EXPLORING THE ROLE OF CHATBOTS IN THE RECRUITMENT PROCESS IN LATIN AMERICA

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ABSTRACT

Objective: This study aims to explore the implementation and expectations of using chatbots in the personnel recruitment process in Latin American companies, focusing on their application, challenges, and perceived benefits.

Theoretical Framework: Personnel recruitment and selection have evolved with the incorporation of Artificial Intelligence (AI), specifically through the use of chatbots. The literature highlights AI’s ability to automate repetitive tasks, improve the efficiency of the recruitment process, and reduce human biases. However, there is a lack of research in the Latin American context regarding the experience and skills necessary to successfully implement chatbots in recruitment.

Method: A multiple case study was conducted in seven Latin American companies from various sectors, using qualitative interviews with human resources professionals and managers. The case study methodology was applied to understand the implementation and expectations of using chatbots in the recruitment process. Transcriptions of the interviews were analyzed using a constructivist approach oriented towards grounded theory.

Results and Discussion: The research presents two relevant aspects, previous experience with chatbots and expectations for their use in the recruitment process. Chatbots are primarily used for customer service, replacing traditional methods such as email and phone calls. Best practices include programming aspects, information quality, feedback, and change management. Benefits include the automation of repetitive tasks, improvement in efficiency, and cost reduction, while challenges include proper programming, bias management, and cultural adaptation. Regarding the use of chatbots and the Recruitment Process, their potential benefit in shortening process times was perceived. Various activities were identified where they could be useful, especially in the initial stages of recruitment, although the need for a human component in the final stages to evaluate emotional and aptitude aspects was recognized. Chatbots are considered reliable as a complement in the early stages of the process, but challenges are posed in programming, bias management, and adaptation to recruitment needs.

Research Implications: The successful implementation of chatbots in the recruitment process could improve efficiency, reduce costs, and enhance the company’s image. However, careful consideration of identified challenges such as proper programming, bias management, and integration with the human component of recruitment is required.

Keywords: Chatbots, Automation, Human Resources, Personnel Selection.

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RESUMO

Objetivo: Este estudo tem como objetivo explorar a implementação e as expectativas do uso de chatbots no processo de recrutamento de pessoal em empresas latino-americanas, com foco em sua aplicação, desafios e benefícios percebidos.

Referencial Teórico: O recrutamento e a seleção de pessoal evoluíram com a incorporação da Inteligência Artificial (IA), especificamente através do uso de chatbots. A literatura destaca a capacidade da IA para automatizar tarefas repetitivas, melhorar a eficiência do processo de recrutamento e reduzir os preconceitos humanos. No entanto, há uma falta de pesquisa no contexto latino-americano sobre a experiência e as habilidades necessárias para implementar com sucesso os chatbots no recrutamento.

Método: Um estudo de casos múltiplos foi conduzido em sete empresas latino-americanas de diversos setores, utilizando entrevistas qualitativas com profissionais de recursos humanos e gestores. A metodologia do estudo de caso foi aplicada para compreender a implementação e as expectativas do uso de chatbots no processo de recrutamento. As transcrições das entrevistas foram analisadas utilizando uma abordagem construtivista orientada para a teoria fundamentada.

Resultados e Discussão: A pesquisa apresenta dois aspectos relevantes, experiência prévia com chatbots e expectativas para seu uso no processo de recrutamento. Os chatbots são usados principalmente para atendimento ao cliente, substituindo métodos tradicionais como e-mails e chamadas telefônicas. As melhores práticas incluem aspectos de programação, qualidade da informação, feedback e gestão da mudança. Os benefícios incluem a automação de tarefas repetitivas, melhoria na eficiência e redução de custos, enquanto os desafios incluem programação adequada, gestão de viés e adaptação cultural. Em relação ao uso de chatbots e ao Processo de Recrutamento, foi percebido seu potencial benefício em encurtar os tempos do processo. Diversas atividades foram identificadas onde poderiam ser úteis, especialmente nas etapas iniciais do recrutamento, embora tenha sido reconhecida a necessidade de um componente humano nas etapas finais para avaliar aspectos emocionais e de aptidão. Os chatbots são considerados confiáveis como complemento nas primeiras etapas do processo, mas desafios são colocados na programação, gestão de viés e integração com o componente humano do recrutamento.

Implicações da Pesquisa: A implementação bem-sucedida de chatbots no processo de recrutamento poderia melhorar a eficiência, reduzir custos e aprimorar a imagem da empresa. No entanto, é necessária uma consideração cuidadosa dos desafios identificados, como programação adequada, gestão de viés e integração com o componente humano do recrutamento.

Palavras-chave: Chatbots, Automação, Recursos Humanos, Seleção de Pessoal.

EXPLORANDO EL ROL DE LOS CHATBOTS EN EL PROCESO DE RECLUTAMIENTO EN AMÉRICA LATINA

RESUMEN

Objetivo: Este estudio tiene como objetivo explorar la implementación y las expectativas del uso de chatbots en el proceso de reclutamiento de personal en empresas latinoamericanas, centrándose en su aplicación, desafíos y beneficios percibidos.

Marco Teórico: El reclutamiento y la selección de personal han evolucionado con la incorporación de la Inteligencia Artificial (IA), específicamente mediante el uso de chatbots. La literatura destaca la capacidad de la IA para automatizar tareas repetitivas, mejorar la eficiencia del proceso de reclutamiento y reducir los prejuicios humanos. Sin embargo, hay una falta de investigación en el contexto latinoamericano sobre la experiencia y las habilidades necesarias para implementar con éxito los chatbots en el reclutamiento.

Método: Se llevó a cabo un estudio de casos múltiples en siete empresas latinoamericanas de diversos sectores, utilizando entrevistas cualitativas con profesionales de recursos humanos y directivos. Se aplicó la metodología del estudio de caso para comprender la implementación y las expectativas del uso de chatbots en el proceso de
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reclutamiento. Se analizaron las transcripciones de las entrevistas utilizando un enfoque constructivista orientado a la teoría fundamentada.

Resultados y Discusión: Se exponen dos aspectos relevantes, la experiencia previa en chatbots y las expectativas de su uso en el proceso de reclutamiento. Los chatbots se utilizan principalmente para la atención al cliente, reemplazando métodos tradicionales como el correo electrónico y las llamadas telefónicas. Las mejores prácticas incluyen aspectos de programación, calidad de la información, retroalimentación y gestión del cambio. Los beneficios incluyen la automatización de tareas repetitivas, la mejora en la eficiencia y la reducción de costos, mientras que los desafíos incluyen la programación adecuada, la gestión de sesgos y la adaptación cultural. En cuanto al uso de chatbots y el proceso de reclutamiento se percibió su potencial beneficio para acortar los tiempos del proceso. Se identificaron diversas actividades en las que podrían ser útiles, especialmente en las etapas iniciales del reclutamiento, aunque se reconoció la necesidad de un componente humano en las etapas finales para evaluar aspectos emocionales y de aptitud. Se considera que los chatbots son confiables como complemento en las primeras etapas del proceso, pero se plantean desafíos en la programación, la gestión de sesgos y la adaptación a las necesidades del reclutamiento.

Implicaciones de la investigación: La implementación exitosa de chatbots en el proceso de reclutamiento podría mejorar la eficiencia, reducir costos y mejorar la imagen de la empresa. Sin embargo, se requiere una cuidadosa consideración de los desafíos identificados, como la programación adecuada, la gestión de sesgos y la integración con el componente humano del reclutamiento.

Originalidad/Valor: Este estudio aporta una perspectiva única sobre la implementación y las expectativas del uso de chatbots en el proceso de reclutamiento en el contexto latinoamericano, identificando tanto beneficios potenciales como desafíos clave que deben abordarse para su aplicación efectiva.

Palabras clave: Chatbots, Automatización, Recursos Humanos, Selección de Personal.

1 INTRODUCTION

Recruitment and selection are part of the process in Human Resources Management (HRM). Reilly (2018) states that recruiting is the area of the human resources function that has been most transformed by technology, specifically today by Artificial Intelligence (AI). AI tries to apply changes and innovations in the practice of HRM such as recruitment, training, talent management and retention (Merlin, and Jayam, R. 2018). AI offers favorable solutions for recruiters to increase talent acquisition by changing repetitive, time-consuming tasks, such as sourcing and selecting candidates, to improve the quality of hire and neutralize human biases (Hamoud and Laszlo 2019). AI facilitates the reduction or eradication of time-consuming activities, streamlining and automating resume screening, matching job requirements and available skills of candidates more efficiently and effectively (Vedapradha et al., 2019).

The literature shows that within organizations, recruitment activities can be complemented by AI in different steps of the process. First, candidates must be identified before they can be screened and selected, Albert (2019), Johnson et al. (2021) propose using AI to
efficiently search online databases to identify potential candidate sources. Similarly, they suggest that recruiters can use AI to develop their candidate pool by identifying and selectively targeting potential candidates who meet the criteria for the position. Once recruiters have identified potential candidates, AI can be used again to screen their applications and narrow down the list of suitable candidates, thereby saving the recruiter significant amounts of time (Albert, 2019; Garg et al., 2021; Zahidi et al., 2020). Recent studies affirm that the use of AI has emerged as an aid to recruiters in different aspects such as: 1) automating repetitive tasks and administrative tasks; 2) intelligent diagnosis helps automate resume screening; 3) recruitment chatbots allow real-time candidate participation and 4) digitization of interviews. All this promotes better proactive strategic decision making by recruiters (Vedapradha et al., 2019).

Other studies claim that the hiring process can enrich its quality with the implementation of AI, as it will help recruiters when selecting to ensure whether the candidate is suitable or not (Nawaz, 2017). Within AI, one of the most mentioned tools is the use of chatbots (Suhaili, Salim and Jambli, 2021; Misischia, Poecze, and Strauss, 2022). Research ranges from its effectiveness (Abd-Alrzaaq et al., 2020; Kuhail et al., 2023; Van den Broeck, Zarouali, and Poels, 2019), its construction (Chaves and Gerosa, 2021; Kumar and Ali, 2020; Abdul-Kadery Woods, 2015) or user experience (Haugeland et al.m 2020; Følstad, and Taylor, 2021; Skjuve et al., 2019). Chatbots are an emerging paradigm that forces us to consider the knowledge we have about their use and the experience and expectations of use in recruitment processes. In the literature there is little academic research on the experience of using chatbots in recruitment processes at the Latin American level, the skills required by the professional in charge to be able to successfully implement the chatbot, as well as what are the best practices for its implementation. Given the recent use of chatbots in this area, the question arises: “What is the current state of the use of chatbots and what are the expectations for their use in the recruitment process? To this end, qualitative interviews were conducted in seven companies that used chatbots.

2 THEORETICAL FRAMEWORK

2.1 ELECTRONIC RECRUITMENT PROCESS

The recruitment process consists of a set of interrelated tasks aimed at supporting the organizational strategy. It tends to follow a linear decision-making process with multiple stages
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(Ke1er 2018; Holm and Haahr 2019; Koivunen et al. 2019) that include identifying needs and establishing profile requirements, identifying and attracting alternatives, comparing alternatives, and selecting the most suitable combination (Holm and Haahr 2019; Koivunen et al. 2019). This process has gone through many changes over the years, from physical resume submission to electronic recruiting. Electronic recruitment or e-Recruiting refers to the use of corporate websites, social networks and other information systems (Chapman and Gödöllei 2017; Holm and Haahr 2019). A key objective of e-recruitment is to attract and encourage potential applicants to submit job applications (Eveleth et al. 2015). A new technology that has added to this objective is recruitment chatbots. Recruitment chatbots refer to web-based, publicly available, task-focused chatbots that communicate with potential candidates to gather information about them and help the recruiter handle inquiries (Grudin and Jacques, 2019).

2.2 RECRUITMENT CHATBOTS

Chatbots are artificial intelligence software that uses neural language to interact with candidates through auditory or textual methods (Akash & Anusha, 2018). Chatbots have significant potential to improve the candidate experience by providing instant and consistent updates throughout the application process, eliminating the communication gap between recruiters and applicants when dealing with a large pool of candidates. (Burgess, 2018). A chatbot helps the job seeker answer questions that are directly related to the recruiter (Nikhila et al., 2019).

Chatbots can contact potential candidates from different social networks and adopt their preferred mode of communication (Callejas, 2014). Chatbots are today aimed at performing repetitive administrative tasks and leaving the recruiter with qualified candidates. Chatbots eliminate routine work in the hiring process as it automates the end-to-end hiring process and empowers recruiters and the HR team (Anitha and Shanthi, 2021).

2.3 TAXONOMY OF RECRUITMENT CHATBOTS

Based on the work of Koivunen (2022), three categories of chatbots have been identified: attraction, customer service and interview.

Attraction chatbots: used to collect information about applicants. Offers an interactive online alternative through forms. Interaction with the user occurs through pre-programmed questions. User responses are almost always based on selecting predetermined response
options. They are intended to be an easily accessible way for candidates to send contact information and some basic details to the potential employer in a matter of minutes. They serve as an additional channel for an applicant to indicate interest in her. Basic questions the chatbot could ask include the amount of work experience and level of education, for example.

Customer service chatbots: used to answer questions about the recruiting process and the organization. It helps the candidate find the right information and reduces the workload of recruiters. It can help the potential applicant find relevant information about a specific position, the hiring process, and the hiring organization. These chatbots aim to automate the repetitive work that a recruiter would traditionally perform through emails and phone calls and offer a low-threshold way for applicants to ask questions. The main motivation for automating customer service is to reduce costs (Følstad and Skjuve 2019). In practice, they can provide information and instructions on, for example, how to log into a recruitment system, what positions are currently vacant, what the key qualifications are for a specific position or what the salary level is. Alternatively, in large corporations with large HR staff, a customer service bot can be deployed as an internal tool to provide easily accessible hiring information to staff.

Interview chatbots: to obtain candidate information and perform personalized interpretations and competencies through a virtual job interview. Interaction with the user occurs through the understanding of natural language, it is adapted to the context, it can react to the user's input through questions. It is a more sophisticated technology that allows you to conduct a virtual interview and, thus, help select applicants.

3 METHODOLOGY

Through the case study methodology it is possible to understand the conditions of behavior from the actor's perspective. The case study helps to explain both the process and the result of the phenomenon studied through the observation, reconstruction and analysis of the cases under investigation (Tellis, 1997). The case study method allows the researcher to closely examine the data in a specific context. The case study investigates contemporary real-life phenomena through a detailed and contextualized analysis of a limited number of events or conditions and their respective relationships (Yin, 2009).

Grounded theory induces a deepening of the empirical data of the theories related to the phenomena observed in the field. A process of exploration, comparison and inference makes it possible to develop new theories, formulate original ideas and propose innovative solutions to management problems (Glaser and Strauss, 1967; Cho and Lee, (2014)). Exploring complex
situations through immersion in various cases aims to clarify the interactions between different actors and better understand certain organizational mechanisms. This research is based on a multiple case study with the objective of exploring the emerging phenomenon of the use of chatbots in the company for the recruitment process to produce a theoretical contribution from the field of observation (Eisenhardt, 1989).

It is, therefore, about adopting a constructivist epistemological approach and proceeding by induction from precise examples of the experience in the use of chatbots in private companies and their perspective of use in personnel recruitment processes to formulate hypotheses that will later be discussed in a broader context. The hiring process is complex, whether technology-assisted or not, justifying the use of the case method. The multiple case study aims to: (1) establish what is the current experience of the implementation of chatbots in companies and (2) establish what are the experiences and expectations for the use of chatbots in the personnel recruitment process. The area under study is not mature and is constantly evolving. The attributes make it possible to apply the case study methodology. Yin (1984, 2015) explains that the number of cases studied is not a validation criterion for applying the case study. The use of several cases allows us to reinforce the results obtained. If the goal of the study is to explore new practices, a few cases are sufficient.

3.1 INSTRUMENT

To collect data, a survey was designed consisting of open questions, which were grouped into two dimensions: a) Experience in chatbots and b) Personnel recruitment process with chatbots. The first dimension only has one category and the second was divided into two categories. For each of them, an objective was established and specific questions associated with each category were formulated. Thus, in the Chatbot Experience dimension we focused on the category called Implementation. Here we inquire about the general experience in using chatbots, what the best practices have been during the implementation and use of the chatbot and finally the benefits that have been obtained. In the second dimension, use of chatbots in the recruitment process, we sought to know if there are experiences in using chatbots for recruitment and/or the expectations they have about the possibility of doing so. Two categories were defined here: uses and impact. In terms of uses, questions were covered about whether they currently use chatbots and if they would use them in what specific activities of the recruitment process they would be applied, and whether they consider incorporating chatbots reliable. For the impact, the benefit that using chatbots in the recruitment process would bring,
the challenges it would entail and finally what the role of human resources personnel would be if chatbots were incorporated.

Table 1

Instrument

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Category</th>
<th>Aim</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chatbot experience</td>
<td>Implementation</td>
<td>Know the experience of implementing chatbots in general.</td>
<td>P1. What uses have been given to chatbots in the company?</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>P2. What are the best practices for implementing or using chatbots?</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>P3. What have been the benefits of using chatbots?</td>
</tr>
<tr>
<td>Personnel recruitment process</td>
<td>Applications</td>
<td>Know the perspective on the use of chatbots for the recruitment process.</td>
<td>Q4. Do you use chatbots in your personnel recruitment process?</td>
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<td></td>
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<td></td>
<td>Q5. For what specific activities are chatbots used (or would they be used) within the personnel recruitment process?</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Q6. Do you consider chatbots to be reliable for personnel recruitment processes?</td>
</tr>
<tr>
<td></td>
<td>Impact</td>
<td>Know the benefits and challenges involved in implementing chatbots in the recruitment process</td>
<td>Q7. What benefits would the implementation of chatbots bring to recruitment processes?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Q8. What are the challenges of implementing chatbots for the recruiting process?</td>
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<tr>
<td></td>
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<td></td>
<td>Q9. What is the role of HR workers in the implementation of chatbots?</td>
</tr>
</tbody>
</table>

3.2 PARTICIPANTS

To understand the experiences and expectations of people in management roles who have experienced or considered using chatbots, we conducted seven interviews with people from different types of organizations. We deliberately had a variety of participants with different points of view to develop a rich qualitative understanding of this emerging sociotechnical issue. Four interviews were carried out in person, and three remotely through the use of GoogleMeet. The participants are from four Latin American countries: Peru, Chile, Argentina and Colombia. The organizations are considered large-scale in the areas of banking, services, education and mining, all in the private sector. The professional roles of the participants are presented in Table 2.
Table 2

Professional roles of the participants

<table>
<thead>
<tr>
<th>Id</th>
<th>Professional Role</th>
<th>Country/Sector</th>
<th>Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>Head of Commercial Office</td>
<td>Perú/Chile/Brasil</td>
<td>8 years</td>
</tr>
<tr>
<td></td>
<td>Peru - Chile Brazil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2</td>
<td>Director of Real Estate Franchise Operations</td>
<td>Perú</td>
<td>8 years</td>
</tr>
<tr>
<td></td>
<td>Perú</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E3</td>
<td>Project Management Director</td>
<td>Perú</td>
<td>7 years</td>
</tr>
<tr>
<td></td>
<td>Services/Services/Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E4</td>
<td>CEO Labor Quality and Human Talent Management</td>
<td>Colombia/Venezuela/Services</td>
<td>9 years</td>
</tr>
<tr>
<td></td>
<td>Human Resources Consulting, Structural Change Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E5</td>
<td>Structural Change Management</td>
<td>Colombia</td>
<td>12 years</td>
</tr>
<tr>
<td>E6</td>
<td>Digital Transformation Project Manager</td>
<td>Perú-Chile-Colombia</td>
<td>8 years</td>
</tr>
<tr>
<td></td>
<td>Banking and finances</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E7</td>
<td>Superintendent of Technological Platforms in Latin America</td>
<td>Argentina/Peru</td>
<td>10 years</td>
</tr>
<tr>
<td></td>
<td>Great Mining</td>
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</tbody>
</table>

The interviews were recorded and later transcribed. We use a constructivist analysis oriented to grounded theory. The constructivist approach highlights the multiplicity of perspectives and that the results are provisional social constructions. We express our findings through an analytical narrative that attempts to be abstract enough to show the theorizing process, but with a contextually rich description (Bryant and Charmaz 2019) of the use of chatbots and the experiences and expectations of their application to the process of recruitment of personnel.

4 RESULTS AND DISCUSSIONS

4.1 CHATBOTS EXPERIENCE

In this dimension we address the category referring to implementation. The objective was to know the experience of implementing chatbots in a general way.

4.1.1 Uses have been given to the changes in companies

As a first point, the use that has been given to the changes in companies is described. The experiences are given to customer service to answer specific questions by giving specific answers. They also state that chatbots have made it possible to replace the use of email as a means of communication for frequently asked questions and thus have a quick response 24x7.
In the financial sector, in addition to responding to product queries from customers, it is used as support to make queries regarding requests that have requested to see the monitoring or request some authorization. In the banking area, the use of chatbots has already been standardized. The trend is to use chatbots for customer service because it greatly reduces the operational burden. In the mining sector, the use of chatbots was worked on in the Human Resources area to answer queries about dates of vacation periods or number of vacation days available. Based on Koivunen's taxonomy (2022), the current use of chatbots is oriented toward customer service, which focuses on automating repetitive work aimed at answering frequently asked questions that would traditionally be carried out through emails and phone calls.

These findings coincide with the study by Schuetzler et al. (2021) who studied the use of chatbots for seven years and affirm that the most widespread use is oriented toward customer service. Their study also highlights other forms of use that our study has not detected, creating a social connection with users, including current and potential customers. Since chatbots can connect via Facebook, Twitter, SMS, and other platforms, they can reach customers where they are without needing to install a new app. The authors also indicate that a help desk could use a chatbot to respond to user problems and guide them through some basic troubleshooting scenarios, such as password resets.

4.1.2 Best practices for implementing or using chatbots

Regarding best practices, we have been able to identify four aspects: programming, information, feedback and change management. The person who programs the chatbot must know different types of technology that can be adapted to the needs that need to be implemented in the chatbot. Furthermore, the programmers must be accompanied by a professional from the field in which the chatbot is implemented to be clear about the guidelines to be programmed and finally it is important that the person who programs the chatbot knows the philosophy and characteristics of the company. Schuetzler et al. (2021) also identify the presence of the programmer as an important aspect, however they cover a little more in terms of the technical skills that he must possess, such as: processing and understanding of natural language.

The second aspect refers to the quality of the information that can be provided to the chatbot. If you provide it with good information, it will be able to give adequate and precise responses. Much of the information is already in a database containing frequently asked questions. In order to choose the frequently asked questions that customers ask, data analysis must first be done. Furthermore, in other cases, the people who communicate with the clients...
have logs where they store the information, that is, the questions that the clients ask, then, based on that information, the analysis is carried out to obtain questions or queries and from that begins to generate a query engine for chatbots.

The third aspect refers to the feedback that both the person in charge of the user area and the chatbot programmer must obtain about the effectiveness of the chatbot. For example, if 80 of 100 users claim that the information provided by the chatbot was not useful to them, this implies re-programming the chatbot. It is a process of continuous improvement. It is important to receive feedback from the end user, so that he feels heard. Various studies have focused on this aspect from the side of usability and user experience (Haugeland et al., 2022; Skjuve et al., 2019; Følstad and Taylor, 2021).

The fourth aspect refers to change management. The use of a new technology affects the way we do things (Stone et al., 2015), and often this involves retraining. E7 indicates that it is important to have a change management area, which helps manage changes at a digital level in users, especially when solutions are implemented that radically change the way of working. This area is responsible for training, showing why what about change and how it is managed.

The work of Schuetzler et al. (2021) also presents best practices for the implementation of chatbots, but, their focus is on the implementation process, the authors recommend that chatbots include quick response buttons to minimize the user's typing time, they also suggest that given since technology can fail, it is important that the user has the possibility to request the assistance of a human, finally they suggest that the conversation feels natural for the user, even though he is aware that he is communicating with a chatbot.

### 4.1.3 Benefits of using chatbots

The benefits of using chatbots are mainly for customer service in terms of being able to manage a large number of queries. Participants claim that the use of email and calls has been replaced by the use of chatbots. Chatbots have made it possible to automate repetitive and routine tasks, this has allowed the load to be reduced and customer service people can be assigned to other more strategic tasks. Chatbots have made it possible to reduce service times not only in customer service processes but also within the organization itself. It also allows you to answer questions outside of established work hours, in addition to Sundays and holidays. Another advantage is that the chatbot can be programmed in different languages, which allows it to serve more people. This also allows us to not only offer services or products to other markets. It also helps reduce the costs of hiring personnel who speak another language.
Schuetzler et al. (2021), like our findings affirm, that chatbots can save human time so that it can be dedicated to more complex problems. For internal business applications, chatbots can save time by automating routine interactions.

4.2 CHATBOTS AND THE RECRUITMENT PROCESS

4.2.1 Use of chatbots in the recruitment process

In all cases, no company has used the chatbot for the recruitment process. However, they consider that its implementation would be beneficial to shorten process times but that this should be done progressively. It is considered as an additional channel for profile selection.

4.2.2 Specific activities the chatbot is used within the recruitment process

Regarding the activities in which they would use chatbots in the recruitment process, the interviewees agree that the use of chatbots could be useful for the first stages of the recruitment process. We have identified the following: 1) obtain the CVs and apply the first filters; 2) contact potential candidates, through different channels. 3) talk to the candidates to pre-analyze them, using simple criteria; 4) answer candidates’ questions about the position they are applying for; 5) plan and prepare the interview; and 5) Tell the candidate what the next steps are.

But for the final stages there should necessarily be a human component to make some decisions. An important note made by E4 is that when recruiting personnel for direct customer service, the chatbot would not allow the evaluation of aptitude characteristics, empathy, and another series of particularities that are definitely not done through questions but rather through activity exercises. This dynamic allows us to analyze whether the person hired has all the necessary characteristics so that he can provide and serve clients. Recruiting personnel for operational positions is much simpler from doing and knowing through the use of chatbots.

4.2.3 Reliability

Regarding the view that the interviewees have regarding the reliability of chatbots for the recruitment process, the results tell us that chatbots are seen as a reliable complement to the personnel recruitment process in the early stages, especially in the search for profiles, obtaining
candidates and applying the first filters. After that, those responsible for the selection will receive preliminary information but the decision will go through personal interviews by specialists in the area, psychologists, etc. However, E1 presents an additional concern in the filter process, since the chatbot programming considers operational questions and expects specific responses, it is likely to choose unsuitable candidates or leave out suitable candidates. Confidence in the use of chatbots is given due to the knowledge that search and filter processes in databases make use of previously tested and implemented mathematical criteria.

4.2.4 Benefits of chatbots for recruitment processes

Regarding the benefits perceived by the participants, the results indicate that chatbots would be a complement in the area of personnel recruitment, which will shorten the time of the recruitment process by receiving previously filtered information so that the people in charge and specialized can then take action. The final decision. In this sense, they focus on the fact that time could be shortened, especially in the search for profiles and the first given filters, especially when searches and filters are carried out in databases of thousands of people in personnel selection profiles.

Chatbots will play an essential role in optimizing recruitment strategies. The use of chatbots would reduce the burden of repetitive and time-consuming tasks such as searching and selecting candidates. Its use would significantly impact reducing the cost of hiring and also improving the quality of hiring. Additionally, it would add more transparency to the hiring process, eliminate human biases, and improve job seekers' perceptions of employers, thereby improving their image and brand.

They also affirm that companies will need to use chatbots since there is currently a high turnover in organizations. There are studies that show that up to 60% of people quit between 3 and 6 months if the job does not meet their expectations (Wu and Chi, 2020). This reality means that the human resources area must have the daily capacity to respond to the requirements of attracting and recruiting, so the use of chatbots will be highly useful. This finding allows us to see that given the classification proposed by Koivunen (2022), it is only intended to use customer service chatbots and attraction bots, not interview bots.

Related to our findings, the work of Taule, Følstad, and Fostervold (2021) also states that by reducing the amount of routine and administrative tasks of human resource management staff, they can contribute more to development activities and other strategic initiatives. The chatbot is a tool that allows you to alleviate the function of high volumes of queries. Chatbots
have a visible effect on the volume of common questions received by human resources personnel that were previously asked by phone call or email that have an answer specific, for example vacations, salary, or overtime. Gnewuch, Morana, and Maedche (2017) also state that in the context of customer service, chatbots allow creating a faster and more profitable communication channel in communicating with customers.

4.2.5 Challenges when implementing chatbots in the recruitment process

The first challenge was identified as being able to program the chatbot with open questions to analyze attitude, sensitivity or how the candidates would behave in a certain situation. Open questions allow you to analyze in greater detail since closed questions generate limitations in the analysis process, so the set of questions in the chatbot must be clear and well structured. With respect to this first point, there is also the risk that the selection can be very subjective, since in the resume the applicant always highlights how good he is for the position, and in the end when they are faced, he really did not have those capabilities. were not evaluated, because, they have simply been answered, what will do is that the candidate in the end or the company will dispense with him or resign.

The second challenge is linked to being able to avoid different types of biases in the chatbot programming process. For example, E4 states that in Colombia a study showed that chatbots in some banks do not take into account when women request a loan. Feine et al. (2020) from a study of 1,375 chatbots, identified that in their design, most chatbots are, explicitly or implicitly, designed to convey a specific genre. Their study showed evidence that there is a tendency to prefer the female gender. The literature shows us that gender biases can impact both positively (Beldad, Hegner and Hoppen, 2016; Jin and Eastin, 2023) or negatively on the implementation of the chatbot (Brahnam and De Angeli, 2012).

The third challenge occurs during the interview process. It is at that moment that the criteria, what people feel and emotional intelligence are analyzed, which they consider cannot be analyzed by a chatbot. The conjunction and balance of management with personal skills, that is, the human component and what is delegated to chatbots is one of the main challenges.

The fourth challenge is that the programming of chatbots depends on the information that can be provided, if you provide it with good information it will be able to provide good information, then, if it is not determined exactly what type of profiles are necessary, it can have inaccurate or incorrect results. Hand in hand with this challenge is also the adaptation of the
chatbot programming to different cultures, because there are words that vary between countries and can lead to confusion or misinterpretations during the process.

The fifth challenge is the experience or skill that the candidate may have in using chatbots. That is, it is possible that a very good candidate exists, but that he or she is discarded due to an unsatisfactory interaction with the chatbot. Regarding this point, Taule, Følstad and Fostervold (2021), in an analysis carried out on 13 companies that implemented chatbots in human resources management, highlight the counterpart of our finding, that is, the knowledge that human resources specialists must have within of the company about the use of the chatbot. Different expectations of the chatbot and understanding of the chatbot technology could affect the use of the chatbot in the organization. For example, employees experienced limitations in the reach of the chatbot, that is, they asked questions that the chatbot cannot answer.

4.2.6 The role of HR workers in the implementation of the chatbot

Finally, with respect to the role of HR workers in the implementation of chatbots, first, for the implementation of chatbots, programmers are needed, that is, people specialized in the computer area but they must be accompanied by a professional from the field in the field. that the chatbot is implemented to be clear about the guidelines of what characteristics or type of questions the chatbot will answer. Programming the chatbot with the expert or specialist in the area is the one who has the knowledge of what is being recorded in the programming of the chatbot.

Second, his participation is also important since he is the one who will give feedback on the correct functioning of the chatbot. The determining factor for a chatbot to work, that is, for it to be used by end users, is that people in the area realize that it responds correctly to queries in real time.

Third, although the chalets are of great help in the early stages of the recruitment process, the work done by psychologists, specialists and the recruiter is not left aside during the face-to-face interview process where they evaluate the answers. and the development of the applicants.

The study by Koivunen et al. (2022) describes the motivations, needs, expectations and experiences related to the use of chatbots in recruitment processes in 13 Finnish companies. Like our findings, the authors highlight the use of closed questions, with attraction chatbots being the most used. Another important finding is the central change that chatbots have brought to the new tasks of recruiters, normally the recruiter's job is to create the chatbot script and
supervise that it produces relevant responses. These findings coincide with those expressed in our study. The main difference with our work is that the companies interviewed have not yet implemented the use of chatbots for recruitment processes, however the findings coincide.

5 CONCLUSION

This study has made it possible to find findings that contribute to the theory, the findings contribute to reducing the knowledge gap about chatbots in the business context of the private sector in large-scale companies, both in current use and on expectations of use in the process of personnel recruitment. Additionally, chatbot categories and potential areas of use in the recruitment process are reported. The extensive literature review has provided empirical knowledge on existing chatbots, successful experiences, challenges, and opportunities from the perspective of the human resources management function and specifically in the recruitment process. Finally, the findings of this study also contribute to understanding the importance and role of the human resources area in the implementation of chatbots.

In terms of implications for practice, the insights provided by this study can contribute to a better understanding of the factors that need consideration when an organization seeks to adopt a chatbot for the recruitment process. The findings offer an overview of what is required in terms of information necessary to program the chatbot, necessary knowledge of the programmer, the importance of support from human resources personnel, as well as the impact of a change management process within the organization.

A key limitation of the study is that it was carried out with companies, although they have experience in implementing chatbots, they have been oriented towards customer service but have not implemented their use for personnel recruitment. However, the findings in the context of this study coincide with studies carried out with companies that have implemented chatbots in recruitment processes. A second limitation is that the study is based only on interviews with personnel with extensive experience in human resource management, therefore, it does not provide direct access to the perspectives of other users and stakeholders, something that limits the findings on the motivations of organizations to adopt a chatbot.

REFERENCES

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