Implementation of a Web System with Chatbot Service for Sales Management - A Review

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***Abstract*—The objective of the research was to analyze various researches about web systems with chatbot service in the sales management process between the years 2018-2022, employing four databases, such as: Science Direct, Taylor & Francis, IEEE Xplore and Springer. The PRISMA methodology was applied, selecting 60 manuscripts where the year of highest publication was 2021 (35%), leading the USA as the country with the highest scientific production equivalent to 23.33%; in addition, the type of research that predominated were scientific articles with the percentage value of 70% and being entirely in the English language. Finally, it was found that there are two relevant components regarding the implementation of a web system with chatbot service for Sales Management, the first are the evaluated aspects, explained as those that focus on the analysis of the intelligent system, chatbot, website, Google API, e-commerce, machine learning, IBM service, mobile application, web, relationship with customer service, sales management, digital transformation, information system, algorithm and innovation and as the second component, according to the conditional factors refers to the context in which the use of chatbot in sales management occurs, being such technical features as algorithm, type of system, chatbot-customer relationship, sales and innovation and sales-system relationship.**

***Keywords*—Web system; chatbot; chatbot service; sales management; sales automation**

I. INTRODUCTION

In recent years, a great evolution has been identified at the enterprise level due to the cultural variations of most organizational entities, one of them being the use of technological tools focused on sales; however, there is insecurity on the part of management and collaborators on how to optimize processes using such tools [1]. Likewise, innovation in any organization is seen as a capacity and willingness to change on the part of the company, besides being influential in the success or failure of any entity; therefore, it is necessary to identify the factors that induce organizational innovation [2].

The sales process is constituted by two terms: sales and management, the former being considered as the art of planning while the latter is understood as a process in which sales are planned, directed, and controlled in each entity [3]. Consequently, success or failure depends on the sales force, so that decision making primarily affects the quality and ability to strengthen sales; however, most companies spend money on personal sales instead of investing in advertising and promotions, which is why it is necessary to raise awareness and prioritize economic investment in factors that allow every business entity to grow [4].

Therefore, continuous changes have transformed the way of doing things on a daily basis, with the arrival of the internet era has split the access to the information era by raising new requirements in the traditional sales model, considering the needs in the market whose objective is to provide services supported by IT tools for the automation of processes, as well as the organization and control of information [5]. Therefore, at the technological level, software construction ranges from static interfaces to dynamic functionalities, alluding to the website architecture, design, or client/server commands [6].

The technology uses chatbot services for the exchange of information between the user and the software that through the network allows achieving a purchase; therefore, they are considered as conversational software agents that carry out an easy process of dialect and automatic learning; however, it was identified that despite having a technological evolution, there is still an abandonment in online shopping given that it is deficient and confusing for users without having an advisor who can support them and give suggestions in their purchase process [7].

However, the process of buying and selling online is called e-commerce and this has increased and transformed the business aspect, establishing an optimal relationship between the customer and seller [8]. In Japan, salespeople work as a unit to meet the requirements; specifically, years of experience stand out, since the more years of experience, the greater the relationship between sales knowledge and performance, allowing inferring that the competitiveness of salespeople is reflected in the ability to learn through their experiences [9]. In this regard, the sales process involves handling a large volume of customer data, employers, products, and others; the good use of this information allows to achieve effective marketing in sales that through the passage of days achieve a positioning of the business entity and, therefore, optimal results [10].

Companies are facing an increasing challenge in sales management due to the need to maintain effective and constant interaction with customers in digital environments because online sales continue to expand. The problem focuses on the technical, strategic, and implementation challenges that companies may encounter when adopting this technology and balancing automation with human interaction in the online sales process. The questions posed in this research are three:

RQ1: What digital technologies allow the application of the web system in sales management? RQ2: What are the technological tools necessary for the application of the web system in sales management? And RQ3: What are the benefits of implementing a chatbot service in sales management?

This research is important to take advantage of the benefits of technology, improve efficiency, strengthen customer relationships, and remain competitive in an ever-changing business environment. The rationale for this research lies in the increasing relevance of this technology in today's business environment. Companies are looking to improve efficiency, deliver exceptional customer experiences, and stay competitive in an ever-changing marketplace. The adoption of chatbots is a growing technology trend that can contribute to these goals by optimizing resources, improving customer interaction and providing valuable data for decision making. Researching this implementation is essential to understand its benefits and challenges, contribute to knowledge in the field and promote innovation in sales management.

The objective of the research was to analyze the research related to web systems with chatbot service in the sales management process. This work is organized as follows: Section II specifies the methodology used for this type of research. Section III specifies the results obtained through tables and figures. Section IV delves into the discussion of the findings found and Section V concludes the research.

II. METHODOLOGY

Systematic review can be conceptualized as the collection of evidence at a practical level to demonstrate the eligibility criteria previously specified to answer specific questions using systematic methods that are selected to minimize bias, generating reliable findings that allow the extraction of conclusions and optimal decision making; it is worth mentioning that the primary attributes are: criteria of choice, methodology, systematic search, and validity [11].

In this research, the collection of scientific literary material on a web system with chatbot service for sales management has been carried out in the period of 2018-2022. The collection process involved searching and selecting information based on the parameters established by the Prisma methodology [12]. For this, identification, eligibility, and inclusion criteria were considered. For the acceptance of scientific papers in this systematic review, the following aspects were considered:

- Date of publication belonging to the last decade (2018 - 2022) since it is considered as the appropriate period of antiquity to obtain adequate and accurate information about the conceptual constructs of the problem.
- Coming from scientific databases with a high level of reliability and originality, since it guarantees the scientific validity of what is described in this systematic review.
- Existence of words or phrases related to the chatbot and sales management, since this guarantees the relationship between the scientific documents found and the object of study.
- Writing in English, to obtain more information of an international nature related to the study variables.

For the discarding of scientific documents, the following aspects were considered:

- That the date of publication is prior to 2018, given that the information is considered outdated for the research purposes of a systematic review.
- That the research object of the documents found is not completely related to that of the present systematic review because, if so, it will not be helpful for the resolution of the current research question.
- It is too far from the one proposed for this inquiry, because, if so, the information described in those documents will not be of help for the relation of this systematic review.

In this sense, the following databases were considered in the search process:

- Taylor & Francis
- Science Direct
- IEEE Xplore
- Springer

As a first step, the search was performed using keywords such as "chatbot" and "sales management". After said search, the filter was applied according to the year of publication, considering for the research only those that were published between the years 2018 and 2022.

This resulted in the inclusion of 42 articles and 18 conferences under the papers structure, of which, after being filtered under criteria such as the linkage with the objective of study of this systematic review, the existence of keywords in the title that are related to the web system with chatbot service, as well as, sales management and the existence of a correct access link to the complete document in its digital format.

The documents included in the systematic review had the following distribution:

- Science Direct: From a total of 2,518 scientific articles, 10 were selected.
- Taylor & Francis: From a total of 758 scientific articles found, 12 were finally selected.
- IEEE Xplore: From a total of 1,627 scientific articles found, 15 were taken.
- Springer: Out of 7,129 articles found, 23 were selected.

After that, a list of the selected documents was made considering their source. Duplicates were checked and no document was found to be in more than one database. Finally, the documents were ordered according to aspects such as the country where the research was carried out, the year and type of publication, among others.

Fig. 1 shows the number of manuscripts identified in the search for information by database, following the parameters of the PRISMA methodology.

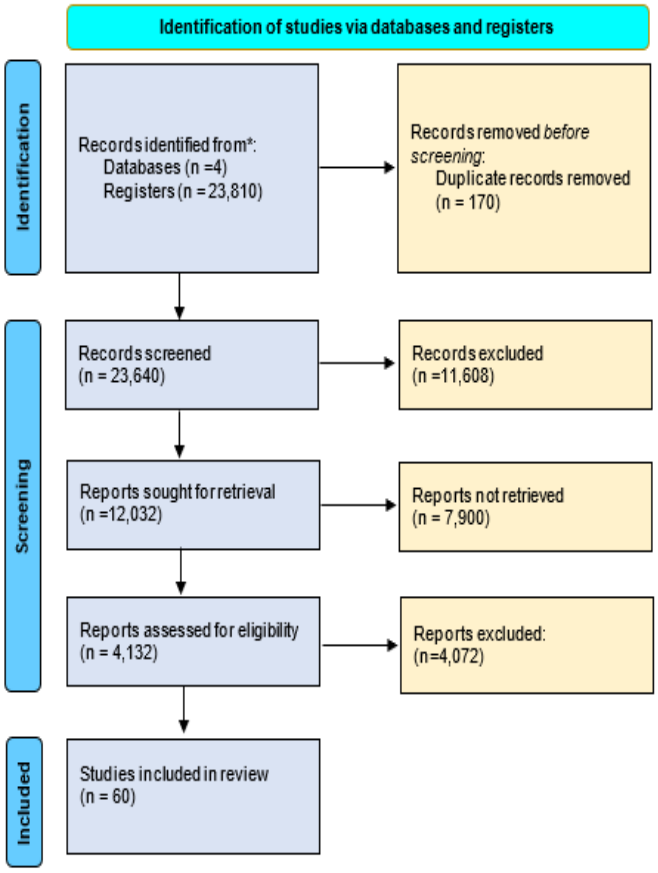

Fig. 1. PRISMA methodology.

III. RESULTS

The results have been structured according to a database made up of 23,810 explorations, which after a severe analysis according to the established filters gave way to a database with methodological data made up of 60 studies. As shown in Fig. 3, the Preferred Reporting Items for Systematic reviews, and Meta-Analyses method, known by its acronym PRISMA, was applied to explain how and what results were generated with the literature review. Starting by identifying four bibliographic sources: Science Direct, Taylor and Francis, IEEE Xplore and Springer, as the first phase, identification, the first selection was carried out based on the search by key words and phrases, obtaining 23,810 inquiries, where 23.27% corresponded to Science Direct, 14.87% to Taylor & Francis, 10.66% to IEEE Xplore and 51.20% to Springer.

In the second phase, placing on screen, with the second selection criterion considering the year of publication, in this case from 2018 to 2022, there were 12,032 studies where 20.93% came from Science Direct, 6.30% from Taylor & Francis, 13.52% from IEEE Xplore and 57.25% from Springer. In the third phase, eligibility, the third selection was carried out considering the title with words or phrases related to the subject of the present systematic review, resulting in 7,900 documents excluded and 4,132 selected of the latter 29.48% registered in Science Direct, 1.40% from Taylor & Francis, 17.59% from IEEE Xplore and 51.52% from Springer.

Finally, in the fourth phase, included, the criteria for reading the abstract (identification by components such as methodology and results found was applied to clarify the relevance of the study), relationship with the objective of the study (considering that it has the same unit of analysis and variables or constructs addressed) and correct access link (including how to identify an access link to the document) were incorporated, with 4042 documents excluded, and 60 documents selected. Of the latter 10 (17%) were from Science Direct, 12 (20%) from Taylor & Francis, 15 (25%) from IEEE Xplore and 23 (38%) from Springer.

Fig. 2 identifies the percentage of contribution to the information from each of the databases. The two databases with the highest contribution are Springer and IEEE Xplore, with a contribution of 38% and 25%, respectively. They are followed by Taylor & Francis with 20% and Science Direct with 17%.

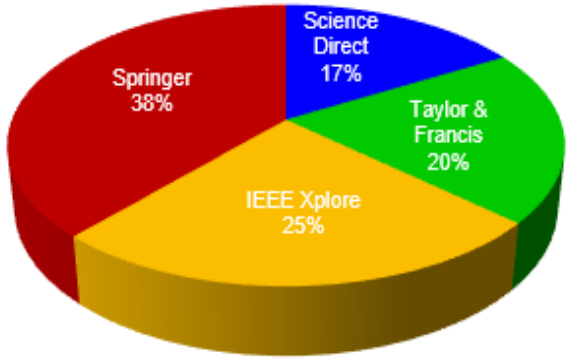

Fig. 2. Percentage data of the data bases.

The number of articles found was 23810, and after applying the exclusion criteria, 60 articles were found as shown in Fig. 3.

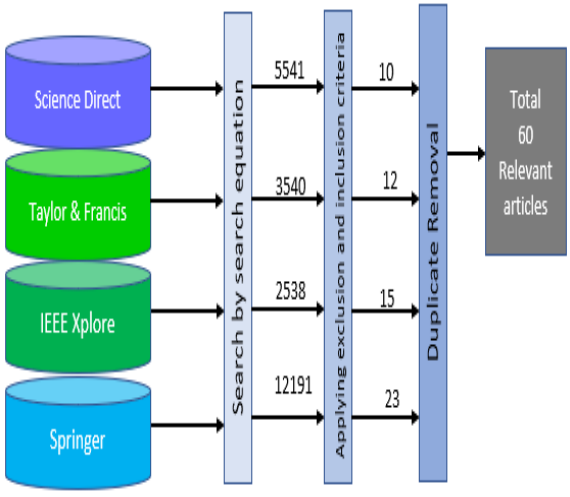

Fig. 3. Number of studies identified by each database.

Fig. 4 shows the selection process of studies identified in the databases considering four stages: identification, put on screen, eligibility and including. In the first stage 11778 were excluded because they did not meet the criteria of search by key words and phrases, in the second stage 7900 were excluded because they were not in the range of years of publications from 2018 to 2022, in the third stage 4072 manuscripts were excluded because they were not related to the research. Finally, 60 publications were selected.

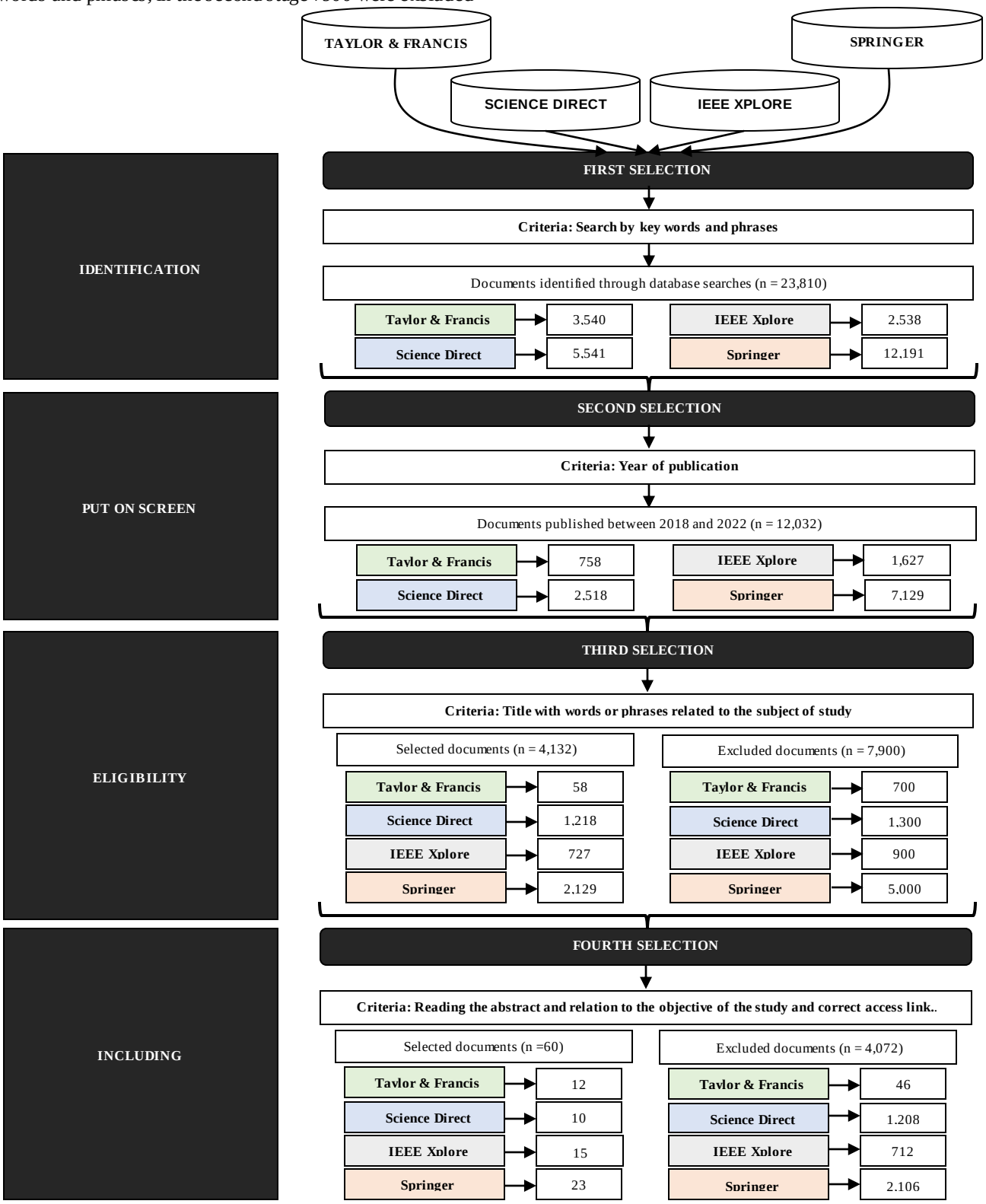

Fig. 4. Selection process of studies identified in the databases.

According to the analysis of the 42 articles and 18 conferences, 20% were published in 2018, followed by 15% in 2019, 13.33% in 2020, 35% in 2021 and 16.67% in 2022. Regarding the lines described above, 2021 was the year that had the greatest approach to the subject matter given that previous years there has been little scientific production; in the following year the percentage value decreases, as shown in Fig. 5.

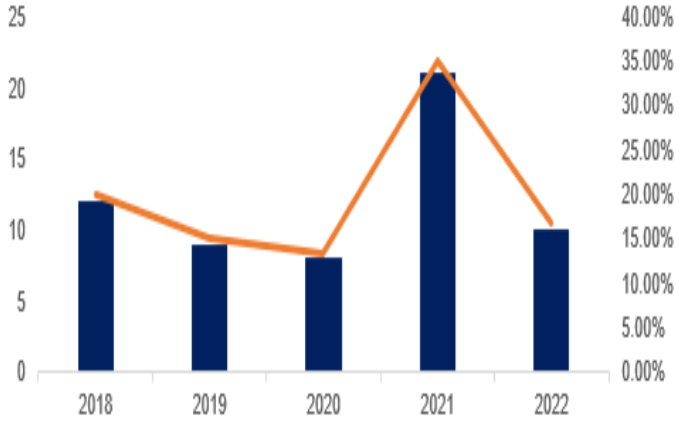

Fig. 5. Documents included in the research by year of publication.

Also, accordingly, it was identified that in 2018 1.67% belong to Science Direct, 6.67% Taylor & Francis, 3.33% IEEE Xplore and 8.33% to Springer; in 2019 6.67% to Science Direct, 1.67% to Taylor & Francis, 3.33% to IEEE Xplore and Springer; in 2020 3. 33% to IEEE Xplore, 5% Taylor & Francis and Springer; in 2021 6.67% to Science Direct, 5% to Taylor & Francis, 11.67% to IEEE Xplore and Springer; finally, in 2022 1.67% represented Science Direct and Taylor & Francis, 3.33% to IEEE Xplore and 10% to Springer, such are seen in Fig. 6.

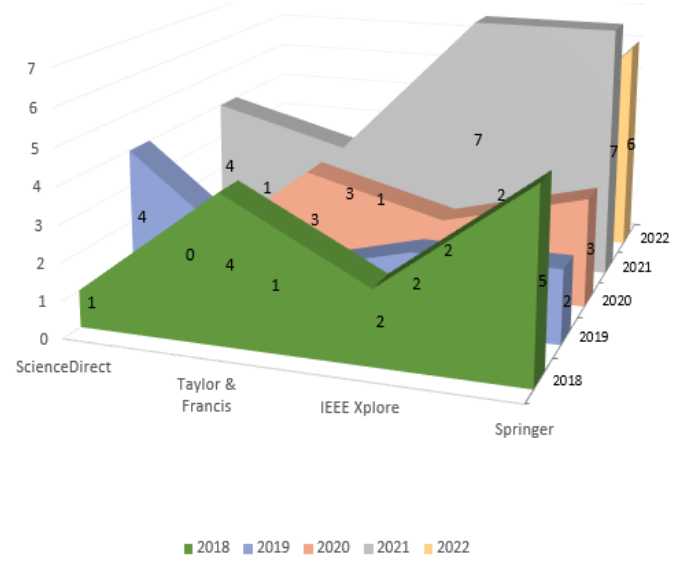

Fig. 6. Documents included in the research according to year of publication and database.

Fig. 7 shows the research considered according to country, in which the USA leads in representation with 23.33% equivalent to 14, followed far behind by India and Norway with 11.67% and 8.33%, respectively.

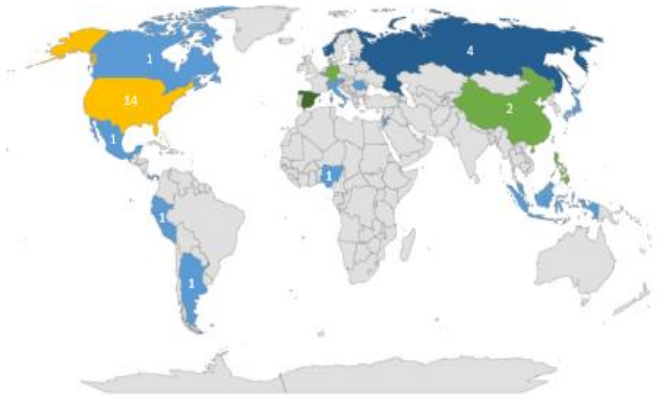

Fig. 7. Documents included in the research according to country of origin grouped by continent.

Fig. 8 classifies the bibliography according to the type of research, with 42 articles (70%) and 18 (30%) conferences.

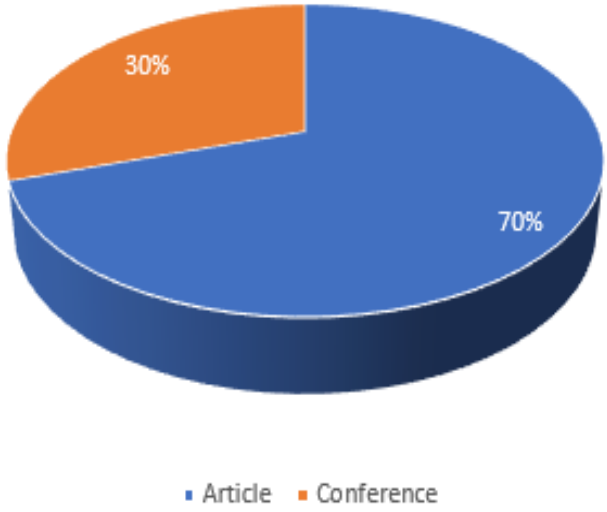

Fig. 8. Documents included in the research according to bibliographic classification.

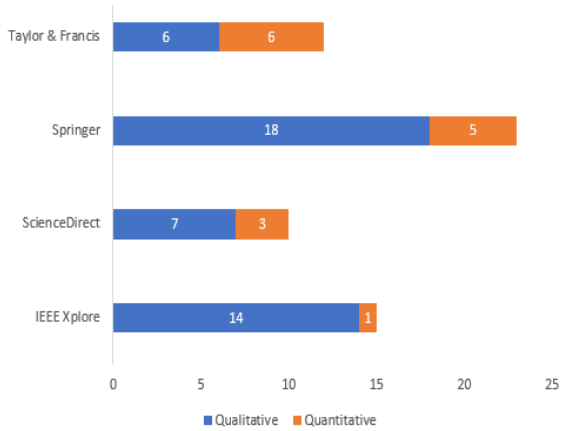

Fig. 9. Documents included in the research according to research approach.

On the other hand, the studies have been classified according to the research approach according to the database, being from the qualitative approach 21.67% for IEEE Xplore, 11.67% for Science Direct, 10% for Taylor & Francis and 30% for Springer; likewise for the quantitative approach, 3.33% were identified for IEEE Xplore, 5% for Science Direct, 10% for Taylor & Francis and 8.33% for Springer. These results are shown in Fig. 9.

Table I presents each of the 60 authors of the researches addressed within the systematic review, where, based on the reading of each one, two relevant components were stipulated, on the one hand according to the aspects evaluated, explained as the one that focuses the analysis of the intelligent system, chatbot, website, Google API, its relationship with e-commerce, machine learning, IBM service, mobile application, web, relationship with customer service, sales management, digital transformation, information system, algorithm and innovation.

As the second component, according to the conditional factors refers to the context in which the use of chatbot in sales management occurs, being such technical characteristics as algorithm, type of system, chatbot-customer relationship, sales and innovation and sales-system relationship.

Specifically, within the first component, 33.33% of the 60 studies addressed evaluated aspects of sales management, followed by 26.67% in chatbot, 6.67% in customer service, 3.33% in sales management and ERP, innovation, mobile application and web, ending with 1.67% in digital transformation, sales, Google API, intelligent system, information system, e-commerce, neural network, social networks, LSTM algorithm, artificial intelligence, machine learning and IBM service.

TABLE I. ORIENTATION OF THE WEB SYSTEM APPLICATION UNDER TWO COMPONENTS

Components: web-based system with chatbot service for sales management		**Reference**
1	2	
According to evaluated aspects	**According to conditioning factors**	
Intelligent system, chatbot	Technical characteristics (algorithm, type of system)	[13]
Website, chatbot and Google API	Technical characteristics (algorithm, type of system)	[6]
Chatbot, system	Technical characteristics (algorithm, type of system)	[7]
Chatbot, e-commerce	Technical characteristics (algorithm, type of system)	[14]
Chatbot, machine learning	Technical characteristics (algorithm, type of system)	[15]
Mobile and web application	Technical characteristics (algorithm, type of system)	[16]
Mobile and web application	Technical characteristics (algorithm, type of system)	[17]
Chatbot and IBM service	Technical characteristics (algorithm, type of system)	[18]
Chatbot	Technical characteristics (algorithm, type of system)	[19]
Chatbot	Technical characteristics (algorithm, type of system)	[20]
Chatbot	Technical characteristics (algorithm, type of system)	[21]
Chatbot	Technical characteristics (algorithm, type of system)	[22]
Chatbot	Technical characteristics (algorithm, type of system)	[23]
Chatbot	Technical characteristics (algorithm, type of system)	[24]
Chatbot	Technical characteristics (algorithm, type of system)	[25]
Chatbot	Technical characteristics (algorithm, type of system)	[26]
Chatbot	Technical characteristics (algorithm, type of system)	[27]
Chatbot	Technical characteristics (algorithm, type of system)	[28]
Chatbot	Technical characteristics (algorithm, type of system)	[29]
Chatbot	Technical characteristics (algorithm, type of system)	[30]
Chatbot	Technical characteristics (algorithm, type of system)	[31]
Chatbot	Technical characteristics (algorithm, type of system)	[32]
Chatbot	Technical characteristics (algorithm, type of system)	[33]
Chatbot, customer service	Chatbot-customer relationship	[32]
Chatbot	Technical characteristics (algorithm, type of system)	[34]
Chatbot, dialogues	Technical characteristics (algorithm, type of system)	[35]
Chatbot, customer service	Chatbot-customer relationship	[8]
Chatbot, artificial intelligence language	Technical characteristics (algorithm, type of system)	[36]

Chatbot, customer service	Chatbot-customer relationship	[37]
Chatbot, customer service	Chatbot-customer relationship	[38]
Sales management	Relationship between sales and innovation	[39]
Sales management	Relationship between sales and innovation	[1]
Sales management, e-commerce, neural network	Sales and system relationship	[40]
Sales management	Relationship between sales and innovation	[41]
Sales management and social networks	Relationship between sales and innovation	[42]
Sales management	Relationship between sales and innovation	[3]
Sales management	Relationship between sales and innovation	[4]
Sales management	Relationship between sales and innovation	[43]
Sales management	Relationship between sales and innovation	[44]
Sales management and ERP	Relationship between sales and innovation	[45]
Sales management	Relationship between sales and innovation	[46]
Digital transformation, sal	Sales and system relationship	[47]
Sales management	Relationship between sales and innovation	[48]
Sales management	Relationship between sales and innovation	[49]
Sales management	Relationship between sales and innovation	[50]
Sales management	Relationship between sales and innovation	[51]
Sales management and innovation	Relationship between sales and innovation	[9]
Sales management	Relationship between sales and innovation	[52]
Sales management	Relationship between sales and innovation	[53]]
Sales management	Relationship between sales and innovation	[54]
Sales management, information system	Sales and system relationship	[50]
Sales management and web system	Sales and system relationship	[5]
Sales management	Relationship between sales and innovation	[55]
Sales management and ERP	Sales and system relationship	[56]
Sales management	Relationship between sales and innovation	[57]
Sales management and innovation	Relationship between sales and innovation	[58]
Sales management	Relationship between sales and innovation	[2]
Sales management	Relationship between sales and innovation	[59]
Sales management	Relationship between sales and innovation	[60]
Sales management and LSTM algorithm	Sales and system relationship	[10]

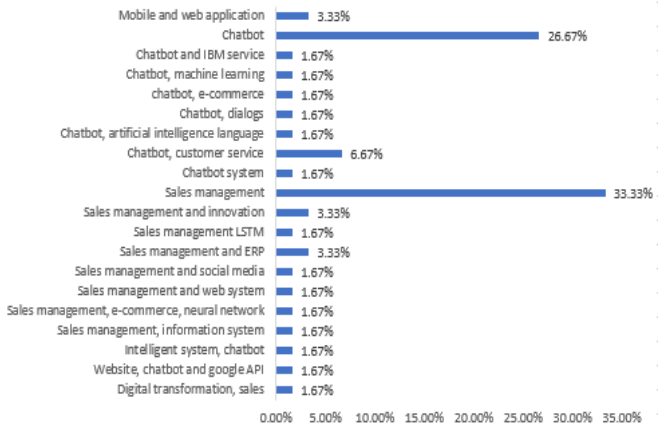

Fig. 10. Component 1: aspects evaluated.

Fig. 10. Count of documents included in the research, according to component 1: aspects evaluated.

Regarding the second component, 43.33% of the identified articles focused on mentioning about the technical characteristics of any web system with the chatbot service, such as the algorithm, software development methodology, APIS used and so on; while 38.33% refer to the relationship of sales management and innovation, as well as 11.67% for its relationship with the system and ending with 6.67% referring to the relationship of the chatbot with customer service.

Fig. 11. Count of documents included in the research, according to component 2: conditioning factors.

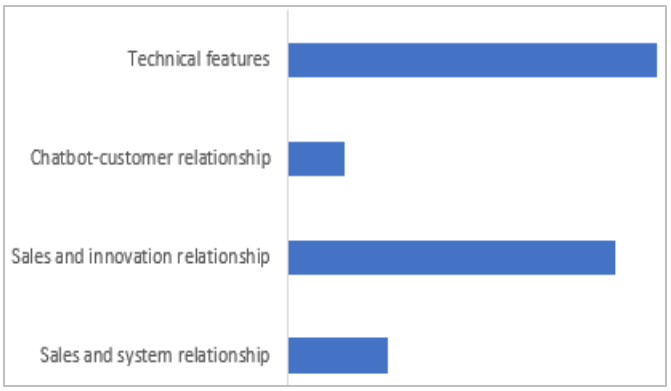

Fig. 11. Component 2: conditioning factors.

IV. DISCUSSION

RQ1: What digital technologies allow the application of the web system in sales management?

The implementation of a Web System with Chatbot Service for Sales Management involves the integration of several key digital technologies, such as Natural Language Processing (NLP), chatbots, Google API, Artificial Intelligence, similarity algorithms like Jaccard, intent recognition, usability evaluation, social penetration theory, DSSM and Regression Forest models, generative methods, SuperAgent with Seq2seq, Ad-hoc, Condor system, Tribefinder, Natural Language Processing techniques, domain ontologies, Chatfuel Bots, measurement tools such as Attrakdiff, web crawling, knowledge bases, AIML and technology acceptance models. These technologies work together to enable more efficient and effective interaction with users, improving the understanding of their needs and providing accurate answers in the context of sales management [6] [13] [15] [17] [18] [22] [25] [34] [36] [38]. Therefore, the analysis of the 60 selected research allowed concluding that the necessary technologies for the development of a system with chatbot service are those that make use of artificial intelligence to improve the processes within a company. However, in the systemic review not all of them use artificial intelligence, since it depends on the problem they want to solve.

Table II presents the digital technologies that allow the development of a web system.

RQ2: What are the technological tools necessary for the application of the web system in sales management?

In relation to this topic, it has been identified that in several studies analyzed, the most prominent tools are JavaScript, HTML, CSS, Bootstrap, front-end web development, SQLite, Laravel, PHP, MySQL, Dialogflow, Python, JSON, HCR, C#, and .NET. These tools play a key role in addressing the complexities of web systems development, providing efficient and robust solutions depending on the programming language used. The choice of these tools not only ensures the proper development of the web system, but also significantly influences its performance, scalability, and ease of maintenance.

The toolset ranges from the creation of the user interface, using technologies such as HTML, CSS, and Bootstrap, to the implementation of business logic using languages such as JavaScript, PHP, and Python. In addition, databases such as SQLite and MySQL play an essential role in efficient data storage and retrieval. The integration of technologies such as Dialogflow enables the creation of chatbots, a crucial element in the context of the proposed system.

TABLE II. DIGITAL TECHNOLOGIES THAT ENABLE THE DEVELOPMENT OF A WEB SYSTEM

Nº	Technology	Quantity	Reference
1	Natural Language Processing (NLP) Algorithm	4	[13] [14] [28] [15]
2	Google API	1	[6]
3	Artificial intelligence	15	[7] [16] [17] [18] [23] [29] [32] [8] [58] [30] [35] [31][40]
4	Jacquard similarity algorithm	1	[15]
5	Intent recognition algorithm	1	[15]
6	Usability scal	1	[15]
7	Heuristic evaluation	1	[19]
8	Social penetration theory	1	[21]
9	DSSM Model	1	[22]
10	Regressioon forest model	1	[22]
11	Generative method	1	[24]
12	Ad-hoc	1	[24]
13	Condor tribefinder system	1	[25]
14	Bots chatfuel	1	[24]
15	Web tracking	1	[24]
16	AIML	1	[36]
17	Technology acceptance model	1	[38]
18	Intrusion Detection Algorithm	1	[40]
19	Contingency approach	1	[42]
20	DBSCAN Method	1	[50]
21	ERP, SOA	1	[57]

It is important to emphasize that, although these tools have great potential and versatility, their choice should be based on the specific needs of the project and compatibility with the selected programming language. Each tool presents its own advantages and challenges, and it is crucial to evaluate how they complement each other to achieve a complete and effective web system. In this context, the right combination of these tools can be decisive for the successful development and implementation of web systems in various environments and applications [6] [14].

Table III presents the technological tools necessary for the implementation of the web system.

RQ3: What are the benefits of implementing a chatbot service in sales management?

The literature review of the last five years addressed the knowledge of sales management and chatbot, in which it was founded that the use of IT tools can improve the internal processes of a business entity regardless of the category to which they are dedicated, one of the benefits is to establish a

relationship between digital transformation, sales, innovation, e-commerce and machine learning [6] [13] [29]. Similarly, it was identified that the use of technological tools in purchasing, and sales processes leads to the growth of e-commerce and, consequently, to market positioning [14] [37] [61].

TABLE III. TECHNOLOGICAL TOOLS NECESSARY FOR THE APPLICATION OF THE WEB SYSTEM

Nº	Technology	Quantity	Reference
1	JavaScript	4	[13] [6]
2	Front-end web development	2	[18] [6]
3	HTML	2	[18] [6]
4	CSS	1	[6]
5	Bootstrap	1	[6]
6	SQlite	1	[6]
7	Laravel	1	[14]
8	PHP	1	[14]
9	MySQL	1	[14] [28]
10	Dialogflow	2	[28]
11	Pyton	1	[15]
12	JSON	1	[15]
13	HCR	1	[21]
14	C#	1	[5]
15	.NET	1	[5]

Therefore, day by day they are considered as important doors for the management of digital information in different areas; therefore, it is necessary to emphasize that their objective is to optimize the relevant processes at a business level [31], [32].

Likewise, it is stated that chatbots allow interaction in various contexts and streamlines them on a daily basis, i.e., it allows 24-hour customer service, provides required information, answers doubts and queries; that is why its implementation is considered quick and simple being useful for those who have not had any approach with technology [20] [19] [16] [23] [35] However, the speed of development can cause problems if tests are not performed to validate functionality and usability [21] [30] [31] [24].

In sales management, it was identified that most companies have initiated the use of cognitive chatbots to verify real-time information about the reliability and accessibility of products/services, automatic responses for a better customer experience [28] [50] [26]. Also, for their adaptation, it is paramount that users trust their use to provide the required support [38] [62] [11] [63].

It is also considered that e-commerce is increasingly threatened, and attacks are becoming more serious, frequent security incidents in the network have generated losses that when analyzed it is inferred that it must be safeguarded with security in the network for its solution [45] [53] [40]. Consequently, in this era there are a myriad of technologies that allow changes to be made to obtain greater productivity, efficiency, and quality [58].

V. CONCLUSIONS

It is concluded that the systematic review analyzed the theoretical and practical studies about the web system with chatbot service for sales management between the years 2018-2022 that by applying the inclusion and exclusion criteria only conforming a total of 42 articles and 18 conferences under the paper structure using PRISMA methodology, of which 10 (16.67%) were Science Direct articles, 12 (20%) Taylor & Francis articles, 15 (25%) IEEE Xplore conferences and 23 (38.33%) of them, 20 are articles and three conferences in Springer. In the studies it was identified that to carry out an optimal sales process it is necessary to consider strategies that can be achieved through a joint work by the company.

The development of this research allowed to explore the various studies that allow to explain and analyze the level of knowledge about web systems with chatbot service applied in the sales management process, from the identification of technological tools, programming languages; as well as the processes that influence sales management, the way of organization of the sales manager, collaborators and what is the perception of their customers against the traditional process and how it has been evolving.

Future research can delve deeper into the identification and evaluation of the technical requirements necessary for a successful implementation of chatbots in this context. This involves not only interaction with customers, but also integration with business management systems and e-commerce platforms. In addition, it would be valuable to explore how collaboration strategies between sales and technology development teams influence system design and effectiveness. This research could include case studies in various companies to analyze how the implementation of chatbots affects the efficiency of sales processes, customer satisfaction and overall company performance. Ultimately, the goal would be to establish practical guidelines and recommendations for the successful design and development of sales-oriented chatbot systems in today's business environment.

Finally, in reference to limitations include challenges in the complexity of human-machine interaction, technological challenges in terms of natural language processing and personalization, as well as the inability of chatbots to empathize and understand complex human situations. In addition, implementation, and maintenance costs, along with the need for continuous learning and the possibility of rejection by users, may influence the perception and acceptance of this technology. Data security, cultural change and employee training are also crucial factors to consider in this process. Understanding these limitations provides a solid foundation for addressing the challenges and making informed decisions in successfully integrating chatbots into sales management processes.

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