

Chapter 10 Recruitment of personnel in companies using the 4.0 technique in times of COVID-19

Capítulo 10 Reclutamiento del personal en empresas utilizando la técnica 4.0 en tiempos de COVID-19

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Abstract

Recruitment is part of staffing in the area of human resources to integrate the right people into organizations. However, technological platforms have been implemented in this type of process thanks to industry 4.0. That is why this research of non-experimental design, retrospective research, qualitative method aims to analyze the results obtained in recruitment 4.0 as a result of its implementation by the COVID-19 pandemic in Mexico. Considering for this articles and theses that talk about this.

Recruitment 4.0, Human Resources, Staffing, COVID-19

Resumen

El reclutamiento forma parte de la dotación de personal en el área de recursos humanos para integrar a las personas adecuadas a las organizaciones. Sin embargo, las plataformas tecnológicas se han implementado en este tipo de procesos gracias a la industria 4.0. Es por ello, que esta investigación de diseño no experimental, investigación retrospectiva, método cualitativo pretende analizar los resultados obtenidos en el reclutamiento 4.0 a raíz de su implementación por la pandemia por COVID-19 en México. Considerando para ello artículos y tesis que hablen sobre esto.

Reclutamiento 4.0, Recursos humanos, Dotación de personal, COVID-19

10 Introduction

Society is constantly undergoing changes, facing challenges (social, cultural, political, economic, among others), which force organizations to respond immediately (Alfaro, 2012). Similarly, important changes in the personnel area occurred in Mexican companies due to the COVID-19 pandemic,

In relation to the field of human resources management (HRM), it is clearly reflected that it had to comply with its purpose, which is to efficiently and effectively use the resources in any social organization (Alfaro, 2012). Transformations had to be made in the processes developed, such as in the integration of personnel, specifically in recruitment. Although many companies use their own intranet, as well as their websites and other public websites of job offers to recruit candidates (Snell & Bohlander, 2015, p. 181).

To better understand, Human Resource Management "Is the area of management concerned with all aspects of an organization's personnel: determining staffing needs, recruiting, selecting, selecting, developing, mentoring and rewarding employees; liaising with unions and handling other welfare issues" (Byars and Rue cited by Alfaro, 2012). That is why, every function and activity that this department develops becomes relevant, since people are required in every department, in order to achieve organizational objectives. In addition, it is not easy to achieve effective recruitment. First, some recruitment methods are better than others, depending on the position. Secondly, recruitment depends on extraneous issues such as pay scales. Third, labor laws determine what the employer can do (Dessler, 2015, p. 95).

Added to this, despite the fact that recruitment has evolved, little is known about the 4.0 technique that has been practiced in companies, hence this research has been given the task of analyzing and explaining what has been done in practice with respect to this sub-process belonging to staffing, so that other companies can continue to apply it.

Thus, this research contains the following sections: literature review, methodology, results, conclusions and references.

10.2 Literature Review

Human Resources Management

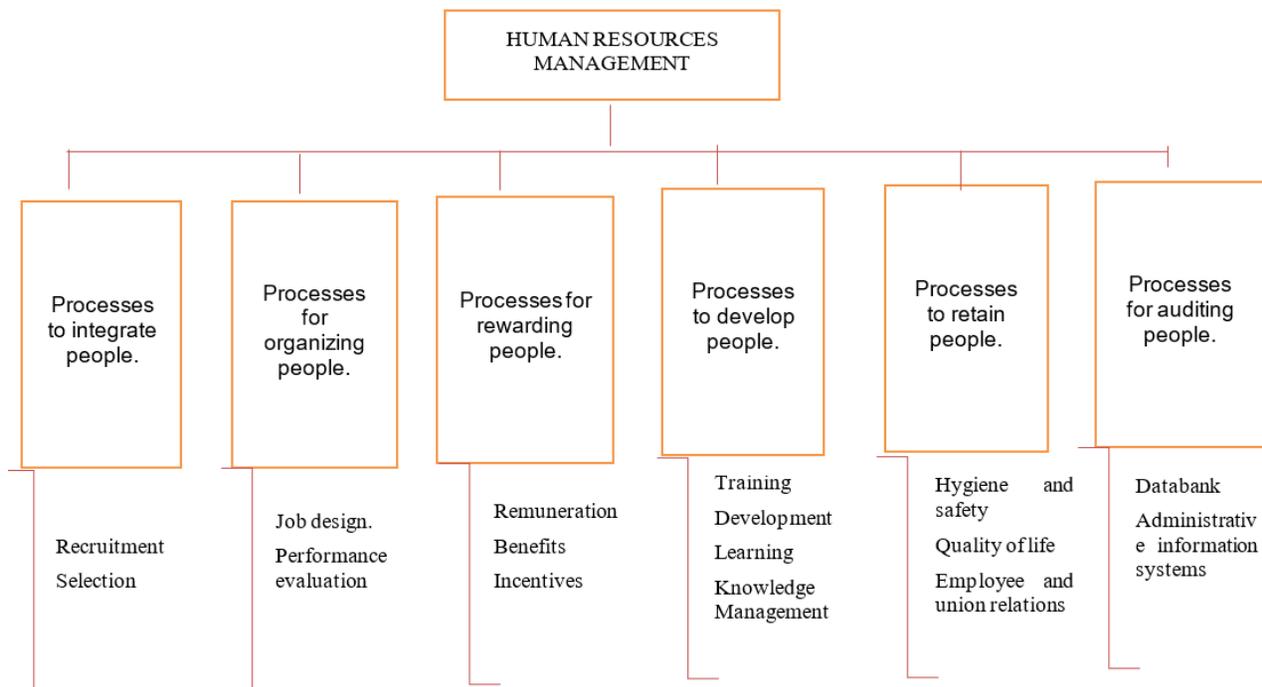
Human resources administration has the enormous responsibility of the entire human element within a company, since it not only deals with hiring and firing, but also with the management and precise strategy so that each of the collaborators can make their potential grow (COFIDE, 2022). It is also the discipline in charge of planning, developing and managing aspects related to work teams in an organization. It focuses on maximizing the potential of people to achieve the objectives of the organization (Castelan, 2023).

In addition, its radius of action contemplates aspects such as recruitment and selection, compensation, social benefits, occupational health and safety, organizational development, personnel training and development, labor relations, database and information systems, and auditing (Armijos Mayon, Bermudez Burgos, & Mora Sanchez, 2019). It includes some important processes that it develops in its functions (See Figure 10.1).

Since people ceased to be perceived only as a resource for the company, they subsequently became the human capital invested in to achieve organizational objectives, and became the talent to be identified in the market, to be integrated into organizations.

This is done by attracting these talents through recruitment.

Figure 10.1 Human Resources Management Processes



Source: *Human Resources Administration (Chiavenato, 2011).*

Staffing

In the field of labor relations, the process of human talent management is called staffing. This includes all activities developed to recruit, hire, orient, retain and dismiss employees, which must follow a logical step-by-step process (Jimenez, 2021).

Staffing can be internal or external, depending on the unit in charge of performing the tasks. Internal staffing implies that these activities are executed with people from the human resources area, while for external staffing consists of activities executed by people outside the company (Jimenez, 2021), these types of staffing contribute to the formation and continuous updating of the talent pool that will serve as a source for future recruitments.

Furthermore, according to Rodriguez (2007) that staffing includes the processes of recruitment, selection, hiring and induction, to acquire the necessary personnel to be incorporated into the company as vacancies open up (p. 145).

Recruitment

Definition

A very basic definition of recruitment says that it is finding and attracting candidates for the employer's vacant jobs (Dessler, 2015). However, it is further considered as the process of gathering applications from individuals, identifying and attracting skilled and suitable prospective employees for the fulfillment of organizational objectives, once the distinctive elements that the candidate should possess can be established one can decide on the sources of recruitment as ideal (Ortega, 2016) Also, in 2015, Sanchez (Guerra, 2022) considered it as the process of identifying the best qualified candidates, qualified to take a defined position in a period of time, its purpose is to attract selectively through different techniques to candidates who meet the predisposed requirements that the position so requests. Recruitment not only involves seeking talent pools of employees, but making the effort to understand what they want and the establishment of the company as an employer of choice so that people will want to work for it (Snell & Bohlander, 2015, p. 180). Recruitment is the process of identifying qualified candidates to fill the organization's vacancies (Werther & Davis, 2014).

Types of recruitment

When an organization needs personnel to fill any vacancy, it must say whether it will carry out internal recruitment, referring to that which takes place among the personnel of a company; or external recruitment, with people available in the external labor market (Werther & Davis, 2014). Internal recruitment occurs when the company tries to fill a given vacancy by rearranging its employees, with promotions, transfers, transfer with promotion, which also involves personnel development programs and career plans for staff (Chiavenato, 2011, p. 133). External recruitment impacts actual or potential candidates, available or employed in other organizations, through techniques that the organization uses to disclose the existence of a job opportunity (Chiavenato, 2011, p. 136).

Recruitment Techniques

Some of the advances in the way of recruiting have been the following:

Recruitment 1.0 In this, candidates saw job offers published in newspapers and went with the resume in hand to the company to apply for the job. Companies collected the resumes and stored them in a multitude of folders depending on the selection process they were applying for (DocuSign, 2021). Therefore, 1.0 was also underestimated for the quality and management of this technique, it is the one that can be considered the least developed, since its role is totally transactional, the structure that human resources have within an organization is small (Molinero, 2020). Recruitment was done only from personal databases of each company, which were difficult to maintain. Then, recruitment processes were more complicated and had limitations for both employers and prospective employees (Dempsey, 2016).

Recruitment 2.0 Includes offers that were disseminated through the World Wide Web and made it easier for companies to access candidates and attract talent. Now more people arrive as ideal candidates to fill the position, in different recruitment portals through different social networks (Arranz, 2022). Both the 2.0 technique no longer has the same function as the 1.0 version, this leads to the structure is not handled as a unit, but the functions are dispersed, with many responsible for each subsystem, generating horizontal organizational structures; in terms of technology, it gives a big step for the use of software to improve the experience of both the employee and the person who manages human resources, as observed also facilitated the work of the recruiter was already a little easier and simpler to perform there we can realize that they were evolving gradually.

Recruiting 3.0 or Mobile Recruiting refers to the search for talent through mobile devices that allows reaching a greater number of candidates through different media such as websites, social networks, job boards and more. The aim is to make the professional want to join the organization (Grupo Gestal, 2023). This arises in 2011 with the increased use of the Internet, using various networks, such as LinkedIn that begins to gain strength and more professionalized job portals appear (Dempsey, 2016). In addition, with recruitment 3.0 it is sought that applications and the internet not only allow you to apply for the vacancies you need to fill, but also allows you to get all the information you need to make an informed decision. 88% of companies acknowledge reviewing the identity or digital footprint of their candidates on the Internet and their social networks (HR Management, n.d.).

Recruitment 4.0 This type of recruitment is focused on the possibilities offered by social networks to find the best prepared candidates with the necessary characteristics to join the companies, and with the sufficient and necessary talent that each department of the organization needs. The digital transformation has made the use of these platforms important for companies not only to attract, retain talent and obtain a good digital reputation, but also for the candidates themselves. Currently the 4.0 technique is the most used since the methods changed, it could be said that both facilitates the work is carried a better control. The resume is not something theoretical, but you can prove your worth with projects and case studies in an updated way (Bizneo, 2022).

AI benefits in the recruitment, hiring, identification and attraction of talent to perform a given job and produces an increase in impartiality, thus decreasing the risk of biased hiring (Garcia, 2021).

A notable difference in recruitment 4.0 is: brand image. Not only for companies, but also for candidates: the so-called and more than well-known personal brand (Estébanez, 2019). In this sense, the advantages of this type of recruitment are: a) Access to a greater number of candidates, b) Optimization of time and money, c) Greater segmentation, d) Skills and competencies in sight and in real time, e) Ease of networking (virtual events), and f) Access to new methods of personnel selection (Gamification, Inbound recruiting, Nanotechnology).

On the other hand, the digitalization of recruitment is no longer limited only to the publication and dissemination of a vacancy on the Internet, CompuTrabajo highlights that technological advances today allow to centralize the applications received from various sources, filter them and even evaluate the interviews. According to the platform, recruitment 4.0 can reduce the hiring process by up to 30% and increase agility by 80% (Hernández G. , 2022).

In the COVID-19 event, the most viable was the use of the 4.0 technique, emphasizing online communication, discovering and executing the new selection management, since nowadays it is considered efficient, giving positive results and better control of the selection. As part of the challenges that organizations face as a result of the pandemic by COVID-19, the tasks of recruitment and selection of personnel are an essential point that needs an adaptation to changes and trends (Cortés, 2022).

10.3 Methodology to be developed

The present study is of non-experimental design due to the fact that what is done in this type of design is to observe phenomena as they occur in their natural context, in order to subsequently analyze them (Hernández, Fernández, & Baptista, 2014). Qualitative type, research that is oriented to qualify and describe the social phenomenon from determining features, as perceived by the elements themselves that are within the situation studied (cited by Bonilla and Rodriguez, 2000, in Bernal, 2010).it is also a longitudinal research, which refers to comparing data obtained at different times or moments of the same population, with the purpose of evaluating changes (Bernal, 2010) retrospectively, since it studies past events. This is because the articles and theses used to analyze the information are from the period of the COVID-19 pandemic in Mexico (2020-2022). On the other hand, this research was only applied to analyze recruitment 4.0, because thanks to new technologies help to obtain a fast, agile and dynamic activity; this means that, with the set of tools offered by this modality, it is possible to overcome and change the old methods of the selection process making them more efficient (Rodríguez-Altamirano, Higinio-Meléndez, & Ovalle-Paulino, 2021).

The search was done through open access search engines such as Google Scholar and Scielo, identifying four theses and four articles that were directly related between recruitment 4.0 and its use in the wake of the pandemic by COVID-19 (2020-2022).

10.4 Results

A synthetic-analysis of the documents obtained (four theses and four articles) was carried out, to subsequently perform the content analysis of these.

Table 10.1 Analysis of Theses

THESIS			
TITLE	YEAR	SUMMARY	CONCLUSION
HR 4.0 La transformación digital de RRHH (Simón, 2021)	2021	Based on the experience of leading companies in the Argentine market that went through and continue to evolve in this challenge, we will study how they implemented the transformation, their most advanced practices, how the role of HR was modified, as well as the main obstacles they faced and the lessons they were able to incorporate. In addition, we will explore the state of the art of HR digital transformation, including how it is affected by the current global pandemic context.	HR teams undoubtedly face an enormous challenge and must be able to keep up with the demands of the 4.0 revolution. Their own transformation and subsequent management towards the rest of the organization will be what will allow them to remain competitive in the VUCA environment in which we are immersed. For HR, this is an opportunity to rethink their structures, incorporate agile methodologies, redesign their processes with a focus on the customer, reduce time on tasks of little added value to focus on defining strategy and lead the upskilling of the organization. It is essential to convey to the team the enormous advantages that this entails, ranging from broadening their profile and developing new skills to taking the employee experience to another level. Companies are demanding a new HR adaptation, they need to be strategic allies and ambassadors of the cultural change that the digital transformation (not only of HR, but of business in general) requires. It is a historic moment where we are invited to transform ourselves from the inside out, to create the culture and mindset that enables collaboration, innovation and digitization of our processes and products. HR professionals are not alone, there are many who have already embarked on the challenge and, based on trial and error, are helping us to build this new framework. Let's continue to generate spaces for exchange to enrich our vision, understanding that nothing is static and we are all evolving together, and it is precisely in diversity where we will find new opportunities.
La industria 4.0 en la gestión de los recursos humanos (García Rodríguez, 2021)	2021	According to the methodology followed, a literature review on Industry 4.0 and HR management has been conducted, with the main objective of showing the existing relationship between both terms; in addition to the exposition of a series of cases in which several companies have used different technologies in their HR processes.	We have been able to verify that depending on the human resources management task (recruitment, selection, training, evaluation...) to be automated, a company will have to decide to implement one technology rather than another. Furthermore, we can say that there are technologies that are used on a greater average and others that are used less, due to the fact that the latter are more aimed at performing other types of tasks that are not related to the human resources area of the company.

Reclutamiento 4.0 (Pastor, 2020).	2020	This work collects a study on Human Resources Management in organizations, with emphasis on human resources recruitment, more specifically on recruitment 4.0. I have chosen this topic because I consider this section as the most important of Human Resources, since it aims to find the best people for a specific job, resulting in increased productivity. I also wanted to analyze Recruitment 4.0 because I believe that companies should rely on ICT to improve human resources management. Also, this work contains practical examples of Recruitment 4.0. The first objective of this final thesis is to demonstrate the growing influence of new technologies in recruitment.	It should be noted that one of the events that has prompted companies to automate some of their processes (not only those of human resources) has been the health crisis of the HIV/AIDS pandemic, with the main objective of reducing the number of infections.
El reclutamiento 4.0 en la era digital (Hernández Martínez, 2020)	2020	In recent years, the recruitment department has advanced along with new technologies. The current market has been digitalized due to the technological revolution, as a consequence, it is now more competitive and open. The new business success lies in attracting talent by deploying online strategies for HR experts to attract and retain potential through marketing. New applied technologies, digital recruitment and staff loyalty are some of the challenges facing recruiters in the 21st century. This paper begins by analyzing the concepts of recruitment, its digital transformations, the application of digital marketing and the key events for the HR area that will predict the future of recruitment and the main trends in attracting talent.	In terms of recruitment, more emphasis must be placed on the use of the new technologies that today's world offers us, since it has many benefits for the company, already mentioned above, such as a better image for the company's brand, lower costs, speed in the whole process, greater access to information, etc.

Source: Own adaptation

Table 10.2 Article Analysis

ARTICLES			
TITLE	YEAR	ABSTRACT	CONCLUSION
Modelo de proceso de selección de personal utilizando las técnicas de Reclutamiento 4.0 y Plataformas Digitales en tiempos de COVID-19 (Rodríguez-Altamirano, Higinio-Meléndez, & Ovalle-Paulino, 2021).	2021	This scientific article presented a proposed model for the selection process using novel techniques, such as recruitment 4.0 together with digital platforms. It guarantees the realization of the process adapted to the new recruitment trends and to the measures opted by the Government to stop the advance of COVID-19; all this allowed to obtain as a result an efficient and effective model of selection process that guaranteed the decrease of time and costs.	Likewise, the proposed model is adapted to the measures that must be taken due to the pandemic that we are currently experiencing, making it applicable and very generic for its application in companies. Finally, the proposed model, counts with the techniques of recruitment 4.0 and the use of digital platforms that are adapted to the new normality that will be experienced after and during the duration of the pandemic.
La industria 4.0 y las nuevas formas de trabajar: una perspectiva desde el caso mexicano en tiempos del COVID-19 (López, 2020).	2020	The objective of this paper is to analyze the new ways of working and their social protection as a result of Industry 4.0 from a Mexican perspective with emphasis on COVID-19 times.	The pandemic generated by the COVID-19 has shown that certain work activities can be performed without the need to travel to the workplace thanks to the use of ICT's, however, it has also shown that some societies (as in Mexico) are not able to perform it, either by the lack of skills and digital skills of people or otherwise, by the lack of inputs to perform it.
Reclutamiento y selección virtual por competencias (Valeriano Ortiz, 2021)	2021	Technologies have changed the way of conceiving and developing the lives of people where work is not alien to it, these technologies have allowed to perform new ways of working that previously had not been implemented and currently have gained strength by the pandemic generated by the virus COVID-19.	Companies have their development agenda reflected in their strategic and tactical plans to incorporate new employees. To achieve leadership and competitiveness, companies have to bet on change and need to hire people with creativity and innovation.
El Enfoque RR.HH. 4.0. ¿Está Cambiando Finalmente La Función Recursos Humanos? (Cardozo, 2021).	2021	The sustained advance of the digital economy is finally impacting HR management in organizations. A change that is in full swing and that highlights the inertia that the function has had for decades compared to the rest of the basic organizational functions. On this point, there is international consensus that the area has been the least evolved in terms of hierarchy, structure and management, modifying over time only operational issues. However, the technological impact and the emergence of proposals such as HR 4.0, e-HRM or Agile HR with digitalization as a common pattern would seem to finally evidence the necessary adaptation to the context and the enrichment of the function. The paper discusses the already historical demand for changes in the area, the necessary bases for such transformation, the characteristics of its eventual implementation, and a preview of the state of affairs in a sample of local companies.	Finally, it should be mentioned that during the development of this work, the COVID 19 pandemic emerged, with some consequences already known, others in development and others still unknown at all levels of human life. From a business perspective, some recent works show results on how companies that had been developing agile management were able to adapt much more quickly to this uncertain context with measurable evidence from practice. This adaptation involved increasing the speed of decision making, while improving productivity, using technology and big data. The combination of technologies, big data, reinvention of processes and new collaboration tools generated the so-called post-pandemic rapid organization.

<p>Los efectos de la pandemia de COVID-19 en la industria de la construcción del Reino Unido y proceso de negocio aprueba de fututo. (Stride, 2023)</p>	<p>2023</p>	<p>COVID-19 was officially declared a global pandemic by the World Health Organization (WHO) on March 11, 2020, before the UK was confined on March 23, 2020. Organizations had to reconsider their policies and procedures to allow their business to continue. This paper focuses on the effects of COVID-19 that the UK construction sector has had to undertake to enable businesses, while employees had to comply with the COVID-19 confinement rules. In addition, how the sector can continue positively once normality has returned within the industry. In doing so, this paper understands the historical problems within the construction sector and have had an effect during COVID-19.</p>	<p>COVID-19 has changed the way we work and the way companies operate and therefore studies on how companies have had to adapt have been critical to help protect against radical change against future pandemics and organizational crisis. There is a culmination of issues that the construction industry is struggling with due to the coronavirus pandemic, but this research also takes into account the historical issues that have been inflated due to the pandemic within the sector that allows for a collaborative approach to help move forward and progress collectively. Therefore, by completing a literature review of current research and interviewing construction workers who provided real evidence of the issues and adaptations within their organizations, this study has reviewed the barriers of Covid-19, organizational crisis, prefabrication, Industry 4.0, skills shortages and job termination, the 2008 UK recession, mental health and wellbeing, health and safety, cost inflation and the UK housing shortage. Subsequently, this research has completed its objective of understanding the historical issues within the sector, the impact that COVID-19 is having on businesses and employees and concentrates on the changes that the construction sector has had to undertake to enable businesses and employees to adhere to the COVID-19 confinement rules and how the sector can continue positively once normality has returned within the industry.</p> <p>Once all the information was reviewed and analyzed, the data collection was completed, allowing a comprehensive perspective of the industry to be concluded. The research found that there are serious problems within the industry, and the research suggests that a more diverse workforce could have enormous benefits in producing new technologies, reducing skills shortages and building more homes. However, it was suggested that the industry needs to provide better working conditions for both current workers and attract people to join the sector by offering remote and flexible conditions, better health and safety environments and upskilling the current workforce. This will enable program reductions, which will cause fewer delays and save costs in the long run.</p>
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			<p>The information also showed that organizations should invest in greater use of technology, as respondents felt that this would have a positive impact while working remotely, but also</p> <p>AAM: Innovation in Construction: Information, Process, Management</p> <p>explaining that greater use of prefabrication would reduce schedules and create safer working environments as materials would be manufactured in factories and improve social distancing on site.</p> <p>It was understood that Industry 4.0 could also have a positive impact on mental health and well-being, as greater use of technology would aid colleague interaction with the use of initiatives such as virtual "coffee mornings." In addition to this, respondents state that organizations need to invest more to help combat mental health and wellbeing issues within the workplace and that it benefits employees and improves morale within companies.</p>
<p>El proceso de transformación digital en el sector de la pequeña y mediana empresa (PYME) en la era de la pandemia COVID-19: un estudio de Polonia y Croacia (Kuczevska, 2023)</p>	<p>2023</p>	<p>This paper aims to explore the extent to which the pandemic has forced SMEs to accelerate their digital transformation efforts to remain competitive and adapt to the changing business landscape. The focus is on three key research questions: how did digitalization manifest itself in SMEs prior to the pandemic outbreak? How did the digital transformation of SMEs evolve during the pandemic? And what business challenges SMEs face in the post-COVID period due to the acceleration of digital transformation? For the empirical research, qualitative research methods such as in-depth interviews in 10 SMEs in Poland (six) and Croatia (four) are used. The main results emphasize three main findings. First, even before the pandemic, SMEs recognized and used several digital transformation technologies to improve their business processes and performance. Second, the development of digitization processes in SMEs observed during the pandemic was driven primarily by the need for remote working, e-commerce, virtual events, and automation of business relationships among all stakeholders. Third, the post-pandemic world confirms the need for SMEs to invest in cybersecurity, talent acquisition, infrastructure, customer engagement and data privacy to remain competitive in the digital economy.</p>	<p>To investigate the progress of digital transformation processes in Polish and Croatian SMEs before, during and after the pandemic, ten companies were studied in the form of interviews. Interviews with Polish and Croatian companies show that the pandemic outbreak was an accelerating factor for this transformation. It contributed to the digitization of more operational areas of companies that were previously non-digital or only to a limited extent, such as sales or marketing. The growth prospects of companies are closely linked to the increasing global digitization of societies, which affects the volatility of GVCs. On the other hand, the adoption of digital solutions promotes adaptation to an unpredictable external environment. Companies in the post-pandemic period see the need to conduct some of their business in a hybrid way, such as contacting potential customers.</p> <p>This study contributes twice to the discussion and research on digitization processes in SMEs. First, it contributes to the literature on digital transformation and the links between pandemic crises. Second, it shows that digitization processes are not temporary and help to improve the operational performance and competitiveness of firms, especially in times of global turmoil.</p>

			<p>Overall, the research contributes to the literature on knowledge about digital transformation processes and the extent of pandemic digital change, including its lasting nature for business operations. The relatively small number of interviews allows extending the present study to other countries and companies. In addition, it is worth noting that the research focuses on a specific group of companies, e.g., the ICT industry, that the digital organization of the company may affect. The potential development of further research in this area, as the global economy is still in the post-COVID-19 era, and the topic of digital transformation should be further explored.</p>
<p>Evaluación de actividades y participación con respecto a un programa piloto de vacunación contra el COVID-19 en el lugar de trabajo en el sur de Alemania considerando la perspectiva de la salud ocupacional: un estudio de métodos mixtos. (Wagner, 2023)</p>	<p>2023</p>	<p>This mixed-methods study retrospectively assessed the attitudes and participation of employees, occupational health staff and key personnel regarding the deployment of a pilot COVID-19 workplace vaccination program in five German companies in May/June 2021 in Baden-Württemberg (southern Germany) by combining survey data and qualitative interviews. A total of 652 employees completed a standardized questionnaire and we conducted ten interviews with occupational health staff and key personnel with other professional backgrounds organizing the workplace vaccination pilot program. The survey data were analyzed descriptively and the interviews were audio-recorded, transcribed verbatim, and analyzed using qualitative content analysis. Employees participated extensively in COVID-19 vaccinations at their workplaces, and the majority of employees (n = 608; 93.8%) had full COVID-19 immunization at the time of the survey. The main advantages of the COVID-19 workplace immunization pilot program were seen in the flexible and time-saving immunization offer, as well as the trust and long-standing relationship with occupational health physicians. The main disadvantage of the pilot vaccination offering was the increased workload for occupational health staff, especially during the launch phase of the program. The COVID-19 workplace vaccination pilot program was predominantly evaluated positively, and the important role of occupational health services in the management of the COVID-19 pandemic was highlighted. The main criticisms of the COVID-19 workplace vaccination program were related to the high organizational and administrative burden. The findings of our study may support the development of future programs for the administration of the generally recommended workplace vaccination in Germany.</p>	<p>We conducted a comprehensive mixed-methods study to retrospectively evaluate the COVID-19 workplace vaccination pilot program in different companies initiated by the Ministry of Social Affairs, Health and Integration in Baden-Württemberg, Germany. In summary, we identified a predominantly positive evaluation and considerable participation in the COVID-19 workplace vaccination pilot program in five companies in southern Germany (Baden-Württemberg). We found that adding the workplace setting and including occupational health physicians could actively support the launch of the COVID-19 vaccination campaign in Germany. One explanation here is the long-standing and trusting relationship that employees have with occupational health physicians, and the important role that occupational health physicians incorporate in the delivery of medical care and prevention in the workplace. However, we also identified challenging aspects, including low vaccination rates in some companies and a generally high workload for occupational health services, especially during the overall implementation phase of the COVID-19 workplace vaccination pilot program. Therefore, we need to learn more about the hesitancy in workplace vaccination and determine the extent to which occupational health services can help increase vaccination rates across the workforce.</p>

			<p>From our perspective, there is a crucial need for a systematic review and evaluation of the administration of generally recommended vaccines in the workplace to assess and compare their quality and derive recommendations regarding the development and implementation of future vaccination programs. In addition, we detected employee recognition of the important role played by occupational health physicians in the fight against the COVID-19 pandemic.</p> <p>The occupational setting was shown to present an additional opportunity beyond general practices to provide easily accessible, flexible, and time-saving preventive medical care and infection prevention during the COVID-19 pandemic. The current results of the COVID-19 workplace vaccination pilot program and the important role of occupational health services (e.g., provision of vaccination services, timeliness of consultation, and occupational health expertise) should be further considered in future vaccination campaigns in and outside the workplace.</p>
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Source: Own adaptation

According to all the data obtained from the analysis of each of the articles and theses, the results show that the evolution should be frequent and using digital media because at the time it was necessary to have knowledge of it, since it is, how to apply it and how the organization is benefited in the recruitment of an effective staff.

In addition, it was noticed that the theses and articles that were analyzed talk about the importance of having a good human talent through digital media, at the beginning it was complicated since it was unknown the subject, so today it is already common to use the 4.0 technique.

Due to the drastic changes that are occurring in society, companies must be attentive to meet the needs of consumption and the company itself. That is why the recruitment and selection process should not be taken lightly. Therefore, we must move on from the traditional view that considered recruitment and selection processes as specific acts within the company and integrate these processes as a fundamental part of the life and growth of the company.

If the personnel selection process is not done correctly and a worker is hired who is not suitable for the position, it can cause the company low productivity. It is useless to develop a company philosophy if it does not have the administrative structure to support it.

10.5 Gratitude

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10.6 Conclusions

The research aimed to analyze Recruitment which is the process by which the organization identifies and attracts future skilled and suitable employees for the fulfillment of organizational objectives (Snell & Bohlander, 2015). In particular of recruitment 4.0, which emerged as an implicit need as a result of the pandemic by COVID-19, although the technology was already booming, it had a more accelerated pace in the processes and functions also of the Human Resources area, thus giving the acceleration of the application of industry 4.0.

According to the various authors, it was concluded that the 4.0 tools were of great help during the COVID-19 period, so that companies had to make changes, which benefited the recruitment of personnel, giving way to new technologies and thus facilitating the work and selection of Human Resources. Due to the same conditions of health and distance, organizations opted for technological applications to recruit personnel, and even more, to continue with subsequent processes such as the selection and hiring of personnel.

In addition, Garcia (2021) talks about the consistency in the application of digital marketing techniques in the recruitment process of the organization's personnel, using mass media. This research has shown that the evolution of the techniques was favored after living a complicated situation for the recruitment of personnel, however, there is still much room for improvement because it was also found that the technological skills required to carry out the processes through digital platforms are not so present in the staff, in addition to the lack of tools that allow them to properly carry out their functions. In addition, many platforms require an additional payment to have more functions to make the activities more efficient, which should also be considered for the budget of the Human Resources area, which should be part of the organizational objectives.

10.8 References

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