UNIVERSIDADE CATÓLICA PORTUGUESA

Factors Influencing Interaction with Recruitment Chatbots

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by

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Resumo

Os Chatbots são um programa de computador infundido com inteligência artificial em rápido desenvolvimento e que pode ser utilizada em vários serviços, tais como o processo de recrutamento. Contudo, pouco se sabe sobre a forma exacta como os chatbots podem afectar a experiência do utilizador no caso dos candidatos. Existem várias lacunas que justificam uma investigação mais aprofundada neste domínio. Este documento visa examinar os efeitos da facilidade de utilização, utilidade, presença social, confiança e prazer na atitude do utilizador, satisfação e credibilidade do recrutador na interacção entre candidatos e recrutadores, utilizando um chatbot de recrutamento. Os resultados deste estudo sugerem que a confiança e o prazer são os principais motores da utilização de um chatbot. Os resultados mostram também que a atitude medeia a relação entre confiança e o prazer, por um lado, e a satisfação e ambas as dimensões da credibilidade (confiança e atractividade), por outro.

Palavras-chave: Processo de Recrutamento; Chatbot; Facilidade de Utilização; Usabilidade; Presença Sociável; Confiança; Divertimento; Atitude Relativamente a Chatbots; Satisfação; Credibilidade do Recrutador.

Número de palavras: 5118

Abstract

Chatbots are a rapidly developing service technology that can be used in various services, such as recruitment. However, little is known about how chatbots might affect candidates' user experience, and several gaps warrant further research. This paper aims to examine the effects of ease to use, usefulness, social presence, trust, and enjoyment on user attitude, satisfaction, and recruiter credibility. To test the proposed model, we designed a recruitment chatbot and conducted a survey-based study. The results of this study suggest that trust and enjoyment are the main drivers of recruitment chatbot use. The findings also show that attitude mediates the relationship between trust and enjoyment on the one hand, and satisfaction and both dimensions of credibility (trustworthiness and attractiveness) on the other. Based on these findings, contributions to theory and practice are discussed.

Keywords: Recruitment Process; Chatbots; Ease of Use; Usefulness; Social Presence; Trust; Enjoyment; User Attitude; Satisfaction; Recruiter credibility.

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List of Abbreviations

AI – Artificial Intelligence

AVE – Average Variance Extracted

CFA – Confirmatory Factor Analysis

HR – Human Resources

SEM – Structural Equation Modeling

TAM – Technology Acceptance Model

Introduction

Bots work all day speeding up customer resolutions. Chatbots started as conversational agencies that answer some frequently asked questions then moved to do the work of customer service and salespeople. Many researchers studied the factors that influence satisfaction with these online chatbots (e.g., Ashfaq et al., 2020; Chung et al., 2020; De Cicco et al., 2020; McLean et al., 2020). Artificial intelligence is now able to provide marketing efforts through e-service agents, which has an impact on how customers perceive the quality of communication and brand satisfaction (Chung et al., 2020), among other benefits. They view chatbots generally as helpful tools that could support people during the online purchasing process on retail or e-commerce service and that could streamline their overall shopping experience. Additionally, chatbots are seen as user-friendly tools by millennials. They also exhibit a positive attitude toward their utilization, believing that chatbots may be advantageous for a variety of functions, such as promptness of response and suitable assistance during the buying experience (de Cicco et al., 2020; Murtarelli et al., 2022)

Recently chatbots started to be used in services such as the recruitment process, instead of sending applications by email or scheduling an interview with customer service employees, companies started to use chatbots to do these tasks. However, because these types of chatbots are recent, there is a lack of studies that examine what factors influence users' satisfaction and intention to use recruitment chatbots (Silva et al., 2023). Based on that, the main objectives of this research are:

(1) to examine the effect of chatbots' ease of use, usefulness, social presence, trust, and enjoyment on user attitude, satisfaction, and recruiter credibility.

(2) to provide managerial implications to improve the human-chatbot interaction.

The current research is expected to contribute to the theory about the factors influencing interaction and satisfaction with recruitment chatbots. Managerially, the study will provide human resources (HR) and business executives with recommendations on how to best benefit from chatbots for facilitating the recruitment process.

Chapter 1

Literature Review and Theoretical Model

1.1. Chatbots

Due to its implementation in countless products and services that we now routinely use, Artificial Intelligence (AI) has started to significantly impact our lives. To give a general review of AI, its concept, and its context of usage, for example in the context of consumer services, according to Xu et al. (2020), AI is "a technology-enabled system for evaluating real-time service scenarios using data collected from digital and/or physical sources to provide personalized recommendations, alternatives, and solutions to customers' inquiries or problems, even very complex ones." Collectively, these criteria cover a wide range of abstract and general objectives for an AI system, which helps to explain why AI has impacted almost every aspect of the business. Ciechanowski et al., (2019), said the chatbot uses a technical AI application that is an application, program, or computer interface to communicate with the user in natural language.

Furthermore, with the current trend of digitalization access to new technologies allows many companies to develop new methods to interact with their users and to restructure each of their processes, being these technologies the propitious ones to improve the efficiency of repetitive tasks or to increase the points of contact with the users, so here is where chatbots are also defined like a conversation platform, a computer application for exchanging messages through the network or channels, with an online structure where people connect and can talk freely, either by voice, by text or both (Gartner, 2020).

1.2. Chatbots in Recruitment

Chatbot applications in management areas and specifically in human resource processes have been successful in qualitative research in streamlining work and gathering information about candidates' experiences, establishing relationships, responding to inquiries, identifying the best candidates, onboarding, increasing the number of applications, scheduling interviews, and other tasks. These applications will be aligned with recruiters to have a smooth process that will lead to business success (Nawaz & Gomes, 2019).

To understand how the chatbot could be used in the recruitment process is necessary to understand which touchpoints they could be necessarily involved in during the "employee journey" of the companies and future users, but currently, just the idea of using AI in the customer journey has developed. There is a lot of untapped potential in artificial intelligence's experimental progress in the many facets of marketing, and interest in AI in the customer journey is generally moving north. The use of AI techniques in industrial items has not yet been discovered; they are currently only applicable to certain product categories, such as consumer goods (Rana et al., 2021).

1.3. Factors that Influence the Use of Chatbots

The most common use for a chatbot is familiarized with the process of customer support or assistance for sales, but now the organizations also find the viabilities for this tool in other areas such as management and human resources, bringing potential benefits because of the recruitment process taking less time overall, the human resources department will have more time to devote to other important elements of the business, lowering overhead costs (Swapna & Arpana, 2021).

Previous studies have shown how businesses can gain business agility by successfully incorporating chatbots based on various types of use into daily operations (Wang et al., 2022). The chatbot's role of problem-solving ability as a causal mechanism promoting the effectiveness of AI customer service and usage intention demonstrates that task complexity is an important boundary condition for this (Xu et al., 2020). Since chatbots are a rapidly developing service technology, their usability improves over time as they handle a variety of user queries submitted in various formats. Customers also anticipate excellent availability and dependability from chatbots (Trivedi, 2019).

Chatbot could be considered in some cases key strategy for companies to interact with digital natives because the combination of chatbots and social cues, make it possible for online retailers to foster a more satisfying experience for young customers (Silva et al., n.d.). Even though millennials are more likely to utilize instant messaging than older generations, suggesting that they are more willing to give chatbots a try, little is yet known about the aspects that favorably affect their perception of this technology.

1.3.1. Ease of Use and Usefulness

Davis (1989, p. 320) developed the Technology Acceptance Model (TAM), and defined ease of use as "the degree to which a person believes that using a particular system would be free from effort", and usefulness as "the degree to which a person believes that using a particular system would enhance their job performance". TAM has been applied in several studies that deal with AI-powered service agents. In this vein, and according to Pillai and Sivathanu (2020), the adoption and use of AI-powered chatbots for travel planning are positively influenced by their ease of use and usefulness. Likewise, in the banking industry, Richad et al. (2019) propose that chatbots' innovativeness improves their ease of use and usefulness, leading to

favorable attitudes and behavioral intentions. Moreover, Ashfaq et al. (2020) indicate that ease of use and usefulness influence satisfaction and chatbot use, considering the moderating role of the need to interact with the service provider. Although many studies applied TAM at the level of chatbots, to the best of our knowledge, this model was not studied at the level of recruitment chatbots. Based on that, we propose the following:

H1: Ease of use positively affects attitude toward recruitment chatbot use.

H1a: Attitude mediates the relationship between ease of use and satisfaction.

H1b: Attitude mediates the relationship between ease of use and recruiter credibility (trustworthiness)

H1c: Attitude mediates the relationship between ease of use and recruiter credibility (attractiveness)

H2: Usefulness has a positive effect on attitude towards recruitment chatbot use.

H2a: Attitude mediates the relationship between usefulness and satisfaction.

H2b: Attitude mediates the relationship between usefulness and recruiter credibility (trustworthiness)

H2c: Attitude mediates the relationship between usefulness and recruiter credibility (attractiveness)

1.3.2. Social Presence

Gefen and Straub (1997, p. 390) define social presence as "the sense of human contact embodied in a medium". Jiang et al. (2022) explore how social presence affects consumer behavioral intentions in the context of chatbot use, and suggest that it influences experiential innovativeness, which in turn impacts consumers' sense of empowerment. Haugeland et al. (2022) examine the role of human-like qualities in chatbot design and propose that this factor enhances the hedonic quality of conversations by increasing engagement and

pleasure. Sheehan et al. (2020) investigate the use of chatbots in customer service and find that the level of anthropomorphism is positively associated with chatbot adoption, particularly in situations where users have a higher need for human interaction. Although social presence is widely discussed in chatbot literature, the effectiveness of social interaction style on elder users' perceived interactivity and sense of trust when the interaction style corresponds to their task competency. This extends the benefits of a social-oriented interaction style in terms of social presence to a particular and marketable younger audience (as opposed to a task-oriented interaction style) (e.g., De Cicco et al., 2020). This factor has not been studied at the level of recruitment chatbots. Therefore, the following hypotheses are proposed:

H3: Social presence positively affects attitude towards recruitment chatbot use.

H3a: Attitude mediates the relationship between social presence and satisfaction.

H3b: Attitude mediates the relationship between social presence and recruiter credibility (trustworthiness).

H3c: Attitude mediates the relationship between Social Presence and Recruiter credibility (attractiveness).

1.3.3. Trust

Nordheim et al. (2019) examined the significance of chatbots in the customer service industry and explored the elements that have the most impact on user trust within the chatbot context. Their findings resulted in an initial model that summarizes the factors influencing trust in customer support chatbots, which includes user-related, chatbot-related, and environment-related factors. These findings indicate that trust in chatbots can be an outcome of several antecedents, however, trust can also be a predictor of the adoption of chatbots. In this vein, several studies show that users do not want to give personal

information if they are concerned about security, therefore trust may be a key component (Chung et al., 2020). In the healthcare sector, Wang and Siau (2018) developed a theory about trust in health chatbots that can be used to enhance chatbot development in the future. Furthermore, Kuberkar and Singhal (2020) investigated the adoption intention of chatbots by inhabitants of smart cities, and the results confirmed that trust has an impact on the intention to adopt chatbots in public transportation services. According to Przegalinska et al., (2019), anthropomorphizing is a key component of trust. We might assume that since chatbots communicate through speech, it is advisable to anthropomorphize them. So, if we could apply this theory also more in the organizational context these tools give managers a deeper insight into how employees feel about their companies and what they anticipate from them, enabling managers to act quickly if any problems arise (Zel & Kongar, 2020). However, there is a lack of studies that consider the effect of trust on recruitment chatbots. Hence, we propose the following:

H4: Trust has a positive effect on attitude towards recruitment chatbot use.

H4a: Attitude mediates the relationship between trust and satisfaction.

H4b: Attitude mediates the relationship between trust and recruiter credibility (trustworthiness).

H4c: Attitude mediates the relationship between trust and recruiter credibility (attractiveness).

1.3.4. Enjoyment

Following that line, chatbots could provide companies and customers with new ways to interact and generate insights through; small talks, exclamatory feedback, and visual kinesics paralanguage (GIFs and emoticons), according to prior research, convey positive social outcomes that help the user perceive "the other" being present during interaction even though it is not (i.e., social

presence); in addition, these techniques enhance affective outcomes, such as a feeling of enjoyment (de Cicco et al., 2021). The cognitive and affective processes of clients influence how satisfied they are with service agents. Beyond perceived waiting times and information quality, it is discovered that enjoyment greatly explains the many ways AI chatbots contribute to consumer happiness in various service contexts. The understanding of how AI chatbots affect different customer reactions in various service scenarios is furthered by the mediating roles of perceived information quality, perceived waiting time, and pleasure in the relationship between customer satisfaction and the combination of service agent type and product attribute type (Ruan & Mezei, 2022). Building on this, the following hypotheses are proposed:

H5: Enjoyment has a positive effect on attitude towards recruitment chatbot use.

H5a: Attitude mediates the relationship between enjoyment and satisfaction.

H5b: Attitude mediates the relationship between enjoyment and recruiter credibility (trustworthiness).

H5c: Attitude mediates the relationship between enjoyment and recruiter credibility (attractiveness).

Figure 1 shows our proposed research model and summarizes the proposed hypotheses.

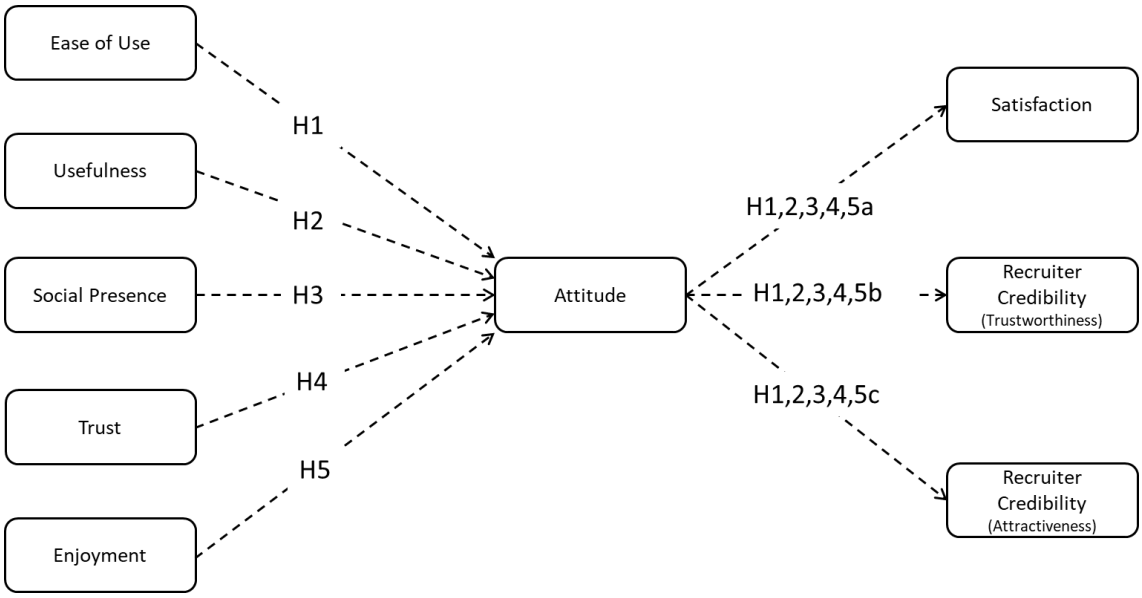

Figure 1. Research model.

Chapter 2

Methodology

2.1. Data collection

To test the proposed model, first, we designed a recruitment chatbot with a fictional scenario about hiring students to apply for a part-time job in a fast-food restaurant chain. Then we invited people to interact with this chatbot, then answer a survey based on this interaction. Whimsical - and online software - was used to design the decision tree that represents the chatbot's flow. The engagement with the designed chatbot commences by conveying to the users that they are communicating with a digital assistant. Then, the users are prompted with inquiries related to personal information, including their availability, specifically for night shifts, to replicate a genuine experience. If the user is unavailable, they will be notified and given the option to provide their contact information for prospects. The subsequent segment is specifically designed for arranging an interview and comprises of two inquiries. The initial inquiry requires the user to indicate the preferred day of the week for the interview, while the succeeding inquiry provides a list of available times, from which the user must choose. If the user is unavailable on the days presented in the first question, a message will be sent informing them that those are the only options, giving them the choice to either try again or conclude the interaction with the virtual assistant.

At the end of the interaction, the chatbot expresses gratitude to the user for utilizing the process and is succeeded by a feedback inquiry, in which the user can opt to complete a feedback survey or not.

2.2. Feedback survey and scales

After interacting with the chatbot, participants were directed to an online questionnaire that has questions about their experience with the chatbot. The survey included questions to measure factors in the model, these questions will be adopted from previous literature. The initial part of the survey focused on demographics, wherein participants disclosed their age, gender, and educational attainment, and were also asked about their prior experience with chatbots. The following sections were intended to gauge the different factors in the research model. This model consists of nine primary factors, all of which were evaluated by adapting established scales from existing literature.

Existing measures in the relevant literature were also adapted to measure dependence factors (Figure 2): Ease of Use and Usefulness (Davis, 1989; Davis et al., 1989); Social Presence (Gefen & Straub, 1997); Trust (Srivastava et al., 2010); Enjoyment (Cheung et al., 2000; Igbaria et al., 1995); Attitude (Nysveen et al., 2005); Satisfaction (Hui et al., 2004 with inspiration from the work of Westbrook, 1980); Recruiter's Credibility (Trustworthiness) (Andrews et al., 2000) and Recruiter's Credibility (Attractiveness) (Ohanian, 1990, 1991). Lastly, a 7-point Likert scale was used to evaluate the aspects of "Easy of Use," "Usefulness," "Social Presence," "Trust," and "Satisfaction." (1="Strongly Disagree," and 7= "Strongly Agree"). We utilized a 7-point semantic differential scale to measure the other states of the remaining components. (For example, dull-exciting). In earlier investigations, all scales showed appropriate reliability.

Construct	Sources	Final Adoption of the original study
Perceived Ease of Use	(Davis, 1989)	***Please choose (1="Strongly Disagree," and 7= "Strongly Agree")*** 1: I believe that this chatbot is awkward to use 2: It is difficult to use this chatbot 3: I believe that this chatbot is easy to use

Perceived Usefulness	(Davis, 1989)	***Please choose between (1="Strongly Disagree," and 7= "Strongly Agree")*** 1: Using this chatbot saves time 2: Using this chatbot improves efficiency 3: This chatbot is useful to me
Social Presence	(Gefen y Straub, 1997)	***Please choose between (1="Strongly Disagree," and 7= "Strongly Agree")*** 1: There is a sense of human contact in the chatbot 2: There is a sense of personalness in the chatbot 3: There is a sense of sociability in the chatbot 4: There is a sense of human warmth in the chatbot 5: There is a sense of human sensitivity in the chatbot
Trust	(Srivastava et al., 2010)	***Please choose between (1="Strongly Disagree," and 7= "Strongly Agree")*** 1: I trust this chatbot to be reliable 2: I trust this chatbot to be secure 3: I believe that this chatbot is trustworthy 4: I trust this chatbot 5: Even if this chatbot is not monitored, I would trust it to do the job correctly
Enjoyment	(Cheung et al., 2000; Igbaria et al., 1995);	***This Chatbot is:*** 1: Disgusting – enjoyable 2: Dull-exciting 3: Unpleasant-pleasant 4: Boring-interesting
Attitude	(Nysveen et al., 2005);	***The application process using this chatbot was:*** 1.Foolish-wise 2: Bad-good 3: Unfavorable-favorable 4: Positive-negative
Satisfaction	(Hui et al., 2004 with inspiration from the work of Westbrook, 1980);	***Please choose between (1="Strongly Disagree," and 7= "Strongly Agree")*** 1: I am satisfied with the recruitment process 2: I feel pleased with what this chatbot has done in this scenario 3: The application process met my needs very well
Recruiter's Credibility (Trustworthiness)	(Andrews et al., 2000)	***The recruiter that uses this chatbot seems to be*** 1: Not trustworthy-trustworthy 2: Not credible-credible 3: Not believable-believable
Recruiter's Credibility (Attractiveness)	(Ohanian, R. 1990)	***The recruiter that uses this chatbot seems to be*** 1: Unattractive -attractive 2: Not classy-classy 3 Ugly- beautiful 4: Plain-elegant 5: Not sexy- sexy

Table 1. Scale adoption.

To test the hypotheses, we will apply first Confirmatory Factor Analysis (CFA) to confirm the model fit, then Structural Equation Modeling (SEM) to test the proposed hypotheses.

Chapter 3

Data Analysis

The study's final sample consisted of 253 respondents. However, only 248 questionnaires were analyzed, since five of them was considered an outlier when conducting the Mahalanobis d-squared test. Sample demographics of the final analyzed sample show that 68.4 percent of respondents were between 21 and 30 years of age, 58.5 percent are female and most of them (99.5 percent) indicated an educational level of a high school diploma or more and just the 28% of the respondents didn´t have previous interactions with a chatbot.

3.1. Assessment of the measurement model

First, we performed CFA. An acceptable fit was achieved following the recommendations of Schreiber et al. (2006): $\chi 2 = 887.971$, df = 506, $\chi 2/df = 1.755$, CFI = 0.954, TLI = 0.946, IFI = 0.955, SRMR = 0.0546, RMSEA= 0.055 [90% CI = 0.049; 0.061]. For the 35 indicators, a reliability study was also performed. Further reliability evidence comes from Cronbach's alpha values that were higher than the suggested cutoff of 0.70 (Netemeyer et al., 2003) and composite reliability scores were higher than 0.84 for all the constructs. Moreover, Average Variance Extracted (AVE) ranges between 0.64 to 0.91, exceeding the minimum cut-off of 0.5 (Fornell and Larcker, 1981), demonstrating the convergence validity of each latent construct (Table 2). In the end, Fornell and Larcker's criterion was used to evaluate discriminant validity (1981). The findings show that each AVE's square root exceeds its corresponding correlations, supporting the discriminant validity of the model (Table 3).

Item	Factor Loading	Cronbach's α	AVE	Composite Reliability	Square Root for AVE
EU		0,677	0,64	0,844	0,80249611
EU1: I believe that this chatbot is awkward to use	0,73				
EU2: It is difficult to use this chatbot	0,86				
EU3: I believe that this chatbot is easy to use	0,82				
UU		0,820	0,75	0,901	0,86717934
UU1: Using this chatbot saves time	0,90				
UU2: Using this chatbot improves efficiency	0,90				
UU3: This chatbot is useful to me	0,80				
SP		0,929	0,78	0,947	0,88374204
SP1: There is a sense of human contact in the chatbot	0,91				
SP2: There is a sense of personalness in the chatbot	0,75				
SP3: There is a sense of sociability in the chatbot	0,90				
SP4: There is a sense of human warmth in the chatbot	0,93				
SP5: There is a sense of human sensitivity in the chatbot	0,92				
TR		0,915	0,77	0,943	0,87749644
TR1: I trust this chatbot to be reliable	0,88				
TR2: I trust this chatbot to be secure	0,91				
TR3: I believe that this chatbot is trustworthy	0,93				
TR4: I trust this chatbot	0,94				
TR5: Even if this chatbot is not monitored, I would trust it to do the job correctly	0,72				
EJ		0,922	0,82	0,946	0,9027735
EJ1: This chatbot is disgusting - enjoyable	0,88				
EJ2: This chatbot is dull-exciting	0,91				
EJ3: This chatbot is unpleasant-pleasant	0,91				
EJ4: This chatbot is boring-interesting	0,91				
AT		0,954	0,88	0,967	0,93808315
AT1: The application process using this chatbot was foolish-wise	0,92				
AT2: The application process using this chatbot was bad-good	0,95				
AT3: The application process using this chatbot was unfavorable-favorable	0,95				
AT4: The application process using this chatbot was positive-negative	0,94				
ST		0,914	0,86	0,946	0,9246621
ST1: I am satisfied with the recruitment process	0,94				
ST2: I feel pleased with what this chatbot has done in this scenario	0,93				
ST3:The application process met my needs very well	0,91				
RT		0,948	0,91	0,966	0,9539392
RT1: The recruiter that uses this chatbot seems to be not trustworthy-trustworthy	0,95				
RT2: The recruiter that uses this chatbot seems to be not credible-credible	0,96				
RT3: The recruiter that uses this chatbot seems to be not believable-believable	0,95				
RA		0,880	0,68	0,914	0,82643814
RA1: The recruiter that uses this chatbot seems to be unattractive -attractive	0,79				
RA2: The recruiter that uses this chatbot seems to be not classy-classy	0,85				
RA3: The recruiter that uses this chatbot seems to be ugly- beautiful	0,86				
RA4: The recruiter that uses this chatbot seems to be plain-elegant	0,90				
RA5: The recruiter that uses this chatbot seems to be not sexy- sexy	0,73				

Table 2. Item loading, Cronbach's α values, Composite Reliability, AVE.

		EU	UU	SP	TR	EJ	AT	SA	RT	RA
1	EU	**0,802**								
2	UU	,491**	**0,867**							
3	SP	,293**	,463**	**0,884**						
4	TR	,422**	,590**	,544**	**0,877**					
5	EJ	,563**	,652**	,612**	,647**	**0,903**				
6	AT	,562**	,610**	,506**	,644**	,843**	**0,938**			
7	SA	,488**	,669**	,505**	,639**	,759**	,792**	**0,925**		
8	RT	,308**	,502**	,456**	,667**	,570**	,613**	,665**	**0,954**	
9	RA	,161*	,366**	,359**	,406**	,462**	,431**	,467**	,633**	**0,826**

Notes: **p<0.01 (two-tailed) tests. The bold elements are the square root of each AVE. The non-bold elements are the correlations between constructs.

Table 3. Discriminant Validity

3.2. Assessment of the structural model

SEM was computed to test the proposed hypotheses. Firstly, our findings show a good fit between the model and the observed data and agree with Schreiber et al. (2006) cut-off values: $\chi 2 = 1081{,}809$, df = 524, $\chi 2/df = 2.065$, CFI = 0.933, TLI = 0.924, IFI = 0.934, SRMR = 0.0632, RMSEA = 0.066 [90% CI = 0.060; 0.071]. Table 4 displays the regression weights. Regarding the direct hypotheses displayed in the regression weights table (Table 4), only trust and enjoyment have a direct impact on attitude, while ease of use, usefulness, and social presence does not have such a direct impact. As a result, H4 and H5; are supported, while H1, H2, and H3 are not. The results also show a strong mediating influence of attitude in the relationship between recruiter credibility (Trustworthiness, Attractiveness) and satisfaction, supporting H1a, H1b, H1c, H2a, H2b, H2c, H3a, H3b, H3c, H4a, H4b, H4c, and H5a, H5b, and H5c.

Regression Weights: (Group number 1 - Default model)

Path			Estimate	S.E.	C.R.	P	Result
EU	-->	AT	-0,023	0,03	-0,751	0,452	NS
UU	-->	AT	0,115	0,06	1,928	0,054	NS
SP	-->	AT	-0,055	0,034	-1,62	0,105	NS
TR	-->	AT	0,196	0,049	4,011	***	S
EJ	-->	AT	0,82	0,079	10,338	***	S
AT	-->	STF	0,947	0,053	17,747	***	S
AT	-->	Cre (TR)	0,754	0,062	12,24	***	S
AT	-->	Cre (At)	0,414	0,053	7,764	***	S

Table 4. Regression Weights

Regarding the proposed hypotheses, the mediation effect model (Table 5) demonstrates that Attitude mediates the impact of positive attitudes toward enjoyment and trust on satisfaction; as a result, H4a, and H5a are supported,

but H1a, H2a, and H3a are not, as this mediation role was insignificant in the case of positive attitudes toward usability, usefulness, or social presence. Similar to this, Attitude mediates the relationships between positive attitudes toward trust and enjoyment and the credibility of the recruiter's trustworthiness, but it does not mediate the path from positive attitudes toward usability, usefulness, or social presence to Trustworthiness; as a result, H4b and H5b are supported, but H1b, H2b, and H3b are not. Finally, since the role of attitude in mediating relationships between positive attitudes toward trust, enjoyment, and recruiter attractiveness was insignificant in the case of positive attitudes toward usability, usefulness, or social presence, H4c and H5c are supported while H1c, H2c, and H3c are not.

Path	Estimate	95% bias-corrected bootstrap confidence interval	SE	SE-SE	SE Bias	P-Value	Result
EOU → ATT → STF	-0,021	-0.096 - 0.038	0,040	0,001	0,001	0,487	NS
EOU → ATT → RCT	-0,017	-0.077 - 0.030	0,032	0,001	0,001	0,480	NS
EOU → ATT → RCA	-0,009	-0.042 - 0.016	0,017	0,000	0,001	0,478	NS
USE → ATT → STF	0,109	-0.005 - 0.236	0,074	0,001	0,002	0,118	NS
USE → ATT → RCT	0,087	-0.002 - 0.190	0,059	0,001	0,001	0,108	NS
USE → ATT → RCA	0,048	-0.001 - 0.103	0,032	0,001	0,001	0,107	NS
SPR → ATT → STF	-0,052	-0.114 - 0.006	0,037	0,001	0,001	0,145	NS
SPR → ATT → RCT	-0,042	-0.092 - 0.005	0,030	0,000	0,000	0,147	NS
SPR → ATT → RCA	-0,023	-0.050 - 0.002	0,016	0,000	0,000	0,133	NS
TRS → ATT → STF	0,186	0.086 - 0.307	0,067	0,001	0,002	0,002	S
TRS → ATT → RCT	0,148	0.065 - 0.249	0,057	0,001	0,001	0,003	S
TRS → ATT → RCA	0,081	0.038 - 0.138	0,031	0,000	0,001	0,002	S
ENJ → ATT → STF	0,776	0.636 - 0.927	0,088	0,001	0,002	0,001	S
ENJ → ATT → RCT	0,618	0.467 - 0.785	0,096	0,002	0,002	0,001	S
ENJ → ATT → RCA	0,340	0.243 - 0.461	0,066	0,001	0,001	0,001	S

Table 5. The Mediation Effect Model

Chapter 4

Discussion and Conclusion

Chatbots are providing more services, and now gaining popularity as they may streamline the hiring process, cut expenses, and give job hopefuls a more individualized experience. However, little is known about how exactly chatbots might impact the user experience for candidates, and several gaps warrant more investigation. As a result, the first goal of this paper is to provide a thorough review of chatbots as tools, highlighting how they are currently used in various industries and outlining potential applications in the human resources process using as its pillars to study the effects of the ease of use, usefulness, social presence, trust, and enjoyment on user attitude, satisfaction, and recruiter credibility on candidate interaction. On the one hand, we aimed to examine the performance of the user's attitude itself, and on the other, we started to consider the mediating relationship that the user's attitude may have concerning the effects of the individual elements.

The findings of this study indicate that trust is crucial in these kinds of interactions and that personalization and offering an enjoyable experience can directly affect the way we implement these new technologies.

Our results deviate from the original ideas of (Trivedi, 2019), which propose the influence of ease of use and usefulness versus the components of satisfaction and recruiter credibility because they did not have a significant impact inside the area where it was being implemented. Comparing the proposal of Jiang et al. (2022) concerning the influence of social presence on user behavior, our studies yield a non-significant response, which undermines the initial support for this idea. Our results are also different from those of Silva

et al. (n.d.), who discovered that businesses might give their youthful customers more pleasurable experiences if they integrate digital natives and combine chatbots with their social presence, this is because our results there aren't significate. Our study yielded significant results where we can evidence of the influence of trust on user attitude and its influence on perceived satisfaction, corroborating Wang and Siui (2020) and its similarity with Nordheim et al. (2019). These results are in line with earlier studies on the adoption of technology, social presence, and trust (Davis, 1989; Gefen & Straub, 1997; Srivastava et al., 2010). Yet, by studying the effect of chatbots on recruiter credibility in the HR process, this study adds to the body of research. The results show that chatbots can increase recruiters' credibility by giving job candidates a tailored and interesting experience (Andrews et al., 2000; Ohanian, 1990, 1991).

Finally, we were able to note and support the similarity of results concerning the evidence of Ruan & Mezei (2022), where it is proposed that perceived enjoyment can significantly affect user attitude and this in turn mediates the relationship between user satisfaction or other combinations of factors that act as agents within the experience.

4.1. Theoretical Contributions

Our research contributes to theory in several ways. First, the current study is one of the first that examines what factors impact attitudes and intention to use recruitment chatbots. While most chatbot literature has focused on AI-conversational agents used in shopping or healthcare contexts. Second, the study adds to the literature about the main antecedent of attitudes and behavioral responses toward a recruitment chatbot. Specifically, the study demonstrates that trust and enjoyment are the main drivers of recruitment chatbot use, while ease of use, usefulness, or social presence is not a significant

antecedent at the level of this type of chatbot. Third, the study reveals that attitude mediates the relationship between trust and enjoyment on the one side, and satisfaction and both dimensions of credibility (trustworthiness and attractiveness), on the other.

4.2. Managerial Implications

The results of this study can be used by HR managers to create chatbots that prioritize user needs and preferences. Easy to use, usefulness, social presence, trust, and enjoyment chatbots can improve user happiness and attitude toward the HR process and the company. To improve candidates' experience with and attitude toward the HR process, HR managers can train them on how to use chatbots effectively. Human-computer interaction research from the past supports these management implications (Cheung & Vogel, 2013; Hui et al., 2007). Based on this, Organizations should concentrate on creating chatbots that are easy to use, offer accurate and pertinent information, consider social cues, and build trust. Organizations can develop chatbots that improve the HR process, resulting in improved recruitment outcomes and higher user satisfaction levels, by taking these criteria into account. When creating a recruitment chatbot, there are a few strategies that you can implement to make it more enjoyable and trustworthy for users. These strategies can have a significant effect on user satisfaction and credibility. First, consider using humor in your chatbot's responses. A little bit of humor can make the conversation more enjoyable for the user and can help to build trust with them. Additionally, using a conversational tone can make the conversation feel more natural and less robotic, further enhancing user enjoyment and trust. Transparency is also important in building trust with users. Be upfront about the chatbot's purpose, capabilities, and limitations. By being transparent, you

can demonstrate your commitment to providing accurate and helpful information to the user.

Personalization is another key strategy for making the conversation more enjoyable and engaging for the user. Use their name and ask relevant questions to make the conversation feel more personalized and important to them. Providing quick and accurate responses is essential for building trust with users. Ensure that the chatbot provides accurate and helpful information promptly to show that you are committed to helping the user with their job search. Using emojis and gifs can add personality and emotion to the conversation, making it more enjoyable and engaging for the user. Additionally, providing valuable information and resources related to the user's job search can help to build trust and demonstrate your commitment to their success. Finally, using positive reinforcement can encourage users to continue using the chatbot. Congratulate them on completing a task or provide them with a reward for using the chatbot to demonstrate your appreciation for their engagement and help build trust.

By implementing these strategies, you can create a recruitment chatbot that is both enjoyable and trustworthy for users, leading to higher satisfaction and credibility.

4.3. Limitations and Future Research

Future investigations should resolve various study shortcomings. First off, the study was carried out in a lab environment, which might not accurately represent the context of HR processes in the real world. Second, the convenience sample employed in the study might not have been typical of the entire population. To increase the generalizability of the results, future studies should use a larger and more varied sample. Lastly, the study concentrated on how chatbots affected user attitudes, recruiter credibility, and user pleasure.

Future studies should look at how chatbots affect other crucial HR outcomes, like job performance and turnover. These restrictions and recommendations for additional study are in line with earlier work in the field of human-computer interaction (D'Alfonso, 2018; Nysveen et al., 2005). Finally, to establish the impact of chatbot design on user attitudes and satisfaction more broadly, future research should seek to replicate the study with bigger sample numbers and in different industries.

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