Impact of Chatbots on Satisfaction and Loyalty in Lima's Telecom Sector

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Abstract: The migration towards digital environments has transformed the expectations of consumers, who now not only look for quality products and services, but also convenience, personalization and efficiency in each interaction with the brand. This change presents significant challenges for companies, as they need to constantly adapt to meet their needs and thus maintain loyalty in a highly competitive market. The pressure to offer added value and maintain customer preference is intensified by the ease with which consumers switch to competitors. which drives companies to innovate and adapt AI such as chatbots, which could be the answer to this challenge. The objective of this research work is to know if the use of chatbots positively influences the satisfaction and perceived loyalty of consumers of telephone services, since in this case the speed, quality of the service and the customer's need for understanding. They are critical and represent a greater challenge to differentiate. The methodology used for this research maintains a quantitative, correlational, non-experimental approach. The type of sampling was non-probabilistic, and the strategy was snowball. The instrument used was a questionnaire with a sample of around 130 consumers in the city of Metropolitan Lima in Peru. The findings suggest that chatbots are not only innovative tools, but also strategic ones for telephone companies seeking to improve customer satisfaction and loyalty. The implementation of appropriate chatbots can transform the customer experience, providing a more agile, personalized and effective service, thus seeing a close relationship between the dimensions of the chatbot with the satisfaction and loyalty perceived in consumers. In a world where these variables are key to business survival, chatbots represent an opportunity to create exceptional experiences. Uncover how cutting-edge AI chatbots are revolutionising customer satisfaction and loyalty in the competitive telephone service industry, offering transformative, personalised, and efficient interactions.

Keywords: Chatbots, Customer Satisfaction, Loyalty, Telephone Services, Digital Innovation

1. Introduction

Today, we live in an era where consumers spend more time in digital environments, seeking services in an accessible and fast way, regardless of location, time or channel (Escobar, 2016). In Peru, delays in customer service and low information accuracy have negatively impacted sales and customer satisfaction (Gestión, 2018). Consumers value convenience, personalisation and efficiency in all their interactions with brands. Companies face the challenge of remaining robust and efficient in all their digital channels to attract and retain customers, seeking their preference and loyalty (Hasberg et. al., 2016). In response to digitalisation and business issues, several countries have incorporated chatbots as an effective solution to address customer queries and concerns through AI (Dhaoui, 2014).

The main purpose of the paper is to draw insight into the relation between the use of Chatbots and the perception of customer satisfaction and loyalty, with a focus on the telephone service sector that has been criticized for poor customer care. This is further echoed by the study by Anda Peru (2021), stating issues such as slow service, poor customer care, and bad processes. This study tries to comprehend the relationship that the use of chatbots, satisfaction (S), and loyalty (L) perceived in consumers of telephony services in Metropolitan Lima (LM) would have in 2024. The research studies three dimensions: dimensions such as chatbot interactions (I), personalization (P), problem resolution (RP) capabilities, which are related to influences on perceived S and L. The following will present the research objectives of analysing such relationships and its effect on perceived S and L. Overall Objective: To analyse the relationship between the use of chatbots, "S," and "L" in consumers of telephony services in "LM" in 2024. The specific objectives vary along the above-mentioned dimensions. The research aims at extending theoretical knowledge on customer satisfaction by using chatbots, aligning with Feine et al. (2019). It also aims to update the conceptual framework on chatbots and customer experience, identifying gaps and establishing a solid foundation for future research, as suggested by Xu et al. (2023). Furthermore, it seeks to provide information on tools to improve customer satisfaction in business strategies, following Dhaoui (2014). The research has practical relevance, as it will analyse the usefulness of chatbots in customer satisfaction among users of telephony services in Lima, influencing investment decisions and strategies of consolidated entities, like Sanny et al. (2020). According to Antonio et al. (2022), the results will provide guidance and practical knowledge for domestic and international consumers, helping them to understand the benefits of chatbots and their proper employability. The migration of customers to digital channels has increased interest in chatbots in the Peruvian economy because of their novel nature and the improvements they promise

in digital offerings (Medina, 2019). Chatbots stand out not only for their 24-hour availability, but also for their ability to collect valuable information from users (Guzmán, 2020). The importance of chatbots as an additional method of customer service in the Peruvian market is underlined, with high growth potential in digital developments aimed at improving customer satisfaction, according to INEI (2023).

Regarding the background, it can be mentioned that relevant findings with similar views were found among several authors, such as the studies by Surjandy & Cassandra (2023), Naqvi et al. (2023), Bhattacharya & Sinha (2022) agree on the idea of a positive relationship in the e-commerce context, highlighting factors and such as response time, reliability and chatbot usability as key factors of the customer's "S" and "L". Meanwhile, Naqvi et al. (2023), in their study entitled "Impact of service agents on customer satisfaction and loyalty: mediating role of Chatbots", with focus on the essence of fashion retail brands in Pakistan, find that chatbots can provide personalised treatment that improves the quality of communication and, consequently, the customer's "S" and "L". Bhattacharya & Sinha, looking at the banking sector, find that chatbots are crucial for improving customer interactions, aiding and recommendations that increase customer's perceived "S" and "L".

Naqvi et al. (2023) and Antonio et al. (2022) agree on the importance of the "P" in the customer-chatbot "I" to increase customer "S". Naqvi et al. emphasise that chatbots can offer personalised treatment by adapting to individual customer needs, leading to a higher "S" and "L". Antonio et al., in "Study Literature Review: Discovering the Effect of Chatbot Implementation in Ecommerce Customer Service System Towards Customer Satisfaction", further argue that the implementation of chatbots does not guarantee high levels of "S" if there is no adequate "P" in the conversation with the user.

Sanny et al. (2020), in "The analysis of customer satisfaction factors which influence chatbot acceptance in Indonesia", Zhang et al. (2023), Eren (2021) and Feine et al. (2019) provide a measured view of the elements that affect the customer's "S" with chatbots. Sanny et al. recognise factors such as usability, brand image development, personality and ease of use as crucial determinants of the customer's "S". Zhang et al. (2023), in "Emotional expression by artificial intelligence chatbots to improve customer satisfaction: Underlying mechanism and boundary conditions", highlight the importance of emotionality in the "I", while Eren (2021) highlights the relevance of received performance, perceived trust and company reputation. Feine et al. (2019) introduces sentiment analysis as a tool to improve customer "S", demonstrating its usefulness in understanding chatbot behaviour and being able to adjust it according to the user's needs.

Huang et al. (2023) and Xu et al. (2023) address the comparison between chatbots and human service in relation to customer "S". Huang et al., in "Can chatbot customer service match human service agents on customer satisfaction? An investigation in the role of trust", find that, while chatbots contribute to improving customer "S", there is room for improvement compared to human attention. On the other hand, Xu et al. (2023) explore the mixed effects of chatbot-human "I" on customer "S", concluding that chatbots with accurate responses are preferred over those with social orientation biases, highlighting the importance of accuracy in "I".

Chung et al. (2020), in "Chatbot e-service and customer satisfaction regarding luxury brands", and Xu et al. (2023) focus on the importance of accuracy in chatbot responses. Chung et al. find that the accuracy of the information provided by chatbots, along with the credibility of the information, significantly affects the customer's "S". Xu et al., on the other hand, highlight that chatbots with concise responses are more highly valued, evidencing that the accuracy of responses is a crucial component in influencing the customer's "S".

In the theoretical framework of this research, three key variables are presented: the independent variable, which are the service agents (chatbots), and the dependent variables, which are the customer's "S" and the customer's "L". Chatbots are defined as a type of AI that use Natural Language Processing (NLP) to understand and process human language, enabling conversations in text or voice format (Shawar and Atwell, 2007). ELIZA, the first chatbot, was developed in 1960 by Joseph Weizenbaum at MIT. Since then, significant advances have been made with systems such as WeChat (2009) and personal assistants such as SIRI and Alexa. In real life, chatbots are AI systems that interact with users through a chat interface, designed to simulate human conversations, help, answer questions or perform specific tasks. They are widely used in customer service, sales and technical support.

The qualities of a chatbot can be assessed in four dimensions: entertainment, trendiness, customization and problem-solving accuracy, credibility and communicative competence, i.e. the ability to converse effectively (Chung et al., 2020). Naqvi et al. (2023) proposed four dimensions of service agents: Interaction as a social quality, Personalisation for adapting to customer needs, Problem Resolution (RP) as an effective solution, and the last one which it was not taking into consideration is Entertainment. These dimensions are essential to verify

the ransmission and processing of language by chatbots. The design of chatbots uses NLP techniques and AI algorithms, such as machine learning and neural networks, to improve their interaction capabilities. Human-Computer Interaction (HCI) theory is also relevant, focusing on the design of interfaces that facilitate effective human-computer interaction (Dix et al., 2004). The dependent variable of customer "S" is defined as the emotional reaction to the quality of the product or service received (Silva et al., 2021). Mora Contreras (2011) extends this definition by considering a sequence of emotional states that culminate in a positive or negative response before and after the purchase. Chiou and Droge (2006) suggest that customer "S" occurs when products or services meet or exceed expectations. In practice, customer "S" reflects how well a product or service meets prior expectations. In light of the above, this research prefers the Chiou and Droge definition over that of Silva et al. (2021). However, it is pertinent to mention that the cognitive-affective customer "S" model, developed by Caro and Garcia (2007), considers that the behaviour behind the "S" is marked by rational judgements (cognitive) and emotional aspects (affectivity). The dimensions of this model include perceived information quality, perceived delay time and positive emotions during the interaction with the chatbot. There are two approaches to how emotions influence on "S": one view sees emotions as mediating the relationship between cognition and "S" (Bigné and Andreu, 2002), while the other sees them as independent sources of "S" (Oliver, 1993).

As for the dependent variable of customer "L", this refers to the degree to which a customer remains loyal to a company or brand and continues to purchase its products or services over time. Customer "L" is closely related to customer "S", as a satisfied customer is more likely to develop "L". According to Dick and Basu (1994), the customer "L" can be understood as a deep commitment to repurchase or continue using a product or service in the future, despite situational influences and marketing efforts that might cause a change in behaviour.

Customer "L" can be measured along several dimensions, such as repurchase intention, recommendation of the product or service to others, and resistance to switching to competitors. According to Oliver's (1999) "L" Model, "L" develops in four stages: cognitive, affective, conative and action. The cognitive stage is based on the consumer's beliefs about the quality of the product or service; the affective stage includes the consumer's feelings towards the brand; the conative stage refers to the customer's intention to continue purchasing; and the action stage involves the performance of loyal behaviours, such as repurchase and recommendation.

In practice, customer "L" can also be measured through metrics such as customer retention rate, purchase frequency, market share, willingness to recommend the brand (NPS) and price sensitivity. In addition, surveys and purchase behaviour analysis can be conducted to assess "L" (Zeithaml et al., 1996)

The general hypothesis of this research is: "The use of chatbots positively influences the perceived "S" and "L" of consumers of telephony services in Metropolitan Lima 2024". In line with was previously stated with the problem and objectives, there are six specific hypotheses in relation to the three dimensions brought about using chatbots.

The first hypothesis would be "the interaction of chatbots positively influences the "S" in consumers of telephony services in Metropolitan Lima in the year 2024". The second hypothesis would be "the interaction of chatbots positively influences the "L" in consumers of telephony services in Metropolitan Lima in the year 2024".

Both hypotheses are in line with Sanny et al. (2019), Antonio et al. (2022) and Naqvi et al. (2023).

The third hypothesis would be "the "P" of chatbots positively influences the "S" in consumers of telephony services in Metropolitan Lima in the year 2024". The fourth hypothesis would be "the "P" of chatbots positively influences the "L" in consumers of telephony services in Metropolitan Lima in the year 2024", both according to Chung et al. (2020), Eren (2021) and Naqvi et al. (2023); rejected by Xu et al. (2023).

The fifth hypothesis would be "The "PR" provided by the chatbot positively influences the "S" in consumers of telephony services in Metropolitan Lima in the year 2024". The sixth hypothesis would be "The "PR" provided by the chatbot positively influences the "L" in consumers of telephony services in Metropolitan Lima in the year 2024". Both according to Zhang et al. (2023) and, Moran and Agüero (2022), rejected by Huang et al. (2023).

2. Methods

The focus of this research was quantitative because it could contribute to the resolution of practical problems, knowing the reality through limited and measurable data. In relation to the scope, it is descriptive-correlational with a "non-experimental" cross-sectional design, where data can be placed in space-time. In this study, the focus was on consumers of telephone services in Metropolitan Lima in the year 2024.

In relation to the design of the model, we considered the population data of Metropolitan Lima up to January 2024, where we found that the capital had 10,292,408 inhabitants (Gestión, 2024). It was also further narrowed down to those people who used the internet via mobile phone in the capital, as it is understood that by using and having access to the internet, users could make queries to their mobile phone company's chatbots. To this end, it was found that 94.1% of the population of Metropolitan Lima that is older than 6 years of age complies with the above (INEI, 2023). Therefore, by performing a simple multiplication, we have a population of 9,345,507 inhabitants.

According to this population a sample of 130 observations is adequate for PLS-SEM as it ensures reliable and robust estimates (Hair et al., 2017). In relation to the type of sampling it will be non-probabilistic, as the present research will be bounded with certain parameters seen above, and finally regarding the sampling strategy, this will be Snowball. The data collection instrument was an improved, adapted, and refined version based on an instrument by Naqvi et al. (2023). The article has been tested and published in the English Language, so it was translated into Spanish (free translation) for practical research purposed. It is also important to mention that moderating variables are not being considered as part of the model.

On the data collection side for the present research, it was through dissemination via email and social networks. The results collected were tabulated in Excel for better data manipulation, coded and the PLS-SEM method was used. Finally, descriptive statistics were used, taking into consideration Cronbach's Alpha, estimated parameters and correlation coefficient to analyse the results.

3. Results and Discussion

The JAMOVI platform was used to calculate the previously collected data, which has been tabulated both in filter questions and in relation to the questions asked for each variable, in the case of the dependent variables, and to the independent variable in relation to its dimensions, both on a Likert scale. Thus, the structural equation model (SEM) is presented in Figure 1, where each circle represents each variable. Recall that, Personalisation is manifested by the letter "P", Problem Solving is "RP", Interaction is "I", Loyalty is "L" and Satisfaction is "S".

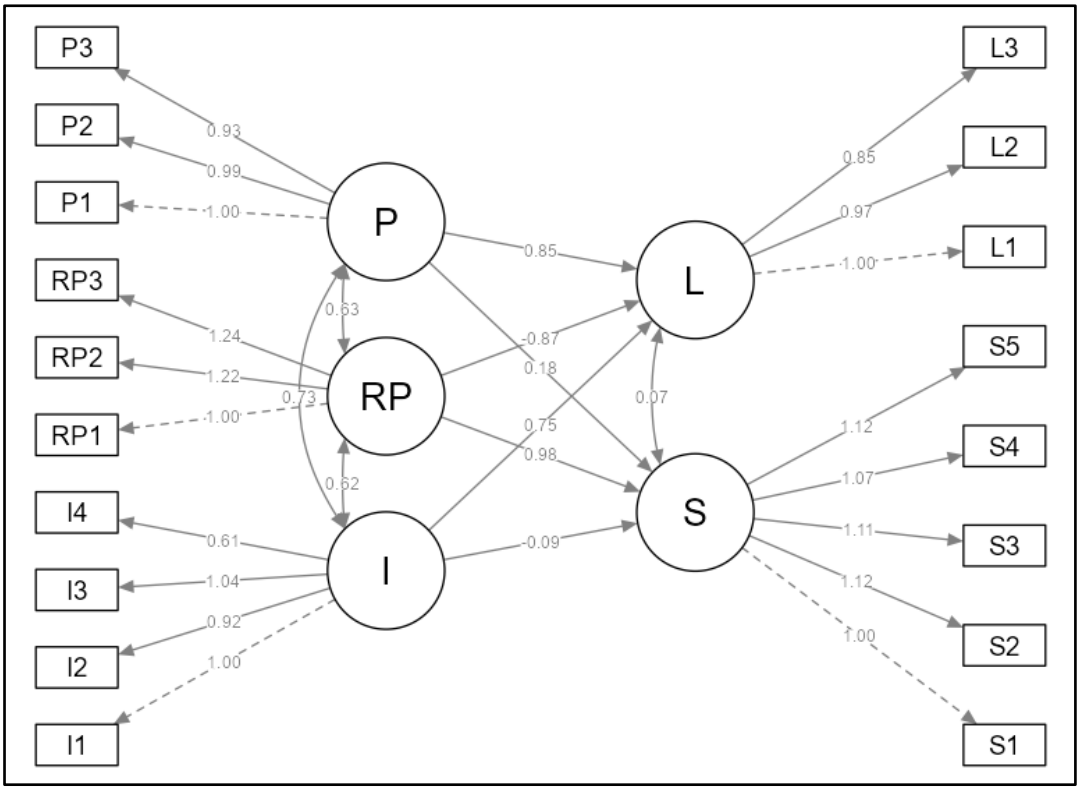

Figure 1:SEM Model

Dashed lines in the model generally represent hypotheses that are being tested and do not have strong empirical confirmation.

Table 1: Estimated model parameters.

				95% Confidence Intervals				
Dep	**Pred**	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**z**	**p**
S	I	-0.0913	0.253	-0.5870	0.404	-0.0939	-0.361	0.718
S	RP	0.9773	0.408	0.1777	1.777	0.8525	2.396	0.017
S	P	0.1768	0.161	-0.1385	0.492	0.1854	1.099	0.272
L	I	0.7503	0.409	-0.0510	1.552	0.7806	1.835	0.066
L	RP	-0.8684	0.633	-2.1091	0.372	-0.7667	-1.372	0.170
L	P	0.8512	0.296	0.2720	1.430	0.9035	2.881	0.004

Table 2: Measurement model.

				95% Confidence Intervals				
Latent	**Observed**	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**z**	**p**
I	I1	1.000	0.0000	1.000	1.000	0.879		
	I2	0.923	0.0370	0.850	0.995	0.811	24.92	< .001
	I3	1.040	0.0292	0.983	1.098	0.914	35.58	< .001
	I4	0.607	0.0765	0.457	0.757	0.533	7.94	< .001
RP	RP1	1.000	0.0000	1.000	1.000	0.746		
	RP2	1.217	0.0592	1.101	1.333	0.907	20.57	< .001
	RP3	1.242	0.0615	1.122	1.362	0.926	20.21	< .001
P	P1	1.000	0.0000	1.000	1.000	0.896		
	P2	0.989	0.0329	0.924	1.053	0.886	30.07	< .001
	P3	0.934	0.0357	0.864	1.004	0.837	26.14	< .001
S	S1	1.000	0.0000	1.000	1.000	0.855		
	S2	1.122	0.0333	1.057	1.188	0.959	33.66	< .001
	S3	1.108	0.0332	1.043	1.173	0.947	33.38	< .001
	S4	1.068	0.0340	1.001	1.135	0.913	31.39	< .001
	S5	1.124	0.0354	1.054	1.193	0.961	31.75	< .001
L	L1	1.000	0.0000	1.000	1.000	0.844		
	L2	0.966	0.0514	0.866	1.067	0.816	18.79	< .001
	L3	0.851	0.0626	0.728	0.973	0.718	13.59	< .001

Table 3: Model Fit Indices

			95% Confidence Intervals		
Type	**SRMR**	**RMSEA**	**Lower**	**Upper**	**RMSEA p**
Classical	0.055	0.053	0.027	0.074	0.394
Robust	0.052				
Scaled	0.052	0.100	0.083	0.117	< .001

Table 4: Model used vs reference model

	Model
Comparative Fit Index (CFI)	0.999
Tucker-Lewis Index (TLI)	0.999
Bentler-Bonett Non-normed Fit Index (NNFI)	0.999
Relative Noncentrality Index (RNI)	0.999

	Model
Bentler-Bonett Normed Fit Index (NFI)	0.996
Bollen's Relative Fit Index (RFI)	0.995
Bollen's Incremental Fit Index (IFI)	0.999
Parsimony Normed Fit Index (PNFI)	0.814

Regarding the RMSEA indicator, which, according to Xia and Yang (2019), "assesses how well the model, with the estimated parameters, fits the covariance matrix if it were available". In this case, the value came out to be 0.051 which indicates an acceptable model fit. Also, in relation to the CFI (Comparative Fit Index), which is an "(…) incremental fit index that compares the fit of a hypothetical model with that of a reference model" (Xia and Yang, 2019), a value of 0.999 it can be concluded that the model has a very strong fit and is adequate to explain the relationships between the variables being analysed.

The results of this research provide an interesting insight into the influence of chatbots on the "S" and "L" of consumers of telephony services in Metropolitan Lima in 2024.

The provided PLS-SEM model analyzes the relationships between several dimensions: Personalization (P), Problem Solving (RP), Interaction (I), Satisfaction (S), and Loyalty (L). The analysis of the results shows that the interaction has a non-significant negative relationship with customer satisfaction (coefficient: -0.0913, p-value: 0.718), which could be because the quality of the interaction is not consistently perceived as positive. by clients. On the other hand, the ability to solve problems has a positive and significant relationship with customer satisfaction (coefficient: 0.9773, p-value: 0.017), suggesting that effective problem-solving increases satisfaction. Personalization has a positive but non-significant relationship with customer satisfaction (coefficient: 0.1768, p-value: 0.272), indicating that customization alone is not a determining factor in satisfaction.

Regarding loyalty, interaction has a marginally significant positive relationship with customer loyalty (coefficient: 0.7503, p-value: 0.066), suggesting that good interaction can influence loyalty, but not conclusively. The ability to solve problems has a non-significant negative relationship with customer loyalty (coefficient: -0.8684, p-value: 0.170), which is counterintuitive and could indicate that problem solving does not always translate into loyalty. In contrast, personalization has a positive and significant relationship with customer loyalty (coefficient: 0.8512, p-value: 0.004), indicating that personalization is a key factor in fostering loyalty.

The results of the measurement model show that the construct indicators have high and significant loadings, except for the Interaction indicator I4, which has a lower loading (0.607), which could suggest problems with this item, this is an opportunity to improve future research. The Problem Solving and Personalization constructs have indicators with high and significant loadings, which indicates that they adequately measure the constructs. Customer Satisfaction, measured by indicators S1 to S5, and Customer Loyalty, measured by L1 to L3, also present very high and significant loadings, indicating that they are good measures of their respective constructs.

A negative coefficient on structural relationships, such as RP to L, may indicate an unexpected inverse relationship and may be due to problems with the operationalization of the constructs, cultural differences, or unmet customer expectations. Given that this research is original in a geographical context not extensively explored, this finding constitutes an opportunity to explore this phenomenon in detail rather than a weakness.

Values of 1 in the indicator loadings indicate that these are perfect reflections of their respective constructs, which can occur when the construct is measured by a single indicator or when the model has been standardized in this way.

For the results that we will call unexpected, the following alternative explanations are proposed. Interaction and Satisfaction: The negative relationship could indicate that the quantity of interaction is not as important as its quality. Excessive interactions could be perceived as annoying or invasive by customers. Problem Solving and Loyalty: Problem solving could be linked to previous serious problems that reduced initial loyalty, and even if they are resolved, the damage to loyalty could already be done.

4. Conclusions

In conclusion, personalization is a critical factor for customer loyalty, the ability to solve problems significantly increases customer satisfaction, although it does not have a significant impact on loyalty, and interaction has a marginal impact on loyalty and has not a significant impact on satisfaction, which suggests that the quality of the interaction must be improved. It is recommended to improve the quality of the interaction, encourage personalization and review the problem resolution strategy to understand why it does not translate into loyalty. It is necessary to note that analysis has highlighted both the expected and unexpected results of structural equation modeling using PLS-SEM for these study variables in a little explored geographic context. Alternative explanations for the unexpected results have been proposed and future lines of research have been suggested to address these issues. Based on the findings and the proposed alternative explanations, the following lines of future research are suggested: Quality vs. Quantity of Interactions, to investigate the influence of the quality and quantity of interactions on customer satisfaction, differentiating between types of interaction. Delve into the impact of Previous Problems, thus studying the impact of previous problems on loyalty and how problem resolution can restore, but not necessarily improve, loyalty. Although further research is crucial to better understand these dynamics and incorporate cultural or geographic variables in future research.

References

Anda Peru (2021) '¿CUÁL ES LA SITUACIÓN ACTUAL DEL CUSTOMER EXPERIENCE EN EL PERÚ?' Available at: https://revista.andaperu.pe/cual-es-la-situacion-actual-del-customer-experience-en-el-peru/#:~:text=En%20Activa%2C%20realizamos%20un%20estudio,supermercados%20y%20tiendas%20por%20departamento

Antonio et al. (2022) 'Discovering the Effect of Chatbot Implementation in E-commerce Customer Service System Towards Customer Satisfaction', Institute of Electrical and Electronics Engineers. Available at: https://doi.org/10.1109/isemantic55962.2022.9920434

Chen, Q., Lu, Y., Gong, Y. and Xiong, J. (2023) 'Can AI chatbots help retain customers? Impact of AI service quality on customer loyalty', Internet Research, 33(6), pp. 2205-2243. Available at: https://doi.org/10.1108/intr-09-2021-0686

Chiou, J. (2006) 'Service Quality, Trust, Specific Asset Investment, and Expertise: Direct and Indirect Effects in a Satisfaction-Loyalty Framework', Journal of the Academy of Marketing Science, 34(4), pp. 613-627. https://doi.org/10.1177/0092070306286934

Chung, M., Ko, E., Joung, H. and Kim, S. J. (2020) 'Chatbot e-service and customer satisfaction regarding luxury brands', Journal of Business Research, 117, pp. 587–595. Available at: https://doi.org/10.1016/j.jbusres.2018.10.004

Dhaoui, C. (2014) 'An empirical study of luxury brand marketing effectiveness and its impact on consumer engagement on Facebook', Journal of Global Fashion Marketing, 5(3), pp. 209–222. Available at: https://doi.org/10.1080/20932685.2014.907605

Dick, A. S. and Basu, K. (1994) 'Customer Loyalty: Toward an Integrated Conceptual Framework', Journal Of The Academy Of Marketing Science, 22(2), pp. 99-113. Available at: https://doi.org/10.1177/0092070394222001

Dix, A., Finlay, J., Abowd, G. D. and Beale, R. (2004) Human-Computer Interaction. 3rd edn. Pearson.

Eren, B. A. (2021) 'Determinants of customer satisfaction in chatbot use: evidence from a banking application in Turkey', International Journal of Bank Marketing, 39(2), pp. 294–311. Available at: https://doi.org/10.1108/ijbm-02-2020-0056

Escobar, A. (2016) 'The impact of the digital revolution in the development of market and communication strategies for the luxury sector (Fashion Luxury)', Central European Business Review, 5(2), pp. 17–36. Available at: https://doi.org/10.18267/j.cebr.149

Feine, J., Gnewuch, U., Morana, S. and Maedche, A. (2019) 'A taxonomy of social cues for conversational agents', International Journal of Human-Computer Studies, 132, pp. 138–161. Available at: https://doi.org/10.1016/j.ijhcs.2019.07.009

Feine, J., Morana, S. and Gnewuch, U. (2019) 'Measuring Service Encounter Satisfaction with Customer Service Chatbots using Sentiment Analysis', Karlsruhe Institute of Technology. Available at: https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1248&context=wi2019

Gestión (2018) 'Un 67% de clientes se aleja de un servicio por mala atención', Gestión, 8 August. Available at: https://gestion.pe/economia/67-clientes-aleja-servicio-mala-atencion-240918-noticia/?ref=gesr

Gestión (2024) 'Lima: ¿Cuántos habitantes existen y en qué distritos se concentra la mayor población?', Gestión, 21 January. Available at: https://gestion.pe/peru/aniversario-de-lima-cuantos-habitantes-hay-en-la-capital-y-en-que-distritos-se-concentra-la-mayor-poblacion-sjl-smp-comas-vmt-noticia/#:~:text=Lima%2C%2021%2F01%2F2024,que%20equival%C3%ADa%20a%2010%2C292%2C408%20habitantes

Guzmán, C. (2020) 'Cuatro aplicaciones de la inteligencia artificial más usadas por las empresas peruanas'. Available at: https://pqs.pe/actualidad/tecnologia/cuatro-aplicaciones-de-la-inteligencia-artificial-mas-usadas-por-las-empresas-peruanas/

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Sage Publications.

Hagberg, J., Sundstrom, M. and Egels-Zanden (2016) 'The digitalization of retailing: an exploratory framework'. Available at: https://www.econbiz.de/Record/the-digitalization-of-retailing-an-exploratory-framework-hagberg-johan/10011595543

Hernández-Sampieri (2018) Metodología de la investigación. Las rutas cuantitativa, cualitativa y mixta. McGraw Hill.

Huang, D., Markovitch, D. G. and Stough, R. A. (2023) 'Can chatbot customer service match human service agents on customer satisfaction? An investigation in the role of trust', Journal of Retailing and Consumer Services, 76, 103600. Available at: https://doi.org/10.1016/j.jretconser.2023.103600

INEI (2023) 'ESTADÍSTICAS'. Available at: https://www.inei.gob.pe/estadisticas-indice-tematico/

Jones, T. and Taylor, S. (2007) 'The conceptual domain of service loyalty: how many dimensions?', Journal of Services Marketing, 21(1), pp. 36-51. Available at: https://doi.org/10.1108/08876040710726284

Jenneboer, L., Herrando, C. and Constantinides, E. (2022) 'The Impact of chatbots on Customer Loyalty: A Systematic literature review', Journal of Theoretical and Applied Electronic Commerce Research, 17(1), pp. 212–229. Available at: https://doi.org/10.3390/jtaer17010011

Medina, E. (2019) '¿Cuál es la situación actual y potencial de la Inteligencia Artificial en el Perú?'. Available at: https://archivo.gestion.pe/panelg/situacion-actual-y-potencial-inteligenciaartificial-peru-2208564

Misischia, C. V., Poecze, F. and Strauß, C. (2022) 'Chatbots in customer service: Their relevance and impact on service quality', Procedia Computer Science, 201, pp. 421–428. Available at: https://doi.org/10.1016/j.procs.2022.03.055

MIT Sloan (2021) 'Machine learning explained', MIT Sloan, 21 April. Available at: https://mitsloan.mit.edu/ideas-made-to-matter/machine-learning-explained

Mora Contreras, C. (2011) 'La calidad del servicio y la "S" del consumidor'. Available at: https://www.redalyc.org/pdf/4717/471747525008.pdf

Naqvi, M. H. A., Zhang, H., Naqvi, M. H. and Li, K. (2023) 'Impact of service agents on customer satisfaction and loyalty: Mediating role of chatbots', Journal of Modelling in Management. Available at: https://doi.org/10.1108/jm2-01-2023-0004

Oliver, R. L. (1999) 'Whence consumer loyalty?', Journal Of Marketing, 63(4_suppl1), pp. 33-44. Available at: https://doi.org/10.1177/00222429990634s105

Porter, M. E. (2008) La Ventaja Competitiva de Michael Porter.

Sanny, L., Susastra, A., Roberts, C. C. and Yusramdaleni, R. (2020) 'The analysis of customer satisfaction factors which influence chatbot acceptance in Indonesia', Management Science Letters, pp. 1225–1232. Available at: https://doi.org/10.5267/j.msl.2019.11.036

Shawar, B. A. and Atwell, E. (2007) 'Chatbots: Are they Really Useful?', Journal for Language Technology and Computational Linguistics, 22(1), pp. 29–49. Available at: https://doi.org/10.21248/jlcl.22.2007.88

Silva-Treviño, J. G., Macías-Hernández, B. A., Tello-Leal, E. and Delgado-Rivas, J. G. (2021) 'La relación entre la calidad en el servicio, "S" del cliente y "L" del cliente: un estudio de caso de una empresa comercial en México', CienciaUAT, pp. 85–101. Available at: https://doi.org/10.29059/cienciauat.v15i2.1369

Surjandy, S. and Cassandra, C. (2023) 'The Effect of Using Chatbots at e-Commerce Services of Customer Satisfaction, Trust, and Loyalty', 2023 International Conference On Computer, Control, Informatics And Its Applications. Available at: https://doi.org/10.1109/ic3ina60834.2023.10285799

Xia, Y. and Yang, Y. (2019) 'RMSEA, CFI, and TLI in Structural Equation Modeling With Ordered Categorical Data: The Story They Tell Depends on the Estimation Methods', Behavior Research Methods, 51(1), pp. 409-428.

Xu, Y., Niu, N. and Zhao, Z. (2023) 'Dissecting the mixed effects of human-customer service chatbot interaction on customer satisfaction: An explanation from temporal and conversational cues', Journal of Retailing and Consumer Services, 74, 103417. Available at: https://doi.org/10.1016/j.jretconser.2023.103417

Xu, Y., Zhang, J. and Deng, G. (2022) 'Enhancing customer satisfaction with chatbots: The influence of communication styles and consumer attachment anxiety', Frontiers in Psychology, 13. Available at: https://doi.org/10.3389/fpsyg.2022.902782

Zeithaml, V. A., Berry, L. L. and Parasuraman, A. (1996) 'The Behavioral Consequences of Service Quality', Journal Of Marketing, 60(2), pp. 31-46. Available at: https://doi.org/10.1177/002224299606000203

Zhang, J. et al. (2023) 'Emotional expression by artificial intelligence chatbots to improve customer satisfaction: Underlying mechanism and boundary conditions', Tourism Management, 100, 104835. Available at: https://doi.org/10.1016/j.tourman.2023.104835