. The ability of an employer to control and adapt the relational factors could become its sustained competitive advantage.*

In accordance with Jay Barney (Barney 1991) a sustained competitive advantage should have the following 4 attributes:

1. It must be valuable, should exploit opportunities and neutralize the treats in the firm environment (Barney 1991)

The ability of an employer to control and adapt the factors to the needs of IT professionals attracts the best talent. This ability is valuable for business, allows to exploit the opportunities for its development and neutralizes the treat of staff shortage.

2. It must be rare among a firm's current and potential competition (Barney 1991)

Employers globally report about the difficulty to attract and retain IT talent. The ability to attract personnel with the skills in shortage is rare.

3. It must be imperfectly imitable (Barney 1991)

The factors defined as “relational” are imperfectly imitable.

4. There cannot be strategically equivalent substitutes for this resource (Barney 1991)

Neither IT manpower, nor employers’ ability to attract them for business strategies implementation have equivalent substitutes.

In such a way an ability of an employer to adapt HR practices could also become a source of its competitive advantage.

4.4.3. Answers to the Research Questions

In this paragraph are summarised the answers to the research questions.

1. *What factors have a major impact on IT professionals` attraction and retention?*

On IT talent attraction and retention influences the combination of transactional and relational contracts, expressed through 10 key factors listed below. An employer and a direct supervisor have the direct impact on all the factors.

There are also external factors that determine the labour market attractiveness for highly qualified workers. These factors are represented by labour market performance indicators and migration barriers.

To the core factors that have strong impact on IT professionals’ attraction and retention can be referred:

Core

1. technology used in a company
2. flexible way of work
3. reward
4. opportunities for professional development

The factors, that are important for IT Professionals during the joining up period:

Attraction

5. company reputation on the market
6. company location and working conditions
7. job scope

During the employment period the below factors are very important for IT Professionals' retention:

Retention

8. psychological comfort
9. relations in a team
10. relations with a line manager

Austrian labour market provides the attractive employment and development opportunities for IT professionals and ensures their employability and well-being. In the situation of global competition these opportunities could retain the local IT professionals in the country and attract the best talent from abroad

The competitive advantage of an Austrian employer in the global competition for IT talent is the combination of the labour market attractiveness and the dynamic capabilities of a firm.

The ability to understand the employees' needs, timely and efficiently translate them into HR strategy could increase the ability of a firm to attract highly qualified professionals in IT occupations.

Chapter 5. Conclusion

5.1. Discussion of the Research Results

The Resource-based View

Returning to "Teece's concept of **dynamic capabilities approach** we can conclude that the capacity of the researched employers "to sense and shape opportunities and threats" (Teese n. y.) was developed rather well in the companies of the participants. The HR managers were

aware of IT talent attraction and retention challenge, the local and global competition, the reasons behind and the ways to address it. But “the capabilities to size opportunities and reconfigure intangible assets” (Teese n. y.) could be developed further.

To this category could be assigned career path practices in the companies. All the research participants acknowledged that the internal moves happened not very often within their current employers and there was no systematic approach for internal career. Despite some good examples, the internal career path was not practiced widely enough and had a lot of development potential. Enhancing talent management practices, empowering and facilitating internal career path, would increase employees` engagement, performance and significantly reduce time to hire.

Psychological Contract

The research results revealed that the expectations of IT professionals and HR managers, who represent employer`s approach in this study match in most of the aspects. Both IT and HR had a clear vision of the expectations from each other and were able to formulate them.

Strong technical skills, effective teamwork, fast learning and loyalty were the expectations from employers in return to flexibility, trust and fair reward.

The employees` expectations were to get opportunity to apply and enhance technical skills, flexibility in the way of work, attractive reward, open and friendly working culture.

One of the insights from the qualitative study was that the length of service of IT professionals did not significantly vary from other employees and in general was rather high. There were many IT professionals who work from 10 to 20 years for the same company and the average length of service was about 5 years. This data indicates that the psychological contract is well established and matches the expectations from both sides.

The discovered during the research talent management practices show that all the elements of “new psychological contract” were relevant for the IT professionals. Special sensitivity was demonstrated towards culture, rewards, motivational currency, trust and personal development.

The interviews confirmed that direct manager has impact on most of the factors, that influence IT professionals desire to stay or to leave, that matches with Branham`s research results.

Below is an example from the interview with an IT professional.

Well there is one saying you do not leave a company you leave your boss. Right? So for example at my previous employer my job was static, not dynamic, salary was not increasing and didn't see any further opportunities inside for myself. The communication and cooperation with my boss was also not great. It was my first job and there was not much to lose. (Transcript, IT Marija, Pos. 4)

Also, the positive evaluation of employment attractiveness matches with ability of employer to satisfy the basic needs of IT professionals.

The need for trust and flexibility was mentioned almost by every IT professional. Below is a quotation from IT interview, representing “*The Need for Trust*”.

Trust of management, flexibility and freedom to do what you think is the right thing to do, less bureaucracy and waste of time. Friendly atmosphere in the team and with the manager. People around who you can trust and who will support you, from whom you can learn. (Transcript, IT Dima , Pos. 30)

“*The Need to Have Hope*” was expressed through the topic of development. All the interviewees demonstrated eagerness and strong need for constant development and advancement of their skills.

If you are the part of a big and complex project, there are always new challenges, new learnings, and a lot of work, why should you search for it outside then. Personal situations could be different of course, but I think normally, interesting and new projects make IT specialists stay. (Transcript, IT Marija, Pos. 32)

“*The Need to Feel a Sense of Worth*” was expressed with the below extract from the interview.

Uh, it has to be a company where I can see the fruits of my work, not just spend time to earn money. So, uh, I'd like to, uh, when I'm looking for something that I do, I'm looking not only for an experience of some kind, but for the results. (Transcript, IT Thomas , Pos. 17)

“*The Need to Feel Competent*” can be described with the below example from the IT experts.

And, um, when you get some feedback, once per a year, let's say it is not enough. Also, an ideal employer should support employees in product and business learning. If you're working for a company which is producing test equipment for cars or something like that, maybe the company

could organize a field trip to a car factory, or something where you can see the staff your company produces, how your work contributes to that. (Transcript, IT Thomas, Pos. 17)

Talent Acquisition Strategies

During the study was also discovered that employers in the situation of staff shortage and constantly developing technologies, require new competencies and most widely adopt “buy” talent acquisition strategy. “Build” strategy for IT professionals was less frequently applied and referred mainly to young talent attraction. Please see below an example from the interview with an HR participant.

... I think we are not hiring enough young professionals; we have a few examples when we did it and it turned out very well. But overall we always are looking for the specialists who already know everything and don't have to learn it because everything is so complicated because we think nobody can learn it and I think we should work more with this. (Transcript, HR Melanie, Pos. 28)

The attractive employment conditions in the companies supported “bind” strategy through the existing HR policies and ensured the ability of these companies to retain IT professionals. Though young professionals - millennials, demonstrated higher need for professional development and growth, it was difficult for the employers to satisfy it. Below is an extract from HR stories.

We have so many with 20 and many people with 2-5 years. I would say 10 will be an average. The younger people do not stay that long, of course. (Transcript, HR Melanie, Pos. 22)

The recruitment process adopted in the companies of the research participants demonstrated that mutual evaluation when both parties make decision about the possibility to work together was a part of talent acquisition strategy. This strategy was implemented through inviting candidate to spend more time in the company premises with a team, organizing an opportunity to understand the way of work better and have open discussion about all of the aspects. The cultural fit of a candidate was a very important criteria for a final choice.

For us it is important of course if the job part itself, the tasks and so on, but also to check if the person feels comfortable, and if we see that there are certain issues, that there is something when we are not sure that it will work out, then we are talking very openly about it, because we have a hope that the person will stay for a long time. (Transcript, HR Elisa, Pos. 20)

5.2. Implications

In this paragraph are described the implications presented by the study and recommendations for further research.

During the research it appeared that IT professionals, irrelevant to their age and the generation cohort were seeking for constant professional development and it had significant influence on their job search. The dependence between belonging to a generation cohort and a professional group could be investigated. Considering the study sample size and the limitation this finding should be further research with a bigger population of IT Professionals.

Another implication was that IT Professionals with migration background had lower loyalty to the company and used to change jobs more often than local employees. This finding was based on the experience shared by IT and HR experts. This aspect could be further research.

Third implication is different ability of Austrian regions to attract human resource and low level of internal migration in the country. This topic could be further researched from the perspective of competitive advantages of separate Austrian regions on the local labour market.

5.3. Conclusions

In this paragraph are summarised the key ideas from the research.

Employers, operating on Austrian labour market can significantly benefit from its top performance “buying” the best talent with the necessary skills from other EU countries. The government support with highly qualified foreign labour attraction increases such opportunities, making skilled labour from non-EU countries also available.

Ability of an organization, operating in Austria to take a full advantage of the labour market strengths, maintains its sustainable competitive advantage.

Variety of public secondary education programmes, as well as national investments in research and development allows Austrian employers to “build” human capital and create required competencies with affordable costs.

Understanding the needs of working parents and addressing them with flexible working and childcare support could increase the internal workforce inclusion. An employer, offering such support would gain additional advantages.

The ability of a firm to scan employees' needs, interpret them and timely incorporate into HR strategy attracts the best talent and creates a source of competitive advantage.

The employers, who were not able to adopt their HR practices and switch from "old" to "new" contract become less attractive. To stay competitive employers should offer challenging work environment, development support, employability, rewards for the contribution. In return IT professionals will be engaged to develop the needed skills and competencies, apply them for the business success in the dynamic environment and share corporate values of an organization.

The combination of "relational" and "transactional" contracts' could build a unique corporate culture of an organisation.

The direct supervisor has the greatest impact on the "relational" aspects of the psychological contract.

The competencies of HR experts and the ability to articulate the psychological contract could maintain a very important basis for further relations' success. Trust, fairness, and the delivery of the psychological contract are the underlying factors for positive employment experience and staff retention.

IT Professionals as a specific group of workforce experience common sensitivity to the elements of psychological contract.

Practical Recommendations

Employers in Austria often face similar challenges, and the close cooperation with each other, as well as with the government organisations could become the strong basis for further development of Austrian labour market and economy.

For work force attraction in technology occupations, technical skills have the greatest value during recruitment process. At the same time further employment success depends significantly on the soft skills. Implementation of various internal rotation and internship

programmes could allow candidates with the strong soft skills to develop the necessary technical competencies and create internal talent pools. Such a strategy would minimise time to hire and could increase employees` engagement.

To support quality of recruitment HR could organise dedicated sessions for hiring managers, explaining the external factors that influence on recruitment and underly successful employment relations.

To maintain retention practices, it is important to follow up on psychological contract “deal” delivery. There are a lot of digital tools available, that allow to measure employee engagement and get regular feedback.

The role of a direct supervisor is very important in an employee´ s experience and contributes to the quality of employer- employee relations. That is why management and leadership skills of a supervisor should be accurately assessed and constantly developed.

References

- Adkins, Amy; Rigoni, Brandon (2016): Gallup.com. Millennials Want Jobs to Be Development Opportunities. Available at: URL: <https://www.gallup.com/workplace/236438/millennials-jobs-development-opportunities.aspx> (Accessed on: 23 July 2020).
- Alston, Elisa (n. y.): Why you need to move from recruitment to talent acquisition – IT and Tech Recruitment. Available at: URL: <https://nederlia.com/why-you-need-to-move-from-recruitment-to-talent-acquisition/> (Accessed on: 26 January 2020).
- “Austria | Work | 2019 | Gender Equality Index | European Institute for Gender Equality” (n. y.): Austria | Work | 2019 | Gender Equality Index | European Institute for Gender Equality. Available at: URL: <https://eige.europa.eu/gender-equality-index/2019/domain/work/AT> (Accessed on: 23 June 2020).
- “Austria - OECD Data” (2019): Austria - OECD Data. Available at: URL: <http://data.oecd.org/austria.htm> (Accessed on: 22 June 2020).
- “Austria - OECD Data” (2019): Austria - OECD Data. Available at: URL: <http://data.oecd.org/austria.htm> (Accessed on: 22 June 2020).
- Austria, Advantage (2011): Advantage Austria. Fresh view on Technologies. Available at: URL: <https://www.advantageaustria.org/il/oesterreich-in-israel/news/local/20110908-Fresh-View-147--Technologie.en.html> (Accessed on: 19 April 2020).
- “Austria EMN Country Fact Sheet” (2019): Austria EMN Country Fact Sheet. European Commission. Available at: URL: https://www.emn.at/wp-content/uploads/2019/12/austria_country_factsheet_2019_en.pdf
- “Austria: Mismatch priority occupations | Skills Panorama” (n. y.): Austria: Mismatch priority occupations | Skills Panorama. Available at: URL: https://skillspanorama.cedefop.europa.eu/en/analytical_highlights/austria-mismatch-priority-occupations (Accessed on: 7 June 2020).
- “Austria Unemployment Rate | 1960-2020 Data | 2021-2022 Forecast | Calendar” (n. y.): Austria Unemployment Rate | 1960-2020 Data | 2021-2022 Forecast | Calendar. Available at: URL: <https://tradingeconomics.com/austria/unemployment-rate> (Accessed on: 22 June 2020).
- Barney, Jay (1991): “Firm Resources and Sustained Competitive Advantage.” In: Journal of Management, (1991), 1, p. 99–120.
- “Behavioural Foundations of Dynamic Capabilities Framework” (2019): UKDiss.com. Behavioural Foundations of Dynamic Capabilities Framework. Available at: URL: <https://www.ukdiss.com/litreview/behavioural-foundations-of-the-dynamic-capabilities-framework.php> (Accessed on: 21 January 2020).

- Bersin, Josh (2013): Employee Retention Now a Big Issue: Why the Tide has Turned | LinkedIn. Available at: URL: <https://www.linkedin.com/pulse/20130816200159-131079-employee-retention-now-a-big-issue-why-the-tide-has-turned/> (Accessed on: 23 May 2020).
- Birch, Nola; McDonald, Robina; Phillips, Ann (1999): "SURVIVING ON THE INSIDE CAREER MANAGEMENT AS A LIFE SKILL." In: Australian Journal of Career Development, (1999), Vol. 8, No.2. Available at: DOI: <https://journals.sagepub.com/doi/pdf/10.1177/103841629900800207>
- Branham, Leigh (2004): 7 Hidden Reasons Employees Leave : How to Recognize the Subtle Signs and Act Before It's Too Late. AMACOM.
- Charmaz, Kathy (2006): Constructing grounded theory. London ; Thousand Oaks, Calif: Sage Publications.
- Christeen, George (2010): Psychological Contract : Managing and Developing Professional Groups. Maidenhead, GB: Open University Press.
- "Council Post: Nine Big Changes That Have Shaped The Modern Recruiting Process" (2019): Council Post: Nine Big Changes That Have Shaped The Modern Recruiting Process. Available at: URL: <https://www.forbes.com/sites/forbeshumanresourcescouncil/2019/02/22/nine-big-changes-that-have-shaped-the-modern-recruiting-process/#1a50c5a26bae> (Accessed on: 24 June 2020).
- "Countries by GDP (nominal) per capita 2019" (2019): StatisticsTimes.com. Countries by GDP (nominal) per capita 2019. Available at: URL: <https://statisticstimes.com/economy/countries-by-gdp-capita.php> (Accessed on: 23 June 2020).
- "Digital Economy and Society Index (DESI) 2019" (2020): Digital Economy and Society Index (DESI) 2019. European Commission. Available at: URL: <https://data.consilium.europa.eu/doc/document/ST-10211-2019-INIT/en/pdf>
- "Digital Roadmap Austria" (n. y.): Digital Roadmap Austria. Available at: URL: <https://www.digitalroadmap.gv.at/en/> (Accessed on: 10 November 2019).
- "Economic Surveys. Austria" (2019): Economic Surveys. Austria. OECD. Available at: URL: <http://www.oecd.org/economy/austria-economic-snapshot/>
- "EURES - Labour market information - National Level - European Commission" (2020): EURES - Labour market information - National Level - European Commission. Available at: URL: <https://ec.europa.eu/eures/main.jsp?catId=493&countryId=AT&acro=lmi&lang=en> (Accessed on: 23 June 2020).
- Huemer, Ulrike; Mahringer, Helmut (2019): Labour Market Monitor 2019. WKO.
- "Human capital challenges in information technology | Deloitte Insights" (n. y.): Human capital challenges in information technology | Deloitte Insights. Available at: URL:

- <https://www2.deloitte.com/us/en/insights/economy/behind-the-numbers/human-capital-challenges-in-information-technology.html> (Accessed on: 10 November 2019).
- “ICT sector in Austria | Invest in Austria” (2019): ICT sector in Austria | Invest in Austria. Available at: URL: <https://investinaustria.at/en/sectors/information-technology/> (Accessed on: 13 March 2020).
- “IT Industry Outlook 2019” (2019): IT Industry Outlook 2019. The Computing Technology Industry Association (CompTIA). Available at: URL: https://comptiacdn.azureedge.net/webcontent/docs/default-source/research-reports/comptia-it-industry-outlook-2019_web.pdf
- Jesuthasan, Ravin; Malcolm, Tracey; Cantrell, Susan (2020): “How the Coronavirus Crisis Is Redefining Jobs.” In: Harvard Business Review, Available at: URL: <https://hbr.org/2020/04/how-the-coronavirus-crisis-is-redefining-jobs> (Accessed on: 24 May 2020).
- Johnson, Jerry; Scholes, Kevan; Whittington, Richard (2008): Exploring Corporate Strategy. 8th Ed. Harlow Financial Times Prentice Hall.
- Kottler, John Paul (1973): “The Psychological Contract: Managing the joining-up process.” In: (1973).
- “Labour market facts and figures” (2019): Labour market facts and figures. Available at: URL: <https://www.migration.gv.at/en/living-and-working-in-austria/austria-at-a-glance/labour-market-facts-and-figures/> (Accessed on: 22 June 2020).
- Michaels, Ed; Handfield-Jones, Helen; Axelrod, Beth (2001): The War for Talent. Harvard Business Press.
- “OECD Economic Outlook Volume 2020 Preliminary Version” (2020): OECD Economic Outlook Volume 2020 Preliminary Version. Available at: URL: [file:///C:/Users/laris/AppData/Local/Packages/Microsoft.MicrosoftEdge_8wekyb3d8bbwe/TempState/Downloads/AUT-EO-june-2020%20\(1\).pdf](file:///C:/Users/laris/AppData/Local/Packages/Microsoft.MicrosoftEdge_8wekyb3d8bbwe/TempState/Downloads/AUT-EO-june-2020%20(1).pdf)
- Peterson, Becky (2017): Business Insider. Travis Kalanick lasted in his role for 6.5 years — five times longer than the average Uber employee. Available at: URL: <https://www.businessinsider.com/employee-retention-rate-top-tech-companies-2017-8> (Accessed on: 19 April 2020).
- “Report by the Migration Council for Austria” (n. y.): Report by the Migration Council for Austria. Available at: URL: https://bmi.gv.at/Downloads/files/Bericht_des_Migrationsrats_PDF_komplett_ENG_23_3_17.pdf (Accessed on: 10 November 2019).
- Rousseau, Denise (1989): “Psychological and implied contracts in organizations. Employee Responsibilities and Rights.” In: (1989), Journal, 2.
- Rousseau, Denise (2001): “Schema, promise and mutuality: The building blocks of the psychological contract.” In: Journal of Occupational and Organizational Psychology, (2001).

- “RTR - ICTs in Austria” (n. y.): RTR - ICTs in Austria. Available at: URL: <https://www.rtr.at/en/rtr/IKT> (Accessed on: 23 June 2020).
- Sharpe, Annette (2003): “Organisation change and the psychological contract : the rhetoric of employability, the potential reality of reciprocal brutality.” In: *Political Science*, (2003).
- “Shortage occupations for highly qualified” (2020): Shortage occupations for highly qualified. Available at: URL: <https://www.migration.gv.at/en/types-of-immigration/permanent-immigration/shortage-occupations-for-highly-qualified/> (Accessed on: 23 June 2020).
- Silzer, Rob; Dowell, Ben (2009): *Strategy-Driven Talent Management: A Leadership Imperative*. Pfeiffer.
- Sparrow (1996): “Transitions In The Psychological Contract: Some Evidence From The Banking Sector’.” In: (1996).
- Sparrow, Paul (1998): “New organizational forms: The strategic relevance of future psychological contract scenarios.” In: *Revue Canadienne des Sciences de L’Administration*, (1998), Vol. 15, 4, p. 356–371.
- “Startpage: Women, Families and Youth - Federal Chancellery” (n. y.): Startpage: Women, Families and Youth - Federal Chancellery. Available at: URL: <https://www.women-families-youth.bka.gv.at/> (Accessed on: 24 June 2020).
- “Statistics | Eurostat” (2019): Statistics | Eurostat. Available at: URL: https://ec.europa.eu/eurostat/databrowser/view/sdg_08_10/default/table?lang=en (Accessed on: 22 June 2020).
- “Tech Jobs in the Time of COVID - IEEE Spectrum” (2020): IEEE Spectrum: Technology, Engineering, and Science News. Tech Jobs in the Time of COVID - IEEE Spectrum. Available at: URL: <https://spectrum.ieee.org/view-from-the-valley/at-work/tech-careers/tech-jobs-in-the-time-of-covid> (Accessed on: 6 June 2020).
- “Tech Talent In-house Recruitment Conference” (n. y.): In-house Recruitment. Tech Talent In-house Recruitment Conference. Available at: URL: <https://www.inhouserecruitment.co.uk/tech-talent-conference/> (Accessed on: 30 November 2019).
- Teece, David J; Pisano, Gary; Shuen, Amy (1997): “Dynamic Capabilities and Strategic Management.” In: *Strategic Management Journal*, 18 (1997), 7, p. 509–533.
- Teese, David (n. y.): David J. Teece. *Dynamic Capabilities*. Available at: URL: <https://www.davidjteece.com/dynamic-capabilities> (Accessed on: 26 January 2020).
- Thomson, Peter (2020): *OpenMind. New Ways of Working in the Company of the Future*. Available at: URL: <https://www.bbvaopenmind.com/en/articles/new-ways-of-working-in-the-company-of-the-future/> (Accessed on: 26 January 2020).
- “Unemployment - Long-term unemployment rate - OECD Data” (2019): theOECD. Unemployment - Long-term unemployment rate - OECD Data. Available at: URL:

- <http://data.oecd.org/unemp/long-term-unemployment-rate.htm> (Accessed on: 22 June 2020).
- Vered, Eden (2019): Metropole. Austrians Support Flexible Working Hours. Available at: URL: <https://metropole.at/flexible-working-hours-gain-popularity-in-austria/> (Accessed on: 26 January 2020).
- Westwood, Robert; Sparrow, Paul; Leung, Alicia (2001): "Challenges to the psychological contract in Hong Kong." In: *Int. J. of Human Resource Management*, (2001).
- Whitepaper, Robert Walters (2019): "RECRUITING EQUITY PROFESSIONALS IN A CANDIDATE SHORT MARKET." In: (2019), p. 16.
- (2020): "Austrian Institute of Economic Research" (2020): In: WIFO, (2020). Available at: URL: <https://www.wifo.ac.at/jart/prj3/wifo/main.jart?rel=en&reserve-mode=active&content-id=1243586781429&search=austrian+economy>
- (2018): "ibw-research brief" (2018): In: (2018), No. 101.
- "Resource-based view" (2020): In: Wikipedia. Available at: URL: https://en.wikipedia.org/w/index.php?title=Resource-based_view&oldid=937473390 (Accessed on: 26 January 2020).
- (N. y.): "The war for talent - and how to win it" In: *People Management*, Available at: URL: <https://www.servicefutures.com/the-war-for-talent-and-how-to-win-it> (Accessed on: 26 January 2020).

Appendix 1. Ideal Employment Conditions Desired by IT

Document name	Code	Beginning	End	Segment	Properties
Transcript 28-05-20, IT Thomas	Business Sucess	24	24	dynamic environment, in a good way	Has proved business success and reputation
Transcript 28-05-20, IT Thomas	Business Sucess	24	24	good financial situation and a lot of projects	
Transcript 24-05-20, IT Dima	Business Sucess	14	14	It a company with a good reputation	
Transcript 17-03-20, IT Denis	Business Sucess	14	14	word famous name, good image, and reputation	
Transcript 28-05-20, IT Thomas	Development	17	17	support employees in product and business learning	Provides opportunities for the professional and career development on the job, organise and pay for the trainings
Transcript 17-03-20, IT Denis	Development	18	18	organised by the company education, development	
Transcript 05-23-20, IT Marija	Development	18	18	it is important that an employer gives an opportunity for a product training and education	
Transcript 05-23-20, IT Marija	Development	18	18	at least two trainings per year	
Transcript 05-23-20, IT Marija	Development	18	18	career opportunities in the company	
Transcript 05-23-20, IT Marija	Development	18	18	important that an employer has some possibilities when it comes to career progress	
Transcript 05-23-20, IT Marija	Development	18	18	defining career path and what can be done along the way	
Transcript 28-05-20, IT Thomas	Development	19	19	excursion when a part of the company visited a power plant	
Transcript 28-05-20, IT Thomas	Development	24	24	you learn new things	

Transcript 28-05-20, IT Thomas	Development	24	24	address the challenges	Provides additional support to the foreign employees
Transcript 24-05-20, IT Dima	Development	14	14	it should be interesting for me	
Transcript 05-23-20, IT Marija	Development	18	18	it should be regularly organized and provided from the employer's side	
Transcript 05-23-20, IT Marija	Extended Support	18	18	when an employer provides additional support, answers any question I may have	
Transcript 05-23-20, IT Marija	Extended Support	18	18	visa for the foreign employees	
Transcript 05-23-20, IT Marija	Extended Support	18	18	country regulations topics	
Transcript 05-23-20, IT Marija	Job Security & Fair Treatment	14	14	the responsibilities and everything as agreed	Meets its obligations and fulfils agreements
Transcript 05-23-20, IT Marija	Job Security & Fair Treatment	14	14	alignment from what they say they ask from you and what you actually do is also important	
Transcript 05-23-20, IT Marija	Job Security & Fair Treatment	14	14	an employer who does everything legally	
Transcript 05-23-20, IT Marija	Job Security & Fair Treatment	14	14	contract, salary, timely salary, bonus outpayment	
Transcript 05-23-20, IT Marija	Job Security & Fair Treatment	14	14	a signed contract on more than three years	
Transcript 28-05-20, IT Thomas	Job Security & Fair Treatment	16	16	a security of employment is important, of course	
Transcript 28-05-20, IT Thomas	Feedback & Appreciation	17	17	I can see the fruits of my work, final product at the end	Evaluates the work results and provides the feedback Appreciates good work: results and efforts
Transcript 28-05-20, IT Thomas	Feedback & Appreciation	17	17	Something that you can see and measure where your work is done	
Transcript 28-05-20, IT Thomas	Feedback & Appreciation	17	17	appreciation is also an important part	

Transcript 28-05-20, IT Thomas	Feedback & Appreciation	17	17	when you get some feedback, once per a year, let's say it is not enough		
Transcript 28-05-20, IT Thomas	Feedback & Appreciation	17	17	connection or some kind of results visibility		
Transcript 28-05-20, IT Thomas	Feedback & Appreciation	19	19	feedback about what they liked and also what they are missing		
Transcript 28-05-20, IT Thomas	Feedback & Appreciation	24	24	see the result of your efforts		
Transcript 28-05-20, IT Thomas	Flexibility	16	16	I have small kids, my ideal job has to be flexible	Trusts and gives flexibility in the way of work	
Transcript 28-05-20, IT Thomas	Flexibility	16	16	more flexible working		
Transcript 28-05-20, IT Thomas	Flexibility	16	16	I do my job when and where I choose		
Transcript 28-05-20, IT Thomas	Flexibility	16	16	home office		
Transcript 28-05-20, IT Thomas	Flexibility	16	16	convenient for my family		
Transcript 24-05-20, IT Dima	Flexibility	14	14	freedom of actions in my role and flexibility to organise my scope and time		
Transcript 24-05-20, IT Dima	Good Salary	14	14	Ideally also a good paid job		Appreciates knowledge and experience with the good salary
Transcript 05-23-20, IT Marija	Good Salary	14	14	salary is important part in terms that it should be dynamic		
Transcript 05-23-20, IT Marija	Good Salary	14	14	it should change over time with increasing job complexity		
Transcript 05-23-20, IT Marija	People and Culture	18	18	the transparent communication with HR	Has open and friendly corporate culture	
Transcript 05-23-20, IT Marija	People and Culture	38	38	people and company culture are important for me		

Transcript 05-23-20, IT Marija	People and Culture	38	38	I prefer to work in the office, face to face with my team	
Transcript 17-03-20, IT Denis	Technology	14	14	a technology company, like google, Microsoft, who have the technology and knowledge advantages	Invests in the technology
Transcript 17-03-20, IT Denis	Technology	18	18	investments in the technology	

Appendix 2. Important Factors during Job Search

Document name	Code	Beginning	End	Segment	Properties	
Transcript 17-03-20, IT Denis	Active Search	8	8	you need to get connections, insights for better chances.	Professional network referral is important	
Transcript 17-03-20, IT Denis	Active Search	16	16	networking		
Transcript 17-03-20, IT Denis	Active Search	16	16	professional events, IT conferences		
Transcript 05-23-20, IT Marija	Active Search	16	16	then I would send my applications		
Transcript 17-03-20, IT Denis	Challenges	6	6	if I would apply for something a little bit different from where I am at the moment, it may take more time.	Challenge to get a position different from the current or previous	
Transcript 28-05-20, IT Thomas	Challenges	6	6	job higher in the career ladder		
Transcript 17-03-20, IT Denis	Challenges	8	8	for the high qualified jobs I am interested the competition is high		
Transcript 24-05-20, IT Dima	Challenges	6	6	the last time, it took me about 12 months, but I was searching for a job abroad		
Transcript 28-05-20, IT Thomas	Challenges	6	6	companies are also, uh, more careful		
Transcript 28-05-20, IT Thomas	Challenges	6	6	senior leadership role takes more time		
Transcript 17-03-20, IT Denis	Challenges	8	8	long hiring process could be up to 8 months		
Transcript 24-05-20, IT Dima	Employer Brand	16	16	I would first apply to international companies which I know		Company image and awareness
Transcript 17-03-20, IT Denis	Employer Brand	16	16	I will be searching for the companies I'm interested in		
Transcript 05-23-20, IT Marija	Employer Brand	16	16	company size		
Transcript 05-23-20, IT Marija	Employer Brand	16	16	it makes difference if it is a small local company in Austria or a big international one.		
Transcript 05-23-20, IT Marija	Employer Brand	16	16	the company		
Transcript 24-05-20, IT Dima	Location	12	12	then I would also consider the location, infrastructure	Convenient location	
Transcript 17-03-20, IT Denis	Location	12	12	the location		
Transcript 17-03-20, IT Denis	Location	12	12	safe and stable country and employment		

Transcript IT Marija	05-23-20, Location	16	16	firstly I would choose a country		
Transcript IT Marija	05-23-20, Location	16	16	the most convenient for me from location perspective and the scope.		
Transcript IT Marija	05-23-20, Location	16	16	location would be of course one of the first criteria		
Transcript IT Denis	17-03-20, Market Demand	8	8	demand is high for low technology	To find the same or mass IT job is easy	
Transcript IT Denis	17-03-20, Market Demand	6	6	may be a month or two, don't see a big issue		
Transcript IT Marija	05-23-20, Market Demand	6	6	it is not a big problem to find a new job		
Transcript IT Thomas	28-05-20, Market Demand	6	6	standard job, software developer or tester, then it's quite straightforward what to do what they need, where to find the job.		
Transcript IT Thomas	28-05-20, Market Demand	6	6	two months because companies take their time to decide		
Transcript IT Thomas	28-05-20, Market Demand	6	6	four to five months or something like that.		
Transcript IT Thomas	28-05-20, Market Demand	22	22	it depends on what I'm interested to do, if it's a management position or just a field of work		
Transcript IT Dima	24-05-20, Online Info	16	16	recruiting internet sites, social media which are numerous at the moment		Availability of online information about the company and the job is very important
Transcript IT Denis	17-03-20, Online Info	16	16	social media, LinkedIn, Xing		
Transcript IT Marija	05-23-20, Online Info	16	16	I would search online via karriere.at or LinkedIn.		
Transcript IT Marija	05-23-20, Online Info	16	16	all job options from all possible online channels		
Transcript IT Thomas	28-05-20, Online Info	22	22	career or companies websites, checking social media and job boards		
Transcript IT Thomas	28-05-20, Online Info	22	22	anyway, afterwards I would remove all the filters and just browse through all jobs		
Transcript IT Denis	17-03-20, Passive Search	36	36	Often, 5-7 per month	High demand on the labour market, frequent enquires from head hunters and recruiters from all over the world	
Transcript IT Thomas	28-05-20, Passive Search	43	43	I receive four or five emails from recruiters per month		
Transcript IT Denis	17-03-20, Passive Search	34	34	I take a look at the recruiters' emails to so if there is something worth changing.		
Transcript IT Dima	24-05-20, Passive Search	34	34	Yes, I read with interest all offers being sent to my LinkedIn mailbox.		

Transcript 05-23-20, IT Marija	People Contact	12	12	important that an employer knows what exactly he wants and can and is transparent about that	Personal contact with employees and HR during the recruitment process is very important
Transcript 24-05-20, IT Dima	People Contact	18	18	good people around	
Transcript 05-23-20, IT Marija	People Contact	12	12	not sure employers are alerting me, that would be the factor, which would make me decline the offer immediately	
Transcript 28-05-20, IT Thomas	People Contact	14	14	you see the company, talk to different people	
Transcript 28-05-20, IT Thomas	People Contact	14	14	a big part just gut feeling after all the talks	
Transcript 24-05-20, IT Dima	Salary	12	12	salary and prospects for me and my family	Fair and competitive salary on the market
Transcript 05-23-20, IT Marija	Salary	12	12	when someone is offering me a new job for less money than I'm earning now it just makes no sense.	
Transcript 28-05-20, IT Thomas	Salary	14	14	I am not accepting the jobs where I will be earning a way less than I have now	
Transcript 05-23-20, IT Marija	Salary	16	16	afterwards would be a salary	
Transcript 24-05-20, IT Dima	Skills & Scope	12	12	primarily how interesting is the job and its scope	
Transcript 17-03-20, IT Denis	Skills & Scope	12	12	I should say the scope	The job should match the skills and experience level of the IT professional, offer good technology to work with
Transcript 28-05-20, IT Thomas	Skills & Scope	14	14	have to be fitting, you knowledge, skills, strengths	
Transcript 28-05-20, IT Thomas	Skills & Scope	14	14	I would better find something else, even paid a little bit less	
Transcript 05-23-20, IT Marija	Skills & Scope	16	16	relevant to my skills and previous experience and any close alternate.	
Transcript 05-23-20, IT Marija	Skills & Scope	16	16	the scope	
Transcript 24-05-20, IT Dima	Skills & Scope	18	18	good technology to work with	

Appendix 3. Positive Facts about Current Employment, IT

Document name	Code	Beginning	End	Segment	Properties
Transcript 24-05-20, IT Dima	Positive	22	22	It is good. I would rate it with 2. Let us leave 1 for the ideal and perfect employer.	Among the most attractive factors of the current employer were mentioned: opportunity to influence on the company performance result, possibility to speak up openly, discuss the salary topic and comfortable working conditions.
Transcript 24-05-20, IT Dima	Positive	22	22	Generally, I like my current company but would not exclude the possibility of moving on if I find a better option.	
Transcript 24-05-20, IT Dima	Positive	22	22	Can influence on the company results, can speak up and change the processes in the company if there are not working well enough.	
Transcript 24-05-20, IT Dima	Positive	22	22	I have flexibility, freedom of action, challenging tasks and global scope	
Transcript 05-23-20, IT Marija	Positive	22	22	at this moment is still one	
Transcript 05-23-20, IT Marija	Positive	22	23	because there is nothing I could complain about.	
Transcript 05-23-20, IT Marija	Positive	23	23	regulations and legal, that's all fine	
Transcript 05-23-20, IT Marija	Positive	23	23	discuss your salary and your development progress	
Transcript 17-03-20, IT Denis	Positive Culture	24	24	English as a corporate language	Family company culture, when everyone knows everyone and flat hierarchy were evaluated as attractive one.
Transcript 24-05-20, IT Dima	Positive Culture	24	24	I guess this is what they call a "flat hierarchy".	
Transcript 28-05-20, IT Thomas	Positive Culture	31	31	everybody knows most of the people, nearly every one	
Transcript 28-05-20, IT Thomas	Positive Culture	31	31	employees have the same moral principles, values	

Transcript 05-23-20, IT Marija	Positive Development	23	23	Because they are offering professional education every single year	The highest evaluation of the employer attractiveness was given by those IT Professionals who are going through an intensive learning on the job phase at the moment.
Transcript 05-23-20, IT Marija	Positive Development	23	23	You have a right to do at least two additional trainings for your job.	
Transcript 05-23-20, IT Marija	Positive Development	23	23	you can even apply for more trainings if you want	
Transcript 05-23-20, IT Marija	Positive Development	25	25	learning and development opportunities	
Transcript 24-05-20, IT Dima	Positive Development	26	26	I'm learning many new things for me at the moment.	
Transcript 05-23-20, IT Marija	Positive Extended Support	23	23	corporate kindergarten	Social support, provided and organised by an employer for the employees (kindergarten, sport activities) is appreciated.
Transcript 05-23-20, IT Marija	Positive Extended Support	23	23	it's very convenient	
Transcript 05-23-20, IT Marija	Positive Extended Support	23	23	additional activities like sports	
Transcript 05-23-20, IT Marija	Positive Extended Support	23	23	you don't have to pay for that	
Transcript 05-23-20, IT Marija	Positive Team	23	23	I'm a part of a good team	Good relations in the team and peer's expertise have a big value
Transcript 05-23-20, IT Marija	Positive Team	25	25	good team	
Transcript 28-05-20, IT Thomas	Positive Team	31	31	we are at our site close with colleagues	
Transcript 05-23-20, IT Marija	Positive Unique	25	25	May be a kindergarten is unique, it helps a lot our employees	The convenient and comfortable working environment and opportunity to receive higher salary due the border location with Switzerland was evaluated as "unique".
Transcript 28-05-20, IT Thomas	Positive Unique	31	31	salary in Switzerland, of course, though I live in Austria, often work from home.	

Appendix 4. Career Path with Current Employer , IT

Document name	Code	Beginning	End	Segment	Properties
Transcript 17-03-20, IT Denis	Career Path	26	26	I don't see any	<p>Career path in not transparent, discussions with the line managers and internal promotions are more exceptions, than a common practice.</p> <p>Employer supports development in the current role, but not a different role or scope.</p> <p>Rotation between the projects and people management responsibilities are possible.</p> <p>IT professionals don't demonstrate ownership of their career path, though would prefer if an employer would initiate the discussions, offer something for them.</p>
Transcript 24-05-20, IT Dima	Career Path	26	26	Learn the company better. Try to improve what I can improve.	
Transcript 05-23-20, IT Marija	Career Path	27	27	it depends on the product. It depends on how it will grow up.	
Transcript 05-23-20, IT Marija	Career Path	27	27	at the moment I cannot say anything for sure	
Transcript 05-23-20, IT Marija	Career Path	27	27	it depends on the product	
Transcript 05-23-20, IT Marija	Career Path	27	27	I could gain new knowledge and tasks or become a project manager.	
Transcript 05-23-20, IT Marija	Career Path	27	27	it depends on the project	
Transcript 17-03-20, IT Denis	Career Path	28	28	There is no transparency on that	
Transcript 17-03-20, IT Denis	Career Path	28	28	move between projects and offices	
Transcript 17-03-20, IT Denis	Career Path	28	28	there are a very few cases	
Transcript 24-05-20, IT Dima	Career Path	28	28	I do not know. I am still new here and I haven't discussed that with anyone so far.	
Transcript 05-23-20, IT Marija	Career Path	28	28	Not yet, as my priority to finish studies at FHV	
Transcript 05-23-20, IT Marija	Career Path	28	28	Maybe later, when I get a diploma	
Transcript 05-23-20, IT Marija	Career Path	30	30	Projects rotation	
Transcript 05-23-20, IT Marija	Career Path	30	30	promotion with people responsibilities, but not often	
Transcript 28-05-20, IT Thomas	Career Path	33	33	I don't see any	
Transcript 28-05-20, IT Thomas	Career Path	33	33	financial results of the company are bad, that's why I'm trying to find another job outside.	

Transcript 28-05-20, IT Thomas	Career Path	33	33	I have discussed my career opportunities with the line manager and he was very neutral, just said, there is nothing else here for you.
Transcript 28-05-20, IT Thomas	Career Path	33	33	at least he was transparent a
Transcript 28-05-20, IT Thomas	Career Path	35	35	there are not many internal moves
Transcript 28-05-20, IT Thomas	Career Path	35	35	It is more an exception
Transcript 28-05-20, IT Thomas	Career Path	35	35	How the decisions are made is not transparent at all.
Transcript 28-05-20, IT Thomas	Career Path	35	35	it is a regular problem with with a flat hierarchy
Transcript 28-05-20, IT Thomas	Career Path	35	35	I have the impression, they do not appreciate people who are willing to move, take over some leadership role
Transcript 28-05-20, IT Thomas	Career Path	35	35	they also are not pushing you to learn and develop
Transcript 28-05-20, IT Thomas	Career Path	35	35	I don't remember any examples when someone was promoted
Transcript 28-05-20, IT Thomas	Career Path	35	35	left the company when finished the studies, because they couldn't get anything inside
Transcript 28-05-20, IT Thomas	Career Path	35	35	they could use the new knowledge and no one was going to pay them more money

Appendix 5. Career Path with Current Employer, HR

Document name	Code	Beginning	End	Segment
Transcript, HR Beate	Attractive Career Path	28	28	for sure move, this typical career, like to be a coach or a lead in the team, this all, of course possible in the company.
Transcript, HR Beate	Attractive Career Path	30	30	we also had the software developers who moved to another professional area withing our company
Transcript, HR Beate	Attractive Career Path	30	30	Vertical moves are also possible, for example to become a team lead.
Transcript, HR Christine	Attractive Career Path	29	29	I think for young and motivated ones it might be quite interesting, as they go into different directions. They can be a software engineer, or they can develop to a software quality manager.
Transcript, HR Christine	Attractive Career Path	29	29	I think if you are also motivated, dedicated and like people there is always a chance that you are at the right spot at the right time, then they go to the interesting team or the project.
Transcript, HR Christine	Attractive Career Path	31	31	From the career path perspective, we have option to develop career in the team lead direction and in the technical.
Transcript, HR Christine	Attractive Career Path	31	31	We also have technical leads, who are leading the technical part, but not people management.
Transcript, HR Christine	Attractive Career Path	31	31	There are different ways, but what I often hear from our people is that they don't like to be a people lead, they want to be an expert.
Transcript, HR Elisa	Attractive Career Path	29	29	We differentiate between a career development as a team leader or a specialist.
Transcript, HR Elisa	Attractive Career Path	29	29	It depends on the person, I should say. Where the person sees himself, where he is feeling more comfortable
Transcript, HR Elisa	Attractive Career Path	29	29	we don't have only one IT department, we have three different departments

Transcript, HR Elisa	Attractive Career Path	29	29	And if there is someone who needs a new challenge, they can always switch between the departments.
Transcript, HR Beate	Not attractive Career Path	28	28	we do not offer this kind of typical career ladder from junior to senior.
Transcript, HR Christine	Not attractive Career Path	31	31	It depends on the team. The bottle neck is always a line manager.
Transcript, HR Melanie	Not attractive Career Path	28	28	we always are looking for the specialists who already know everything and don't have to learn it because everything is so complicated because we think nobody can learn it and I think we should work more with this.
Transcript, HR Melanie	Not attractive Career Path	30	30	Normally we give priority to the internal candidates, but every time it should be a perfect match with the expertise.
Transcript, HR Melanie	Not attractive Career Path	30	30	Normally we don't have such candidates inside.
Transcript, HR Melanie	Not attractive Career Path	30	30	But if there is no such on the market, as well we try to convince the managers to give a try to the internal candidate.

Appendix 6. Invitation Letter to Participate

Dear _____

Let me introduce myself. My name is Larisa Barkovskaia and I am a student of Master Program in International Management and Leadership at FHV. For my master thesis I conduct a research on the topic “Austrian labour market attractiveness for high qualified professionals in information technology occupations”.

My intent is to understand what factors have the most influence on IT talent attraction and retention and how Austrian employers adopt these factors into HR practices.

For this project I interview IT professionals who live and work in Austria and HR Managers/Experts who have an experience of IT talent attraction and retention in Austria.

Would you be willing to participated in the research and give me an interview as an expert in ___ field? If you agree I will send you the questions for review in advance and align with you on the convenient date and time for the interview.

The interview will take 45-60 minutes of your time and will be conducted online (Skype/MS Teams). Your name and the name of your employer will be kept confidential in the study.

I would appreciate you quick response regarding the possibility of your participation in the research.

If you should have any questions or need additional information, please let me know.

Sincerely,

Larisa Barkovskaia

Appendix 7 Interview Questions

Thank you very much that you agreed to participate in my research as an _____ expert. Our interview will take 45-60 minutes and will be recorded for further transcribing if you don't mind. Your answers will be anonymised in the report. The transcript of your interview and the research findings can be shared with you upon request.

First, I would like to ask some general questions about yourself and your professional background.

- How old are you?
- What is your marital status? (married/single/divorced/widowed)
- Do you have kids? (yes/no)
- Where do you live and work? (country)
- What is your current job title and specialisation?
- Where are you from originally? (country)
- What is your highest academical degree? (no/BA/MA/Doctor)
- How many years of experience in IT do you have? How many in Austria?
- In which other countries did you have a professional experience?
- What is the size of the company you work for? (>0,5K/0,5K-1K/ 1K-5K, 5K-10K, 10K+)
- Does your company operate locally or internationally?
- To what industry does your current employer belong?
- How many IT professionals work at Austrian office of your company? Approximately (1-5/ 6-10/ 10+).
- From what countries are the IT professionals, who work in the Austrian office of your company? Where are the majority from?

Questions for IT

1. How often do you change jobs? Please specify in years.
2. What was the main reason for you to change the previous job?
3. If you decide to change your current employer, how much time it may take you to find a new job? Please specify in months.
4. How do you think what challenges you may face searching for a new job in Austria?
5. Looking for a job, would you consider moving abroad? In what case?
6. When you are searching for a job, what factors influence the most on your decision to accept or decline an offer?
7. Could you please describe an ideal employer for you personally?
8. Please describe how would you do a job search and prioritise vacancies?
9. In your own words, can you describe the characteristics of an employer of choice for an IT professional? What factors are the most important?
10. How do you think what kind of skills are the most important for a successful IT professional? Technical or soft skills? Please name the most important to your mind.
11. How do you rate the attractiveness of your current employer on the scale from 1 to 5 where 1 is a very attractive and 5 is not attractive? Please explain your evaluation.
12. Does your current employer have something unique/most valuable and attractive for you personally? Please clarify.
13. What further career opportunities do you see for yourself inside the company? Have you discussed it with your line manager?
14. What is the common practice of IT career development inside your company?
15. How do you think, what can retain an IT professional with the same employer for more than two years?
16. What is the average length of service for IT professionals in your company? (more than 2 years, less 2 years) Please specify approximately in years.
17. Do you consider any career opportunities outside of your current employer now?
18. How often do you receive invitations/offers from external recruiters/head-hunters? (often /not often/ very often/) Please specify a number per month/year.
19. What makes/can make you start searching for a new job?

Questions for HR

1. What factors and conditions of employment are the most important for IT professionals to your mind?
2. Could you please describe an ideal employer/an employer of choice for IT professional?
3. Based on your recruitment experience, what is an average length of service for an IT professional at the same company in Austria? Please specify in years.
4. Please name the most important skills for a successful IT professional.
5. How much time it may take you to close an IT position? Please specify in months.
6. How do you recruit IT talent: execute active search for open positions/attract external recruiters/ review applications/ have referral program? What is the most effective?
7. How do you think, what challenges you may face searching for an IT professional in Austria.
8. Would you consider searching for a candidate abroad? In which case?
9. Please describe how would you do an IT talent search and prioritise candidates?
10. When you are searching for a candidate, what factors influence the most on your decision to make an offer or decline a candidate?
11. What is an average length of service for an IT professional in your company? Please specify approximately in years.
12. How would you rate the attractiveness of your company as an employer for IT professionals on the scale from 1 to 5 where 1 is a very attractive and 5 is not attractive? Please explain your evaluation.
13. . Does your company have something unique/most valuable and attractive for IT professionals? Please clarify.
14. What career development opportunities can find young IT professionals in your company?
15. What is the common practice of IT career development inside your company? Do you prioritize internal candidate when there is a job opening?
16. How many candidates do you need to assess for closing an IT position?
17. What does usually make an IT professional start looking for a job outside the company?

18. How do you think, what can retain an IT professional with the same employer for more than two years?

Appendix 8. General Information about Participants

IT Professionals

Gender	Female	Male	Male	Male
Age	28	38	47	45
Marital status	Single	Married	Married	Married
Kids	no	no	yes	yes
Current Location (work and home)	Vorarlberg, Austria	Vorarlberg, Austria	Vorarlberg, Austria	Vorarlberg, Austria
Country of origin	Serbia	Ukraine	St. Petersburg, Russia	Vorarlberg, Austria
Education	University, IT	University	University (Linguistics), IT courses	University, IT
Years of experience (in and outside of Austria)	4 (1,5 in Austria, 3,5 Serbia)	13 (in AT 3)	14 years	14 years
Years of experience with the current employer	3	3	2	7
Current Job title or IT specialization	Software developer	IoT Software Tester	IT Organizer (SAP Implementation & Support)	Software Quality Engineer
Currently with local/international employer	International	International	International	Local
Current employer's Industry and the size	10,000+, Packaging	Electrical & Electronic Manufacturing / 1000	Furniture, 8K employees	Industrial Automation, 200 employees
N of IT professionals in Austria	14-20	150	200	N/A
IT Team cultural diversity	50% from Austria, then Germany, Balkan countries, Spain, UK, Greece, Russia	Very diverse	Germany, Switzerland, Romania	Austria, Germany, Switzerland, Romania

HR Managers/Experts

Gender	Female	Female	Female	Female
Age	38	28	43	43
Marital status	Married	Single	Married	Married
Kids	yes	no	yes	yes
Current Location (work and home)	Vienna, Austria	Vorarlberg, Austria	Vorarlberg, Austria	Vorarlberg, Austria
Country of origin	Vienna, Austria	Austria	Vorarlberg, Austria	Vorarlberg, Austria
Education	University	University	University	University
Years of experience (in and outside of Austria)	15 years only Austria	5	10 years in Austria	15 years in Austria
Current Job title or IT specialization	HR Business Partner	HR Generalist	Recruiter	HR Generalist
Currently with local/international employer	International	International	International	International
Current employer's Industry and the size	IT, 650 employees	Machinery, 201-500 employees	Electrical & Electronic Manufacturing/ 6000	Electrical & Electronic Manufacturing / 537
N of IT professionals in Austria	200	16	150	150
IT Team cultural diversity	28 nationalities		very diverse team (13 nationalities)	most diverse team (19 nationalities)

Statement of Affirmation

I hereby declare that all parts of this thesis were exclusively prepared by me, without using resources other than those stated above. The thoughts taken directly or indirectly from external sources are appropriately annotated. This thesis or parts of it were not previously submitted to any other academic institution and have not yet been published.

Dornbirn, 28.07.2020

Larisa Barkovskaia

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke, positioned below the name Larisa Barkovskaia.