A Study of the Recruitment and Selection Process in the ICT Sector: the HR Perspective and Creating Advantages

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ABSTRACT

Purpose - The purpose of the research was to identify the methods and techniques relating to IT workforces when they search for new career opportunities, and the ways in which HR departments can create advantages through IT workforces.

Aim(s) - This paper is based on a study of the relevant facts that IT personnel deal with when trying to find their desired workplace.

Design/methodology/approach - The research was conducted via a structured questionnaire sent to 100 ICT professionals in IT companies of different sizes (small, medium and large companies) registered in North Macedonia.

Practical implications – This research provides possible answers to questions such as the extent of use of social media by ICT professionals as compared to headhunting in the process of job searching; preferred recruitment methods; information availability as a challenge through the recruitment process; and the importance of organizational culture and learning opportunities within the company versus the importance of salary. In this way it contributes to the scientific body of knowledge in the context of Human Resource (HR) practices and perspectives.

Findings - Recruitment and selection are of high importance for competitive advantage in the dynamic and growing ICT sector. Digital platforms and social media play an important role in attracting ICT talents etc.

Originality/value - The implications of this study will be especially important for IT managers to gain additional knowledge on job redesigning, integrating information on job design in recruitment and selection processes and executing them to ensure that good HR policies are developed. It also provides the readers with an understanding of how HR has a significant role in the overall performance in the organization. through introducing up-to-date scientific research in the same field.

1 INTRODUCTION

The recruitment and selection process is of invaluable importance to the prolonged success of any company. In order to confirm the significance of this process, the first section will focus on an analysis of the related academic literature detailing this. According to Argue (2015), the importance of strategic recruitment and the selection process on meeting an organisation's objectives' recruitment and selection process lies at the heart of the way the business perceives the human resources needed to maintain a competitive advantage over its rivals.

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The recruitment process includes the procurement, advertisement and interviewing of future employees, followed by staffing and training new employees in their new role. Based on Owusu's-Ansah and Kwabena (2014), recruitment is any process for which an organisation seeks applicants and recruits potential employees, while selection refers to the process by which an organisation selects applicants with the expertise, abilities, skills and other features that will help it achieve its objectives.

This paper is an investigative study of the impact of the process of recruitment and selection and the most important factors ICT professionals look for when searching for new job opportunities Additionally, it details which recruitment approaches are more suitable for ICT professionals and what makes individuals leave their current workplace based on insights of the ICT sector in North Macedonia. For a company to develop and achieve its goals, it is significant to hire qualified individuals for the appropriate position. In fact, recruitment and selection are becoming increasingly relevant, as companies become more aware of the need for its process in order to target relevant objectives, as well as to encourage competitive advantage.

The main objective of the research is to determine the most important factors in ICT professionals' search for a new job opportunity, which recruitment approach is more suitable and the reasons for them leaving their current company. The purpose of this research is to provide answers to the following questions: 1) to what extent is the use of social media by ICT professionals compared to headhunting in the process of job searching a viable alternative; 2) is recruitment via social media and e-recruitment more preferred than recruitment through hiring agencies; 3) is lack of information perceived as the most important challenge through the recruitment process by the candidates; and 4) do ICT professionals in North Macedonia consider that the organisational culture and learning opportunities within the company are more important than the position's salary?

2 LITERATURE REVIEW

According to Boxall and Parcell (2011), the HR role has become constructive, descriptive, and executive in recent years, while it had been reactive, prescriptive, and administrative in the past. The essential mission of human resources will always be to attract, grow and retain talent, to align the staff with the company and to be an outstanding asset to the business (Gubman, 1996). Authors like Stroh and Caligiuri (1998) argue that any company should have a future-oriented strategic human resources department, especially considering that employment patterns in the last few years have changed drastically. Teague et al (2015) argue that certain individuals have accepted a lifelong workplace in the past, whereas job seekers of today have career goals and are eager to change workplaces in order to achieve them. Armstrong (2012) claims that the overall objective of the recruitment and selection process is to achieve the number and quality of workers required to meet the organisation's human resource needs while maintaining a minimum cost. Additionally, one could argue that hiring and keeping a dedicated workforce is the hardest component in every industry or sector, since job seekers gather information about organisations and current job offers by relying on incomplete signals, given that they cannot obtain a complete knowledge of all alternatives and their possible characteristics (Owusus-Ansah, Kwabena, 2014). Therefore, to maintain a competitive advantage for a company, each step in the recruiting and selection process requires careful consideration and time. Decisions taken during the recruitment and selection stage will have a potentially-significant impact on the company. This is especially true for ICT professionals (software developers, QA engineers, ICT consultants), who are currently among the most important and abundant workers to consider. The ICT Industry in North Macedonia is growing mainly due to comparatively lower workforce costs, European culture and English language literacy, young but skilled workers, knowledge of various technologies and the capacity of operating emerging technologies. ICT workers are also the most fluctuating employees on the market, and this is one of the key challenges for ICT organisations (Privacy Shield Framework, n.d.).

According to Armstrong and Taylor (2014) recruitment and selection process comprises ten stages: defining requirements, attracting candidates, sifting applications, interviewing, testing, assessing candidates, obtaining references, checking applications and offering employment. According to the same authors, the key selection criteria are knowledge, skills and abilities, behavioural competence, qualifications and training, experience, specific demands and special requirements. However, with the rise of ICT and the application of integrated management systems in business operations, the HR function has also shifted to e-solutions. According to Jones et al (2002), e-recruitment is not simply about adding another medium to the recruitment process; instead, recruitment is taken to a different level when matching employees and employers. The advantages of online recruitment are that it can 1) reach a wider range of possible applicants; 2) it is faster and cheaper than traditional advertising approaches; 3) it allows for more work descriptions and companies to be presented on the web; and 4) it allows for the ability for CVs to be matched and applications to be submitted electronically. Social media at the same time also changes recruitment, and is likely to become one of the most significant new ways of recruiting employees. The companies that manage to integrate their eHRM with social media will ultimately be able to obtain a competitive edge in the industry.

As stated earlier in the paper, ICT is one of the sectors with the highest employee turnover rate, thus stressing the importance of employee retention. The research of Gaylard and Sutherland (2005) establishes that the three factors perceived to most affect the retention of ICT workers are, in order of importance: 1) equity and enablement for high performance; 2) a liberated and empowered culture; and 3) an effective and interactive communication channel between management and employees. The 2018 Global Developer Insights Report by the Stack Overflow online developer community shows that compensation was at the top of the men's list; yet, internationally, women found the office environment and corporate culture to be more important to them than salaries when considering a new career. To businesses looking to boost their demographic diversity, this is especially worthy of note.

Technology expertise drives innovation and market growth in the twenty-first century, making competition for top talent intense. In reality, IT pros are getting twice as many LinkedIn messages versus the average LinkedIn user, and software engineers are getting more than twice as many (Zdravevski et al, 2016). By 2030, the shortage of workforce skills would hit 4.3 million jobs, or 59 times the number of employees of Alphabet, Google's parent company. According to a recent research by Korn Ferry's all-important technology sectors, The Global Talent Crunch, India is projected to have a skilled labour surplus of around 245.3 million workers by 2030, making it the only country expected to have a surplus, owing primarily to its vast supply of working-age citizens and government programmes which boost workers' skills (Korn Ferry, 2018).

3 ICT Sector in North Macedonia

The ICT sector in North Macedonia is growing rapidly, as is the global industry. In 2019, the number of registered ICT companies in North Macedonia grew 8% compared to 2018. The number of employees in ICT companies in 2019 was 7% higher than in 2018. In 2019, the total contributions paid by the ICT industry for 15.514 employees for pensions, health insurance, and insurance in unemployment would settle the contributions for 49.709 employees in industries receiving minimum wage (Epicentar Study, 2020). Additionally, according to official data published by the State Statistical Office, employers in the ICT industry paid 97.781 MKD average gross salaries per employee in February, 2020, compared to 85.380 MKD for the same period in 2019, with a continuous increase reaching 14%. Overall, ICT is an important sector for driving economic growth in North Macedonia. ICT personnel demand is increasing across all industries, and finding and retaining appropriate personnel impacts the competitive advantage of companies.

From the perspective of HR management, the study reported in IT.mk, namely "Mapping the IT industry in North Macedonia 2019", is of importance. It details that developers seem to be mostly

bothered during the recruitment process by lack of information about a certain role, as well as by the long and slow process of interviewing. Additionally, the primary aspect they consider when choosing an employer seems not to be the salary, but the likelihood of learning, increasing, enhancing and improving their skills. Furthermore, developers in the workplace are mostly affected by weak internal structure; a frustration they communicate mainly through direct conversation with superiors. Lastly, many developers search social media for information on job offers (it.mk, 2019).

4 RESEARCH METHODOLOGY

The research was conducted in September 2019, via a structured questionnaire conducted on 100 ICT professionals in IT companies of different sizes (small, medium and large companies). The questionnaire was sent to 100 persons, 62 of whom responded online via LinkedIn and by using google forms. According to a study done by JobVite, a recruitment software corporation, 87% of recruiters use this professional network every day as their main communication tool (Jobvite , 2015). The questionnaire is organised in two blocks:

- The first part consists of demographic data questions (gender, age, type of organisation, job position, size of the organisation). The questions were answered by choosing one or more possible answers provided;

- The second part concerns the recruitment process and how ICT professionals prefer to be approached and communicated with during the process. The answers were on a 5-degree scale, with 1 representing the lowest and 5 representing the highest degree.

Before starting the data analysis, several preliminary data processing steps were undertaken to ensure their accuracy and completeness. These were: 1) data checking to see if the feedback from the respondents was in function of the survey; 2) data editing to detect and correct illogical and irrelevant data, as well as assigning a number of responses to the participants so that the data was ready for statistical data entry; and 3) data processing and data presentation.

5 RESEARCH RESULTS

The demographic data of the respondents is presented below. Firstly, figure 1 shows that 65% of the respondents are male and 35% are female:
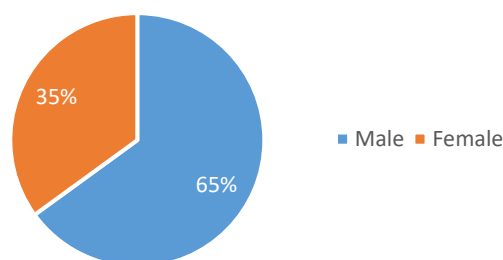

Fig 1.   Gender of respondents

Continuing, figure 2 shows the age of respondents, where 83.9% or 52 respondents are aged 20 to 30 years, and 16.1% or 10 respondents are aged 31 to 40 years. There are no respondents from 40 or above, which further reflects on the younger-age pattern of the ICT industry.
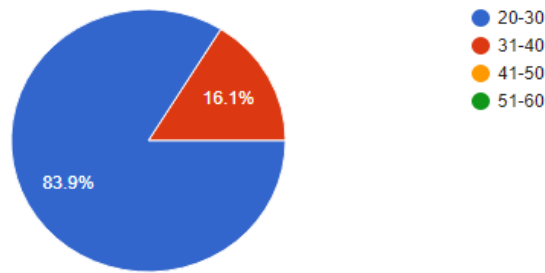
Fig 2.   Age of respondents

Regarding the type of company from the aspect of ownership structure that the individuals are employed at, 46.8% of the respondents work in a company which is a partnership between a Macedonian and a foreign company, 43.5% work in a company of a foreign ownership, and 9.7% work in a company of Macedonian ownership. This reflects on the internationalisation of the ICT sector and the numerous career opportunities for employees within the sector.
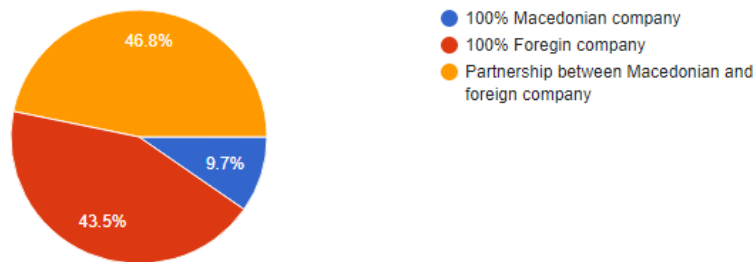

Fig 3.   Type of company based on ownership structure

Figure 4 presents the companies based on their size. 17.7% of the respondents work in a company with up to 10 employees, 30.6% work in a company with 11 to 100 employees, 45.2% work in a company with 101 to 500 employees and 6.5% work in a company with more than 500 employees. This shows that ICT companies are growing organically, presumably due to foreign investments and access to foreign clients.
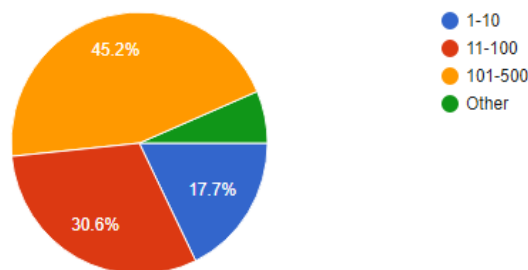

Fig 4.   Size of companies based on number of employees

The respondents included in the research are employed in different job positions, which is shown in Figure 5. 45.2% of the respondents are fullstack developers, 11.3% are QA developers, 11.3% are backend developers, 4.8% are system administrators, which is the same percentage as frontend developers, 8.1% are DevOps engineers and 14.5% have job positions different than the options offered. This shows the dominance of full-stack developers and a somewhat equal distribution among other job positions.
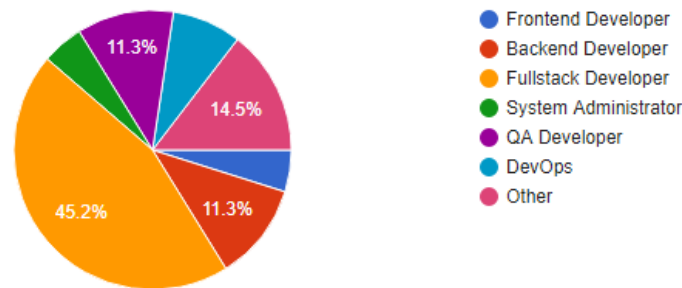
Fig 5.   Job positions

The second block of research questions is related to the recruitment process and the ways in which ICT professionals prefer to be approached and communicated with during the process. Various tools and communication channels are available to ICT professionals when searching for a position. The research, as presented in Figure 6, shows that 30.6% of the respondents were approached by the internal recruiter and they started to work in their current company. The second approach is by referral and forms 22.6% of the respondents. Following that is social media with 14.5%, and then by way of a career website follows with 12.9%. Lastly, 3.2% of the respondents indicate recruitment through the company's website, through an external recruiter or through a recruitment agency. Some of the respondents indicated other approaches such as a job fair, a referral from a friend or a professor, etc.
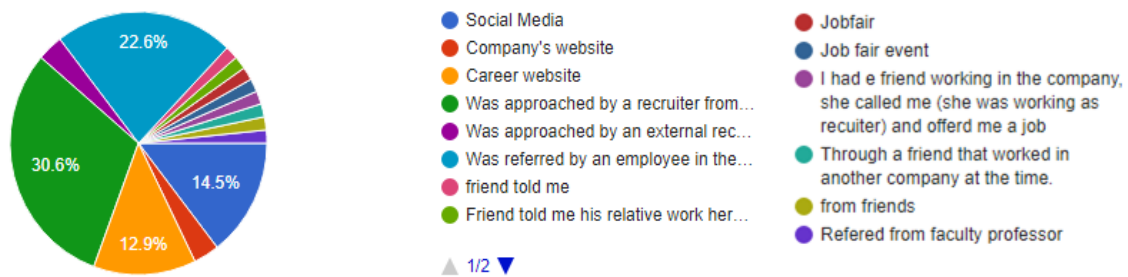

Fig 6.   How respondents found out about the company they work in

Continuing, the following table presents the approaches for searching for a new job opportunity by ICT professionals:

Table 1.   Where ICT professionals search for new job opportunities.

	1 (low)	2 (lower)	3 (neutral)	4 (higher)	5 (highest)
Social media	7	9	16	14	16
Approaching recruiters	12	12	14	5	9
Wait for a recruiter to approach me	13	14	16	11	8
Companies' sites	3	6	16	21	16
Employees to be referred	1	8	13	21	19
Career website	8	2	18	12	22

The highest scores of respondents are on career websites, referrals, social media and corporate websites, which clearly show that companies have to be proactive and digitized in the HR field if they aim to recruit the best candidates.

Furthermore, maintaining a focused recruitment process is of high importance for keeping candidates' attention and involvement in the process. Table 2 presents the factors that would cause job seekers to withdraw from the recruiting process.

Table 2.   Reasons would cause ICT professionals to stop the recruitment process, even if they believe that the role is the right one

	1 (low)	2 (lower)	3 (neutral)	4 (higher)	5 (highest)
Lack of information regarding the role	0	3	14	27	18
Lack of information regarding the salary	0	3	17	16	26
Lack of information regarding the company	0	10	19	16	17
Lack of information regarding the reinforcement system	3	12	30	11	6
Unprofessional attitude of the interviewers	1	4	8	12	37
Unprofessional attitude of the recruiter	0	5	12	13	32
Complicate way of applying – to much documents	7	13	18	11	13
No user-friendly system to send an application and attach CV	7	18	20	12	7
Lack of immediate feedback between the application and 1st interview	2	10	22	16	12
Waiting too long for feedback between the interviews	2	8	15	15	22

An unprofessional attitude of recruiters and interviewers, along with a lack of fundamental information, are identified as key factors for withdrawing from the recruitment process. If companies want to excel the recruitment process, they have to focus on staff professionalism, information flow and proper information packages and simple user-friendly platforms. These were the key factors identified by respondents. Additionally, the length of the recruitment process, from application until the final offer, is another factor that may cause candidates to withdraw from the recruitment process. Figure 7 shows that the current employment environment is dynamic, and companies have to adapt their internal procedure if they aim to attract and employ the most qualified candidates. The expected length of the recruitment process, as answered by the respondents, is predominantly between 2 and 4 weeks.
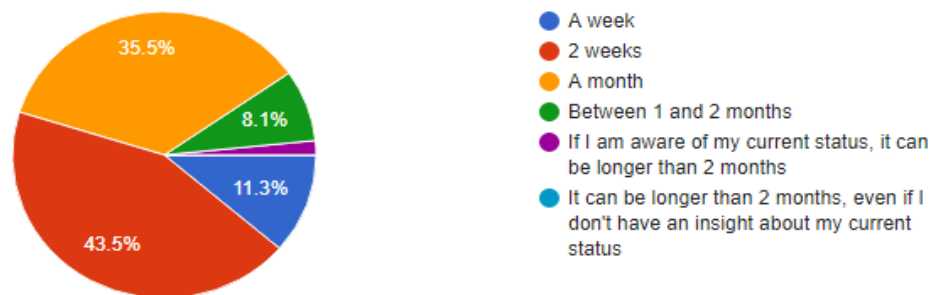

Fig 7.   Expected length of the recruitment process by the candidates

The high employee turnover rate in the ICT industry is additionally related to the factors that can cause employees to leave their current company and to join another. Table 3 shows the answers to a significant question: if you were to look for a job at another company, what would be the most important factor for you in making the decision?

Table 3. Factors influencing personnel to leave their current company and join another.

	1 (low)	2 (lower)	3 (neutral)	4 (higher)	5 (highest)
Company's reputation	1	5	9	29	18
Salary	0	2	10	21	29
Clear vision of how I would develop in the company	0	1	14	19	28
To be working on challenging projects	0	0	6	24	32
To be working with latest technologies	0	2	11	26	23
Friendly working atmosphere	0	0	9	17	36
Fun activities at the workplace	4	15	17	15	11
Clear system for bonuses and recognition	1	5	14	27	15

As shown, salary is among the highest, but still not the highest ranked factor by respondents when deciding to leave their current workplace and to join another company. Aspects such as work atmosphere, challenging tasks, remaining in touch with new technologies and a vision for personal development are among the key factors.

6 DISCUSSION OF RESULTS

From the research results, we can draw the following findings:
- Recruitment and selection are of high importance for competitive advantage in the dynamic and growing ICT sector;
- Digital platforms and social media play an important role in attracting ICT talents;
- Lack of advancement potential (sources of training for new technologies) and looking for new challenges, alongside professional growth, are key factors in an ICT employee leaving their workplace;
- Companies should create a flexible and pleasant-working atmosphere, as well as starting challenging projects utilizing the latest technology if they want to retain ICT employees longer in their company;
- Salary also plays a crucial role, because it is nevertheless a huge motivator;
- Career websites and referral from another employee are the best channels where individuals in the IT sector from North Macedonia search when they need a new career opportunity;
- Unprofessional attitude from interviewers and lack of information will make IT employees leave the recruitment process;
- The recruitment process should take around 2 weeks;
- Recruiters and referral by an employee from their current company are top recruitment tools;
- Most appropriate methods for attracting and hiring the best ITC professionals are LinkedIn, social networking events related to the sector, employee branding through product development, referrals as well as maintaining a positive reputation of the company;

- Companies can create a competitive advantage through the process of recruitment if they focus on time management, as well as a fast recruitment and selection process for filling in positions;
- If the company is international, it will need to create a cultural recruitment strategy by maintaining different strategies for different roles and locations.

7 CONCLUSION

Strategic management requires organisations to adapt their business processes and resources over the long run to adapt to the changing environment of new technologies and human behaviour. According to Johnson and Scholes (1999), managers need to recognize their organisations' rapidly-paced and versatile environment.

In this sense, recruitment and selection, as well as training and development, are important and significant elements, and keeping up to date with new technologies and developments in any industry is invaluable, but this is especially true in high-tech industries such as the ICT industry. It is necessary to devote a sufficient amount of resources, both in terms of time and finances, to the recruitment, selection and retention of high profile and scarce human resources, which are a prerequisite to building and maintaining a competitive advantage.

Furthermore, a strategic approach to human resource management and commitment to a suitable corporate culture which promotes core values dedicated to high performance is of high importance to attract, grow and retain talent; to align the staff with the company and to be an outstanding asset to the business.

Finally, human resource management must be able to assist the company in putting the qualified individual in the appropriate position in order to become and remain a high-performing organization. The methods in human resource management include recruiting, selection, deployment, assessment, training and development, compensation and benefits, and ultimately the retention of an organisation's employees.

The research findings can contribute toward two objectives: to provide a better understanding of the HR process and to help IT managers to design better recruitment and selection policies and practices and as well to utilize the results in their managerial practice. Overall, the study is limited to analysis in the IT industry build upon the literature review and survey based analysis. The framework can be conducted in other industries or countries by adding some statistical analysis to be able to compare data and offer deeper insights of the relevant topic.

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