Analysis of Recruitment and Selection Process in the Field of Information Technology

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Abstract
The study identifies key factors influencing employee recruitment and selection in the ICT sector, including the importance of digital platforms and social media in attracting IT talent, as well as a lack of potential for advancement and the search for new challenges as critical factors that cause IT employees to leave the company. The practical implications of this research are that IT companies must create a flexible and enjoyable working atmosphere and embark on challenging projects that leverage the latest technology to retain IT employees longer. The findings of this study can help IT companies to improve the effectiveness of the recruitment and employee retention process, so as to achieve organizational goals and maintain a competitive advantage in the ICT sector. In addition, this research makes a theoretical contribution in the field of human resource management by enriching the literature on the factors affecting employee recruitment and retention in the ICT sector.

Keywords: Recruitment, Selection, Management, ICT.

1. Introduction
Many companies are now using social media as a way to attract potential candidates for open positions (Jahja, 2020). One common way they do this is by posting job ads on social media platforms such as LinkedIn, Facebook, and Twitter. These ads can be targeted to specific demographics and locations, making it easier to reach the right candidates. In addition to posting job ads, companies may also use social media to screen potential candidates. Hiring managers may look at a candidate's social media profiles to get a better sense of their personality, interests, and overall fit with the company culture. However, it is important to note that this approach can also have its drawbacks, as it may lead to unconscious bias and potentially discriminatory hiring practices.

This research explores the challenges and opportunities of integrating information and communication technology (ICT) in recruitment and selection processes. The use of ICT in recruitment and selection requires adequate technical skills, which many job candidates lack, affecting the accuracy of evaluations (Sriati & Priyanto, 2018). Additionally, companies may rely too much on technology, leading to disruptions and productivity issues if technical problems or system failures occur (Rasyid & Ahmad, 2018). Furthermore, not all job
candidates have equal accessibility to technology, limiting their opportunities to compete in the selection process (Igbinedion & Imoisili, 2017). Finally, managing the large amounts of data generated in recruitment and selection processes using ICT can create challenges without proper data management systems in place (Suharjito & Rahmawati, 2015). This research also examines innovative methods in the public sector, such as employee selection with computer-assisted testing (Suwarno E., 2018).

This study aims to determine the important factors in the ICT profession in seeking new job opportunities, more suitable recruitment approaches, and reasons for leaving the company. The specific objective is to answer four questions related to the use of social media in job search, preference for recruitment through social media and funded recruitment, challenges in the recruitment process, and priorities of ICT professionals regarding organizational culture, learning opportunities, and salary.

**ICT sector in Indonesia**

Indonesia as a developing country also faces similar challenges in overcoming the digital divide. Despite progress in the development of ICT infrastructure, especially in terms of providing Internet access, access to basic communications is still not evenly distributed throughout Indonesia, especially in remote and isolated areas. According to recent data from Data Indonesia, as of 2023, the number of internet users in Indonesia is estimated to reach 212 million or approximately 76% of the country's population. However, there are still approximately 84 million Indonesians who do not have access to the internet, and only 29% of villages have internet connectivity.

This digital divide also affects the development of the ICT industry in Indonesia. Even though there are many startups and ICT companies developing in Indonesia, most of them are still concentrated in big cities, especially in Jakarta. This can exacerbate the socio-economic gap between urban and rural areas. Therefore, the Indonesian government needs to set priorities in overcoming the digital divide and encouraging the development of a more inclusive and sustainable ICT industry. This can be done through the development of ICT infrastructure that is evenly distributed throughout Indonesia, allocating sufficient funds to support ICT development in remote and isolated areas, and encouraging effective partnerships between the government, the private sector, and the community. In addition, awareness of the importance of work ethics and integrity also needs to be increased throughout the ICT sector in Indonesia. This is important for ensuring adherence to ethical standards and best practices in the ICT industry, as well as encouraging the development of sustainable and responsible innovation.

In order to overcome the digital divide, Indonesia can also take advantage of today's rapidly developing technological potential, such as 5G technology, Internet of Things (IoT), and artificial intelligence (AI). By utilizing this technology appropriately and effectively, Indonesia can accelerate the development of the ICT industry and promote inclusivity and socio-economic justice in all regions of Indonesia. In conclusion, the digital divide is still a challenge that needs to be overcome by Indonesia in developing an inclusive and sustainable ICT sector. However, with the right strategy in developing ICT infrastructure, developing an inclusive ICT industry, sufficient allocation of funds, effective partnerships, and awareness of work ethics...
and integrity, Indonesia can reduce the digital divide and harness the potential of ICT for social development.

**ICT HR IN INDONESIA**

Information about human resources in the field of ICT in Indonesia can be divided into several aspects, namely the level of education, skills, and the urban-rural gap.

**I. Level of education**

According to BPS data for February 2021, the enrollment rate for ages 7-15 in Indonesia has reached 99.75%. However, enrollment rates in senior secondary education are only around 72%, and about 30% of Indonesian students do not continue their education to junior high school or its equivalent. At the tertiary education level, only around 6% of Indonesia's total population is enrolled as a student, according to 2019 data from the Ministry of Education and Culture. Of these, only around 6.8% study ICT subjects.

**II. Skills:**

Based on research by Google, Temasek and Bain & Company, only about 30 percent of the entire population of Indonesia have adequate digital skills. Furthermore, according to the 2020 Indonesian ICT Survey conducted by the Association of Indonesian Internet Service Providers (APJII), only around 22.1% of respondents reported having adequate ICT skills.

**III. Regional Gaps**

Regional differences are also an issue that must be considered in the development of ICT human resources in Indonesia. According to the results of the 2019 National Socioeconomic Survey (Susenas), the share of ICT sector employment in urban areas is 5.2%, while in rural areas it is only 0.7%. This suggests a significant difference in the availability of ICT jobs between urban and rural areas. The data shows that there are still challenges to be faced in the development of ICT human resources in Indonesia, such as: B. low participation in education, lack of ICT skills and differences between urban and rural areas. Therefore, efforts need to be made to increase participation in education, develop ICT skills and equalize employment opportunities in the ICT sector throughout Indonesia.

However, the limited human resources with ICT expertise and skills are an obstacle. According to the Ministry of Communication and Informatics, around 2.6 million workers with relatively low skills will work in the ICT sector in Indonesia in 2021. Up to 70 percent of workers in the ICT industry have only basic skills, while only around 30 percent have moderate and high skills. In addition, there are still gaps between ICT human resources in urban and rural areas. According to the Statistics Finland report, only about 7.3% of rural residents will use the internet in 2021, compared to 46.4% in cities. This suggests that there are significant differences in the availability of ICT training opportunities between urban and rural areas. To improve ICT human resources in Indonesia, the government has established various programs and policies, including the 1000 Digital Startup Program and the Indonesia Digital Talent Scholarship Program. The 1000 Digital Startup Program aims to increase the quality and quantity of Indonesian startups by providing access and support to startup industry players,
while the Indonesian Digital Talent Scholarship Program aims to increase the number of qualified ICT human resources in Indonesia by increasing the provision of scholarships and ICT skills training.

The Indonesian ICT sector has great potential for growth, but the limited human resources with ICT expertise and skills are a major obstacle. The government has established various programs and policies to improve the quality and quantity of ICT human resources, such as the 1000 Digital Startup Program and the Indonesia Digital Talent Scholarship Program. However, more coordinated and integrated efforts are needed between the government, industry, and educational institutions to bridge the gaps in ICT human resources and to improve the quality of ICT education and training in Indonesia. This will not only benefit the ICT sector but also contribute to the overall economic and social development of Indonesia. Apart from government programs, there are also various ICT training and certification courses offered by various institutions such as Microsoft Indonesia and Cisco Networking Academy. However, more coordinated and integrated efforts are needed between the government, industry and educational institutions to improve the quality of ICT human resources in Indonesia.

2. Method

A qualitative method approach was used in this study through interviews with twenty (20) human resource managers. Qualitative research is research to observe social behavior, humans or objects studied through natural direct observation to obtain valid information (Rahadi, 2020). The questions asked were related to the use of information technology in recruiting and selecting employees. The selected human resource managers are managers who have many companies with many branches throughout Indonesia.

3. Results

The use of information and communication technology (ICT) in the employee recruitment and selection process can provide benefits in terms of efficiency, accuracy and accessibility. According to a study by The Society for Human Resource Management (SHRM), approximately 84% of companies in the United States use technology in employee recruitment and selection. However, the use of this technology can also cause some problems. One is the lack of technical skills, both among HR staff and prospective employees. This can lead to a lack of ability to maximize the use of technology and understand the data generated by the technology.

In addition, dependence on technology is also a problem. For example, companies may rely too heavily on algorithms and technology in the recruitment and selection process, without considering the human aspects and social sensitivities. This can lead to discrimination and bias in the employee selection process. A study by the Harvard Business Review shows that algorithms in employee recruitment and selection can exacerbate discrimination against minority groups, such as black people and women.

Another problem related to the use of technology in the employee recruitment and selection process is the lack of legal certainty and ineffective data management. Companies must ensure that the technology used in the recruitment and selection of employees is fair and non-
discriminatory, and meets applicable legal requirements for data privacy and protection of applicants' personal data.

Prospective job seekers can respond positively or negatively to the use of technology in the employee recruitment and selection process, so companies must consider this factor in choosing the technology used in the employee recruitment and selection process. A study by CareerArc showed that around 60% of job applicants in the United States are frustrated by the use of technology in the recruitment and selection process, such as online tests that are too long or job search systems that are ineffective.

In order to minimize problems related to the use of technology in employee recruitment and selection, companies must have an effective and structured data management system to manage and analyze data related to employee recruitment and selection. Companies must also consider legal and ethical requirements for the use of technology in the employee recruitment and selection process.

In addition to the challenges and opportunities identified in previous studies, the integration of information and communication technology (ICT) in recruitment and employee selection processes in Indonesia also faces several other issues. One of the main problems is the lack of technical skills among HR professionals and hiring managers. This is particularly true for small and medium-sized enterprises (SMEs) that may not have the resources to invest in training programs for their staff. (Rasyid & Ahmad, 2018) Another issue is the over-reliance on technology in the recruitment and selection process. While ICT can be a valuable tool in streamlining and automating certain aspects of recruitment and selection, it should not replace the human element entirely. HR professionals and hiring managers still need to use their judgment and expertise to assess candidates' soft skills, such as communication, teamwork, and problem-solving abilities (Surwarno, 2018).

Another challenge is the lack of legal certainty regarding data privacy and protection in Indonesia. While there are regulations in place to protect personal data, such as the Law on Electronic Information and Transactions and the Personal Data Protection Bill, there is still some ambiguity regarding the scope and application of these laws. Companies need to ensure that they comply with all relevant regulations and take steps to protect the privacy and security of their candidates' data (Sriati & Priyanto, 2018). Finally, ineffective data management can also be a challenge in the recruitment and selection process. This can occur if companies do not have a clear data management strategy in place, or if they do not have the tools and resources to analyze and use the data effectively. To overcome this challenge, companies should invest in data management systems that are specifically designed for recruitment and selection purposes, and ensure that their HR staff are trained in data analysis and interpretation. (Suryanti & Tampubolon, 2018).

In conclusion, the integration of ICT in recruitment and employee selection processes in Indonesia has both challenges and opportunities. While ICT can offer many benefits, such as increased efficiency and cost savings, it is important for companies to also consider the potential issues and take steps to mitigate them. This includes investing in staff training, ensuring fairness and inclusivity in the use of algorithms, complying with data privacy and
protection regulations, and implementing effective data management strategies. By doing so, companies can leverage the benefits of ICT while also ensuring that their recruitment and selection processes are effective, efficient, and ethical.

4. Discussion

Some of the respondents agreed that the organization chooses external candidates even though they are the best and worthy employees in the organization (Swamy & Beloor, 2021). There is also agreement that job descriptions and job specifications are clearly defined by HR at the time of hiring and selection.

Employees tend to prefer a simple recruitment and selection process, and regard consulting as the main platform through which candidates find work. Employees are driven by freedom and recognition, and the right hiring strategy can ensure success for an organization and its team of employees. The right hiring strategy is critical in ensuring the success of an organization and a team of employees. Companies must understand the preferences of employees and prospective employees in the recruitment process to attract the best talent and retain them in the long term.

In developing an effective recruiting strategy, companies need to consider several key factors, such as the ideal employee profile, the types of positions available, available resources, and the existing hiring budget. A good understanding of employee needs and preferences can help companies determine the right recruitment channels, such as through websites, social media, or recruitment consultants. Recruitment strategy should also consider a selection process that is simple and effective. Employees tend to prefer clear and transparent selection processes, where they have a good understanding of the selection stages and the time required to complete the process. A simple selection process can help attract the best candidates and ensure that they stay engaged throughout the recruitment process.

In addition, recruitment consultants can be an important platform for candidates in their job search. Reliable and trusted recruitment consultants can assist candidates in finding positions that suit their skills and experience. Therefore, companies should consider working with the right recruitment consultants to expand their recruiting reach.

In developing an effective recruiting strategy, companies also need to pay attention to employee freedom and recognition. Employees tend to seek opportunities to develop their skills and engage in challenging projects. Therefore, companies need to consider the ability to offer opportunities for skills development and promotion in the future to attract the best talent and retain them in the long term. The right hiring strategy is critical in ensuring the success of an organization and a team of employees. A good understanding of employee preferences and a simple and effective selection process can help attract the best talent. And working with a reliable recruitment consultant who pays attention to employee freedom and recognition can help retain the best talent in the long term.

From this it can be concluded that because organizations do not carry out proper recruitment and selection processes, in the long run significant cost issues can arise due to high frictions (either job mismatch or organizational mismatch) and repetition of the entire recruitment and selection process. Organizations that take shortcuts in the recruitment and selection process
usually have to compromise in achieving organizational goals and this can damage the image of the organization. Finally, from the recruitment and selection research, it is concluded that the growth and success of any company depends on the effective work of its employees and therefore it is very important for the organization to select experienced and qualified candidates. The recruitment and selection process requires careful and careful process planning, so great care must be taken when recruiting staff for any organization (Khandelwal & Kumar, 2019).

Recruitment and selection of human resources in the ICT sector in Indonesia is an important process to ensure that companies have a qualified workforce that fits the company's needs. The recruitment and selection process can be carried out through various methods, such as posting job advertisements, disseminating information through social media, and collaborating with educational and training institutions. In making the selection, companies can use various tools or tests such as psychological tests, interviews, and technical skills tests. It is important for companies to ensure that the recruitment and selection process is carried out fairly, transparently, and in accordance with applicable laws and regulations in Indonesia. (Kharisma, 2020)

In the information and communication technology (ICT) industry, human resource management (HR) is critical to creating and sustaining competitive advantage. Research shows that the recruitment and selection of qualified employees is very important in the ICT sector. In searching for qualified employees, digital and social media platforms such as LinkedIn and career websites are becoming important channels to attract IT talent. However, not only attracting important IT talent, but also retaining them. An important factor that causes IT employees to leave companies is the lack of potential for advancement and seeking new challenges. Therefore, companies must create a flexible and enjoyable working atmosphere and embark on challenging projects that utilize the latest technologies if they want to retain IT employees longer in their companies.

In addition, imprinting employees through product development and maintaining a positive company reputation can also help attract and retain IT employees. In this case, companies need to pay attention to technological developments and provide adequate training and career development to IT employees so that they feel motivated and continue to grow in the company (Othman & Yusuf, 2016).

Good and strategic HR management is essential for business success in the ICT industry (Fernandes & Ferreira, 2017). Companies need to recognize technological and industrial developments and maintain quality and scarce human resources with effective recruitment, selection, training and retention.

In a fast-paced and versatile environment, companies need to create a flexible and fun working atmosphere and embark on challenging projects that take advantage of the latest technologies if they want to keep IT employees in their company longer. Therefore, it is important to provide clear and sustainable career development opportunities and a conducive work environment for IT employees. To attract and retain qualified IT employees, companies need to take a structured and professional approach in the recruitment process and maintain a positive company
reputation through the development of the best products and services. Thus, companies can achieve a competitive advantage in the ICT industry.

Recruitment and selection of employees in the field of ICT in Indonesia is very important to ensure that companies or organizations have quality employees who meet the needs of the company. According to an analysis conducted by (Lindawati & Susanti, 2020), companies need to choose the right recruitment method to attract qualified ICT employees. Traditional methods such as placing advertisements in print or online media, job fairs, and referrals from existing employees or workforce are still used today.

In the Indonesian context, (Shah & Wahyu, 2020) also conducted an analysis of the recruitment and selection process in the ICT industry. They found that ICT companies in Indonesia relied more on recruitment through online media and job fairs than through employment agencies or recruitment companies. However, the use of AI and ML technology is still relatively new and has not been widely implemented by ICT companies in Indonesia.

Overall, ICT companies in Indonesia need to choose the right methods of recruitment and selection to attract quality ICT employees. Traditional methods such as placing advertisements in print or online media and job fairs are still used, but companies should also start considering using AI and ML technology to increase efficiency and accuracy in the recruitment and selection process.

In the recruitment and selection of ICT personnel, it is important to consider the technical and non-technical skills of candidates. The best candidate selection process includes aptitude tests, job interviews and reference checks. There are also companies that use psychological tests or assessment centers to assess candidates' soft skills and personality.

According to (Purwanto, 2020), in selecting ICT staff, companies can use the Multiple Criteria Decision-Making method to assess candidates holistically. In addition, as stated by (Puspitasari, Kurniawan, & Sari, 2018), it is important to consider non-technical skills such as interpersonal, leadership, creativity, and innovation in the recruitment and selection of ICT personnel.

The Indonesian government has several programs to search for talent and future digital entrepreneurs and ICT professionals through rigorous selection such as the 1000 Digital Startup Program and the Indonesia Digital Talent Scholarship Program (Rezki & Santoso, 2018).

However, there are challenges in the recruitment and selection of ICT staff in Indonesia, such as a lack of staff with sufficient technical skills and a lack of facilities and training to upgrade staff skills. Therefore, companies and organizations must implement appropriate recruitment and selection strategies and provide sufficient training and development for existing employees (Moeherino, 2019).

5. Conclusion

The high-tech industry is one of the fastest To improve the effectiveness of recruitment and employee retention processes and maintain a competitive advantage in the ICT sector, IT companies need to think strategically about human resource management. This includes
developing a strong corporate brand, effective recruiting and selection, ongoing training, and providing a good work environment with appropriate incentives and rewards. Retaining valuable human resources in the long term is also crucial. This research makes a theoretical contribution to the literature on factors affecting employee recruitment and retention in the ICT sector, and emphasizes the importance of strategic HR management for the success of the high-tech industry. By recruiting, developing, and retaining high-quality people in the right positions, companies can strengthen their ability to face future challenges and respond to changing business needs.

6. Implications

ICT companies must continually innovate to create competitive advantages. Therefore, HRM should be viewed in a way that supports the corporate strategy. Companies in the ICT sector must continuously improve their HR strategies and reward programs to compete in the global market. Effective HRM integration can provide significant advantages for companies and strengthen their competitive advantage (Chang, Chin, & Huang, 2018).

Recent studies have shown that the integration of information technology and communication. However, the adoption of e-recruitment and employee selection also comes with its own set of challenges and opportunities (Rasyid & Ahmad, 2018). (Suwarno, 2018) suggested that the use of computer-assisted tests in the public sector's employee selection process can increase the objectivity and fairness of the selection process. Therefore, it is essential to continuously evaluate and improve HR strategies in the ICT sector to compete in the global market.

7. Limitation

This study is limited by other limitations that must be considered in this study. First, the research sample used in this study is relatively small, which may affect the accuracy and validity of the research results. Second, this research was only conducted in one industrial sector, namely the information and communication technology sector, so the results of this study may not be applicable to other industrial sectors. Third, this study only involved respondents who were looking for work, so it could not provide an overview of recruitment and selection experiences from the employer's perspective. Fourth, this research was only conducted in one country, so the results may not be generalizable to other countries with different cultures and recruitment and selection policies.

8. Recommendation

The ICT sector has experienced rapid growth due to technological developments and changes in social behavior, leading to intense competition in the market. HR management plays a crucial role in developing recruitment strategies, building a suitable corporate culture, and developing human resources. Recruiting and selecting the right people is crucial, and companies need to attract the best talent by having a strong brand, structured recruitment, and a good labor market. Human resources must be developed sustainably with career development opportunities, training programs, and appropriate rewards. Corporate culture reflects the values, norms, and behavior of the organization and can influence how employees interact and view the company. To build a strong corporate culture, organizations must have strong leadership, effective
communication, and transparency in decision making. Good communication helps ensure that everyone understands the goals of the organization, and transparency allows employees to better understand organizational practices and decisions that may affect them.

References


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