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# ARTIFICIAL INTELLIGENCE AS A POTENTIAL TOOL FOR STRATEGIC PLANNING IN SUCCESSFUL COMPANIES. SYSTEMATIC REVIEW

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## **Abstract**

*The advancement of technology has transformed the way businesses operate and make strategic decisions. This study reviews the use of AI as a potential tool in planning strategies for successful companies. Scientific articles from Scopus and Web of Science from the past five years were obtained, and data mining techniques were employed to evaluate influential factors. It was found that success in AI implementation is associated with a clear vision aligned with business objectives, quality data, internal capacity, innovative culture, and strategic alliances. Best practices included pilot projects, appropriate metrics, multidisciplinary collaboration, and algorithmic transparency. The importance of ethics, data privacy, and social impact was emphasized. In summary, AI generates growing interest in the business sphere, in decision-making and competitive advantages.*

**Keywords:** *Artificial Intelligence, barriers, challenges, decision-making, successful companies*

## **Introduction**

In recent years, the advancement of technology has radically transformed the way companies operate and make strategic decisions (Cardozo, 2021). One of the most prominent innovations in this context is Artificial Intelligence (AI), a discipline that has gained significant momentum in various areas, including business management. AI refers to the ability of machines to perform tasks that typically require human intelligence, such as pattern recognition, natural language processing, and machine learning (Chinchay Martinez & Lozada Celi, 2020). This technology has proven to be a powerful tool for enhancing the efficiency, accuracy, and effectiveness of business processes. A recent report from Gartner indicated that the number of organizations implementing AI has grown by 270% in the past four years and tripled in the last year (Mikalef & Gupta, 2021, p. 1).

The use of AI in business planning strategies has become a topic of great interest for both academics and professionals in the business field. The ability of AI to analyze large volumes of data

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in real time, identify hidden patterns, and generate actionable insights has enabled companies to improve their decision-making processes and gain significant competitive advantages. However, despite the growing interest in this topic, there is a need for a systematic review of the literature to critically evaluate the evidence and provide a comprehensive overview of the advancements achieved to date (Nañez Alonso & Reier Forradellas, 2022; Villaseca & González, 2023).

According to a study conducted by the Economic Commission for Latin America and the Caribbean (ECLAC) (2022), successful companies are harnessing AI to collect, process, and analyze large volumes of data relevant to strategic planning. Through advanced techniques such as data mining, machine learning, and predictive analysis, these organizations gain valuable insights that enable them to make more informed and evidence-based decisions (Benhamou, 2022). Resource optimization is crucial as it allows for evaluating how successful companies efficiently allocate resources and make more effective strategic decisions (Ramón et al., 2022). From supply chain management to workforce allocation, AI enables rigorous and algorithm-based optimization, enhancing efficiency and reducing operational costs. These conditions, among others, will be analyzed in detail to provide a comprehensive overview of the best practices employed by successful companies incorporating AI into their strategic planning.

In this regard, a systematic review focused on scientific articles published in Scopus and Web of Science databases from the last five years was conducted to study the use of AI as a potential tool in strategic planning for successful companies. The main applications of AI in business planning strategies were identified, categorized according to areas such as market analysis, decision-making, risk management, and process optimization, with an emphasis on the benefits and challenges of implementing AI and its impact on forecast accuracy, decision-making efficiency, and adaptability, as well as the most common challenges and barriers encountered.

## **METHODOLOGY**

To ensure the quality and validity of the systematic review, the guidelines and recommendations established in the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) Statement were followed. This allowed for transparent documentation of the selected information (Barrios Serna et al., 2021; Page et al., 2021).

To address these questions, the following were explored: P1) What are the benefits that successful companies have achieved by incorporating Artificial Intelligence into their planning strategies? P2) What challenges and barriers have companies faced when implementing Artificial Intelligence in strategic planning? P3) What are the critical factors that contribute to the success of implementing AI-based planning strategies? P4) What are the best practices employed by successful companies when using Artificial Intelligence in strategic planning? P5) What is the impact of Artificial Intelligence on the competitive advantage of successful companies? P6) What are the ethical and responsibility aspects associated with the use of Artificial Intelligence in strategic planning?

Based on these questions, the units of analysis were formulated, and subsequently, they were coded in Atlas.ti, as shown in Table 1.

**Table 1** Unit of Analysis and Categories Assessed in the Systematic Review.

Nº Question	Unit of Analysis	Categories
P1	Benefits	Improved forecast accuracy; Process optimization; More informed decision-making; Identification of growth opportunities; Others.
P2	Challenges and barriers	Lack of skills and technical knowledge; Resistance to change; Integration with existing systems; Data privacy and security; Others.
P3	Critical factors contributing to successful implementation	Commitment of top management; Organizational adaptability; Quality of data used; Collaboration between departments; Others.
P4	Best employed practices	Data collection and analysis: Data mining techniques, machine learning, predictive analysis.
		Forecasting and prediction: Market demand prediction, identification of risks and business opportunities.
		Resource optimization: Optimal personnel allocation, efficient supply chain management, production optimization.
		Informed decision-making: Personalized recommendation systems, data-driven decision-making algorithms.
		Process automation: Report automation, simulation model generation, planning algorithm optimization.
P5	Impact of Artificial Intelligence on competitive advantage	Personalization and customer experience: Intelligent chatbots, sentiment analysis, personalized recommendations.
		To differentiate in the market; Improve operational efficiency; Increase customer satisfaction; Achieve a leadership position in the industry.
P6	Ethical responsibility aspects	Transparency in the algorithms used, Fairness in decision-making, Privacy of customer and employee data, Social impact of these technologies.

A systematic search of articles was conducted in the Scopus and Web of Science databases using relevant search terms and combinations of keywords. The search was limited to articles published in the last five years to ensure the inclusion of recent research. The terms used for the search are detailed in Table 2. The quality of the selected articles was also assessed using a quality evaluation tool specified in Scopus and WoS.

**Table 2** Terms used for the search.

Variable	Code	Keywords	Conector
Artificial intelligence	V1.1	Artificial intelligence	And
	V1.2	Artificial intelligence	Or
Estrategias de planeación empresarial	V2.1	Planning strategies	And
	V2.2	Planning strategies	Or
	V2.3	Company	Or
	V2.4	Company	Or
	V2.5	Business	Or
	V2.6	Company	Or
	V2.7	Business	Or
	V2.8	Corporation	Or
	V2.9	Business	Or
	V2.10	Companies	Or

Similarly, inclusion and exclusion criteria were applied, which are detailed below. Inclusion criteria: I1) Articles from 2019 to 2023, I2) articles available in Scopus and Web of Science, I3) articles in English and Spanish, I4) Filter by subject area (Business, Management and Accounting; Economics, Econometrics and Finance); I5) Filter by keyword (Artificial Intelligence; Decision Support Systems; Decision Making; Artificial Intelligence (AI); AI; Decision Support System; Business; Decision Makings; Managers; Business Intelligence; Business Models; Business Development; Planning; Decision Theory; Strategy; Decision-making; Business Analytics; Business Process; Decision Supports; Strategic Planning; Scheduling; Management; Enterprise Resource Management; Decision Support); I6) Countries in the Americas and Spain. Exclusion criteria: E1) Articles prior to 2019, E2) books, editorials, conference papers, articles presented in book formats, E3) articles in languages other than the chosen language, E4) duplicate articles, E5) Filter by subject area (TOPICS RELATED TO SUBJECTS OTHER THAN BUSINESSES), E6) Articles that are not All Open Access. Complete citations and references of the reviewed articles were included according to style guidelines. Relevant data from each article, such as the study objective, methodology used, significant findings, and conclusions, were analyzed, as well as the co-occurrence of words using VOSviewer. The minimum occurrence of a keyword was set at 2 for the 286 keywords and it shows the connections among the most frequent terms. Finally, thematic analysis and synthesis of the data extracted from the selected articles and for all the units of analysis considered in Table 1 were conducted using ATLAS.ti software. Patterns, trends, and common findings related to the applications of AI in planning strategies, as well as the associated benefits and challenges, were identified.

## RESULTS AND DISCUSSION

### Document selection

By applying the criteria established in the methodology, a total of 36 articles were identified that

addressed the use of Artificial Intelligence in strategies involving various fields related to planning in successful companies, as shown in Figure 1.

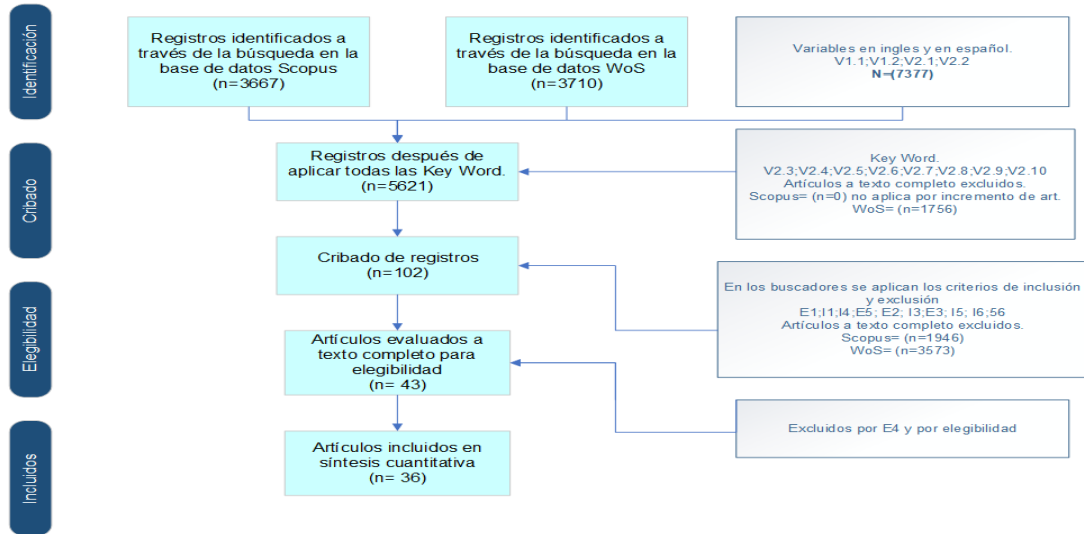


Figure 1 PRISMA Flow Diagram

Figure 2: Word co-occurrence analysis using VOSviewer.

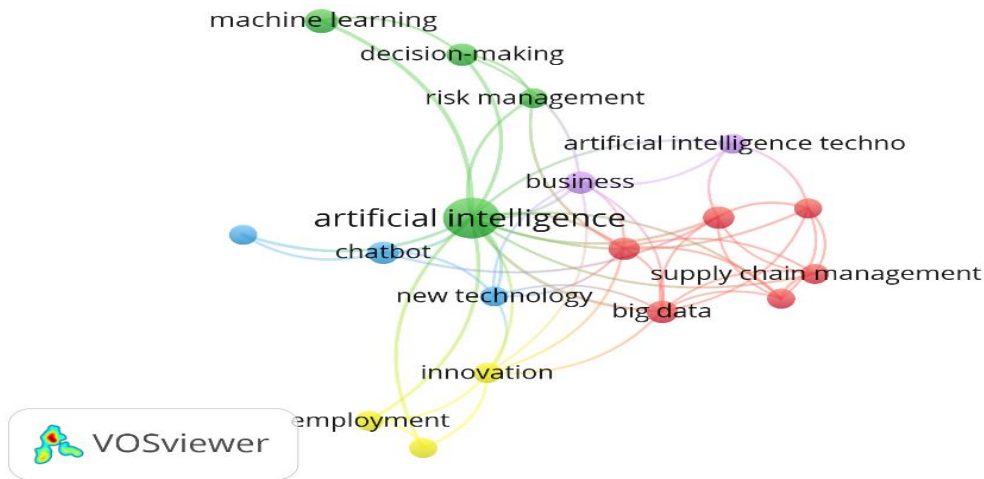


Figura 1 VOSviewer keyword co-occurrence clustering view. from publication

This map displays the connections among the most frequent terms and proved useful in understanding trends. Five groups were identified: Group 1 (red) (9 items), Group 2 (green) (17 items), Group 3 (blue) (5 items), Group 4 (yellow) (8 items), Group 5 (purple) (9 items). Patterns, trends, and common findings related to the applications of AI in planning strategies, as well as the

associated benefits and challenges, were identified. A word cloud, Figure 3, was created, which allowed for the identification of the most significant words in the systematic review.



Figure 3 Word cloud of the studied articles

By identifying the key topics of interest in this way, the framework for analyzing the information in the review was significantly improved.

**Unit of Analysis 1**

**Benefits**

The literature review conducted on business planning strategies has revealed a series of benefits that successful companies have achieved by incorporating Artificial Intelligence (AI) into their processes, as shown in figure.

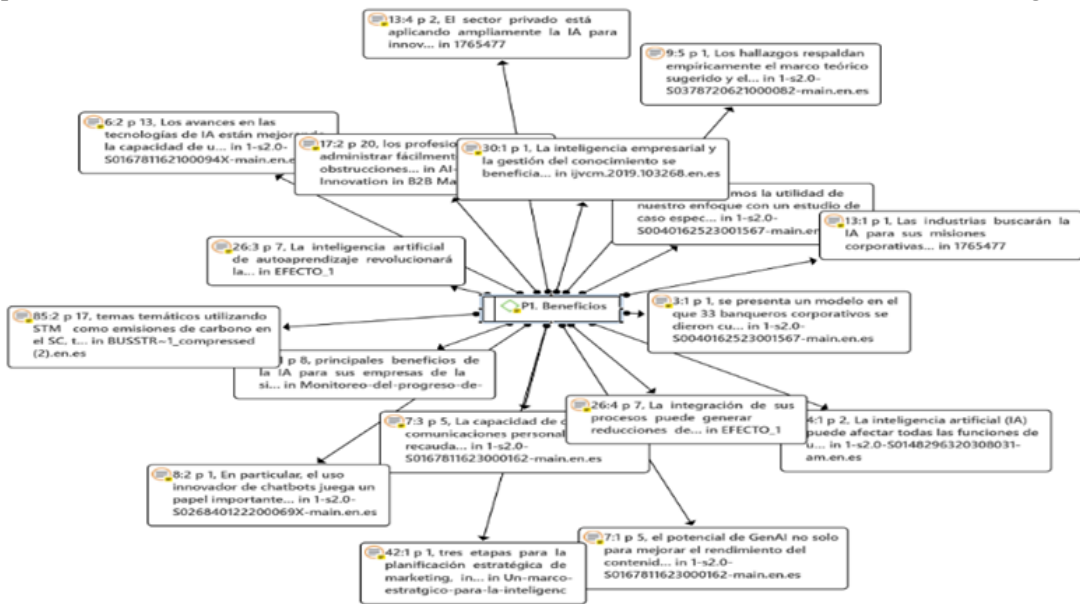


Figure 4 Semantic network of the benefits found in the systematic review.

The implementation of AI in business planning strategies offers a wide range of significant benefits. According to the study by Rodgers et al. (2023), corporate bankers recognize the need to accurately model the underlying uncertainty when assessing a company's loan needs, thereby reducing risk in financial institutions. Grove et al. (2020) mention that AI enhances current products, optimizes internal and external operations, frees up workers to be more creative, and creates new products.

AI automates repetitive tasks and optimizes existing processes, generating efficiencies and cost reductions, as mentioned by Allal-Chérif et al. (2021). Additionally, Ahmed et al. (2023) highlight that integrating business processes through AI leads to significant cost reductions in conversion expenses and increases labor productivity. Huang & Rust (2021) mention the ability of AI to automate repetitive tasks and process data intelligently, improving operational efficiency in the field of marketing.

AI processes large volumes of data and supports complex strategic decision-making. According to Rodgers et al. (2023), AI helps understand and mitigate emotional factors and cognitive errors, improving informed decision-making. Hoffman & Freyn (2019) highlight how the use of big data and AI enhances the quality of information available for decision-making, benefiting business intelligence and knowledge management. Kopalle et al. (2022) mention how AI enables the collection, storage, analysis, and utilization of a wide range of information, leading to better business strategies. Naz et al. (2022) emphasize the use of AI and supply chain management for more informed decision-making.

AI facilitates personalized communication and the identification of growth opportunities in specific market segments. Peres et al. (2023) found that the potential of AI improves marketing content performance and reduces associated costs. Petrescu et al. (2022) mention how AI identifies obstacles affecting performance, processes, agents, and business models.

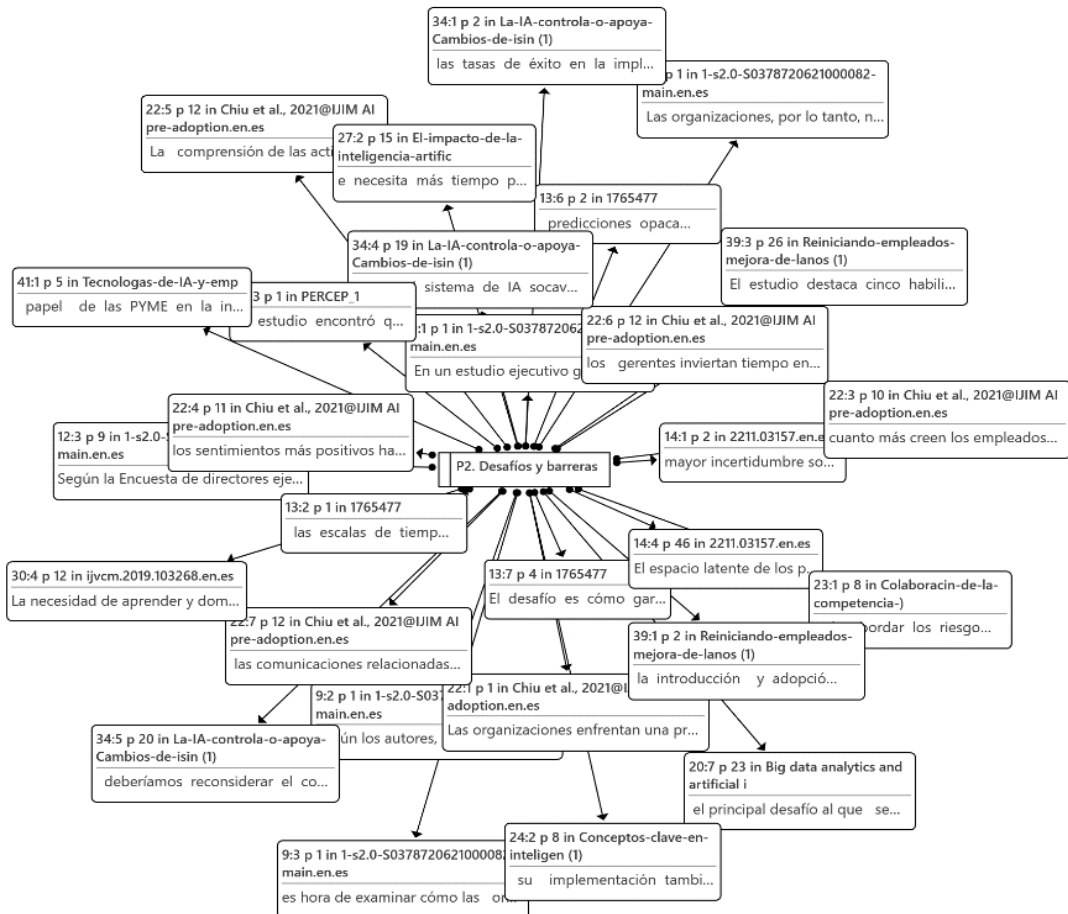
According to Kopalle et al. (2022), advancements in AI technologies allow companies to collect, store, analyze, and utilize a wide range of customer information, providing additional benefits in terms of customer understanding and product/service personalization. Wang et al. (2022) highlight the innovative use of chatbots to create business agility. Mikalef & Gupta (2021) mention how AI enhances creativity and organizational performance, and Baldoni et al. (2020) note that the private sector widely adopts AI for innovation.

### ***Unit of Analysis 2***

#### ***Challenges and barriers***

The implementation of Artificial Intelligence (AI) in strategic planning for companies has faced various challenges and barriers. The mentioned categories will be discussed below and related to the citations provided in the semantic network, as shown in Figure 5.





**Figure 5** Semantic network of the challenges and barriers found in the systematic review.

The implementation of Artificial Intelligence (AI) in strategic business planning faces several challenges. According to a global study published in the MIT Sloan Management Review in 2019, many companies reported minimal or no commercial impact from AI due to implementation delays and lack of technical skills (Mikalef & Gupta, 2021), which hinders the adoption and effective use of AI in strategic planning (Chiu et al., 2021; Santos et al., 2020). Additionally, resistance to change, lack of understanding of the benefits of AI, and lack of integration with existing systems are also significant obstacles (Kelley, 2022; Lee et al., 2019; Mikalef & Gupta, 2021).

To overcome these challenges, companies need to invest in AI training and education programs, collaborate with external experts, and hire professionals with strong technical knowledge in this field (Chiu et al., 2021; Damioli et al., 2023). It is also essential to clearly communicate the benefits of AI, provide training and support to employees, and create an organizational culture that fosters adaptability and innovation (Monod et al., 2022).



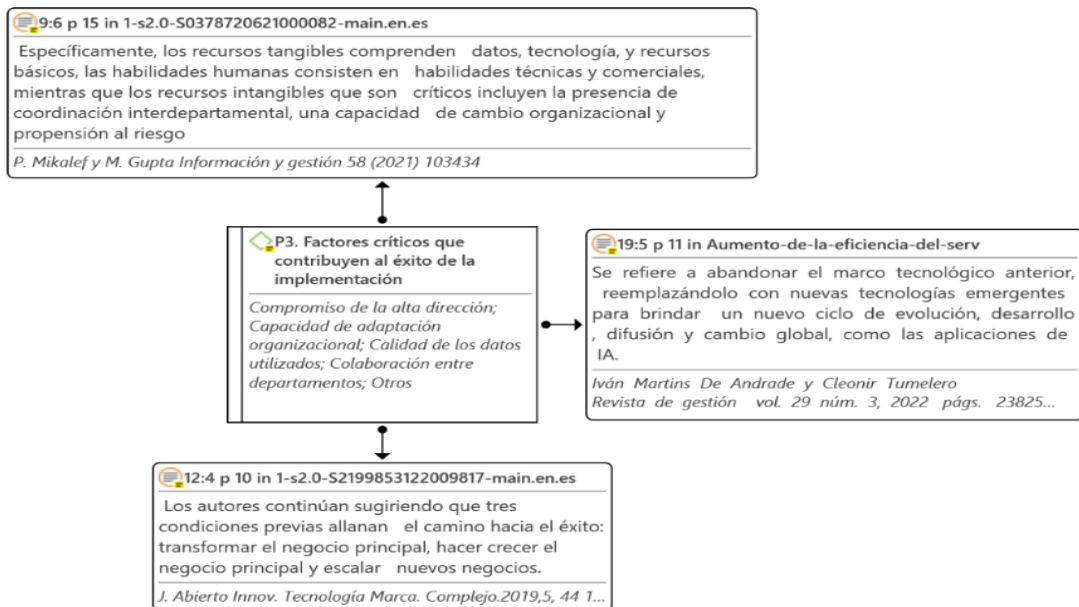
The integration of AI with existing systems can pose difficulties due to compatibility issues and the need for changes in the technological infrastructure (Mikalef & Gupta, 2021). It is important to conduct a comprehensive assessment of existing systems, identify integration gaps and needs, and collaborate with technology providers to achieve a smooth implementation (Mikalef & Gupta, 2021).

Privacy and data security are crucial challenges in implementing AI in strategic planning. Companies need to establish robust security and compliance measures, such as data encryption and restricted access, to protect confidential information and comply with regulations (Damioli et al., 2021; Kilian et al., 2023).

Furthermore, there are other challenges related to AI, such as uncertainty about the powerful AI agent scenario, trust in multi-agent environments, and AI alignment failures (Kelley, 2022; Mikalef & Gupta, 2021). It is also necessary to enhance employees' skills and understand the relevant technology to make the most of AI in strategic planning (Hoffman & Freyn, 2019; Jaiswal et al., 2022).

**Unit of Analysis 3: Critical factors contributing to the success of implementation**

The critical factors that contribute to the success of implementing AI-based planning strategies encompass various areas, as depicted in Figure 6.



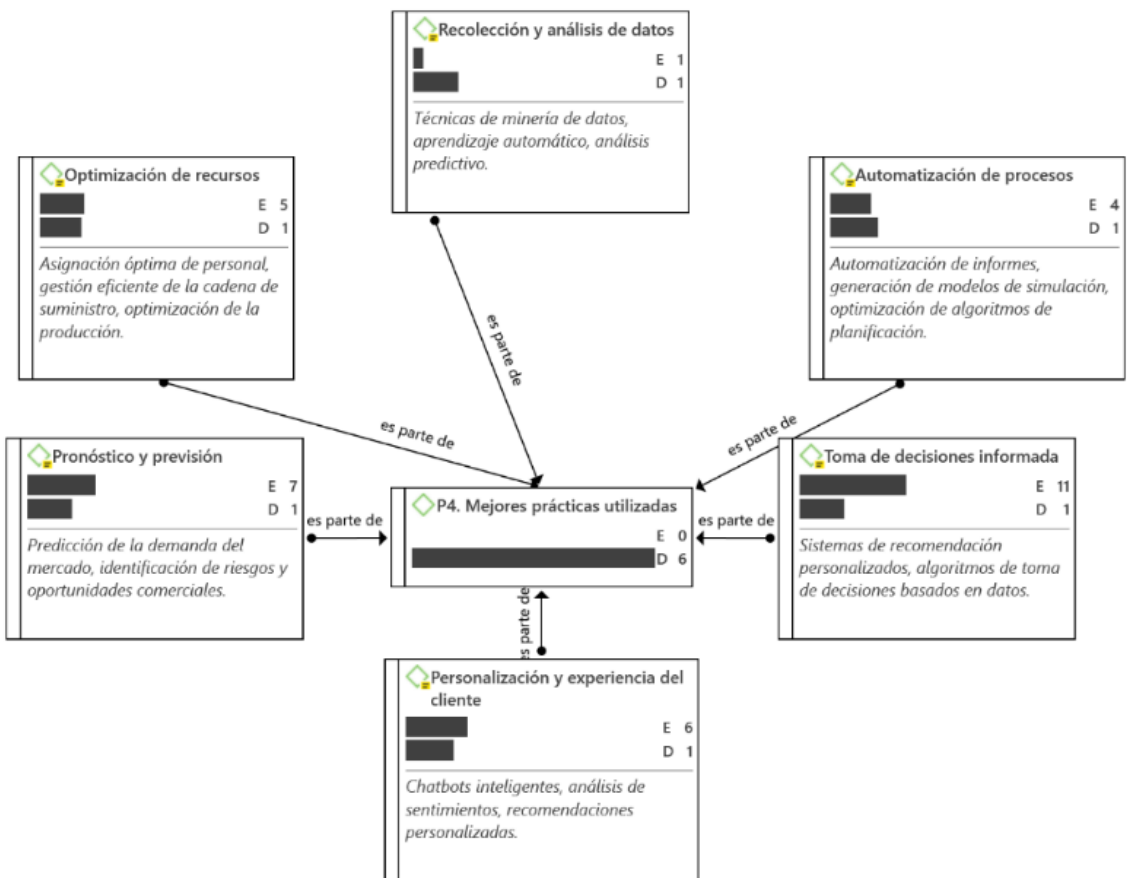
**Figure 6** Semantic network of the critical factors contributing to the success of implementation

Firstly, the commitment of top management is crucial as it provides the necessary leadership and support for the effective integration of AI into strategic planning. According to Mikalef & Gupta

(2021), the presence of interdepartmental coordination is a critical intangible resource that enables successful AI implementation. Similarly, organizational adaptability is another critical factor. According to Lee et al. (2019), it is necessary to transform the core business, grow the core business, and scale new businesses to achieve success in AI implementation. The quality of the data used is also essential. Data is a crucial tangible resource for AI implementation in strategic planning. According to Andrade & Tumelero (2022), it is necessary to move away from the previous technological framework and utilize new emerging technologies, such as AI, to ensure a successful cycle of evolution, development, dissemination, and global change.

**Unit of Analysis 4: Best practices used**

It is crucial to review the best practices used by successful companies when employing AI in strategic planning. Figure 7 summarizes the influential characteristics.



**Figure 7** Semantic network of the best practices used.

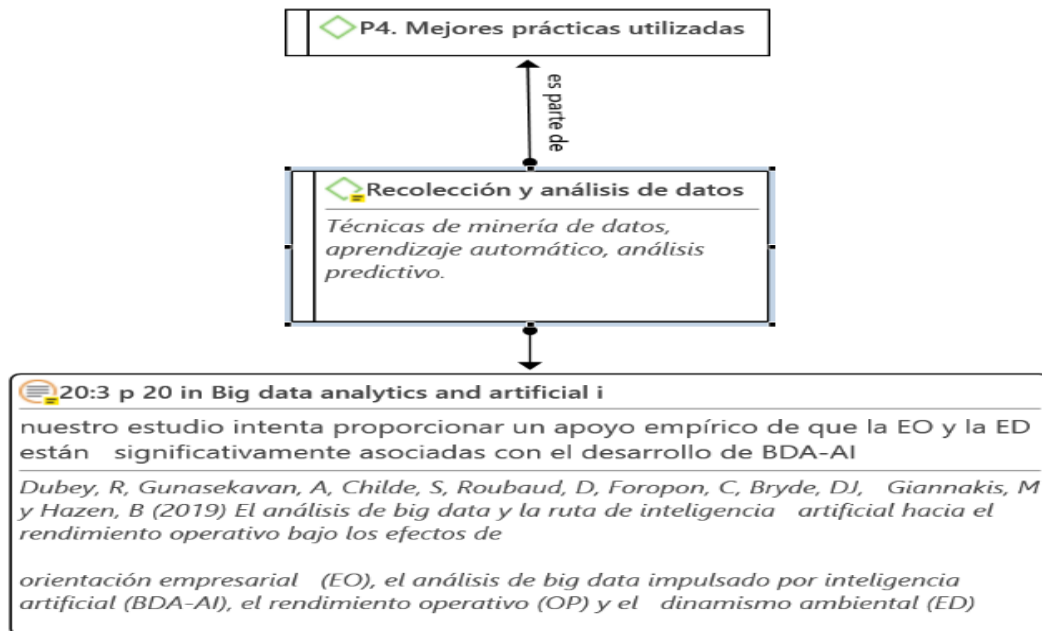
By studying and learning from the successful experiences of other organizations, proven approaches and effective techniques can be identified that can be applied in one's own context.

Some of these include:

**Data collection and análisis**

Successful companies that employ AI in strategic planning rely on techniques such as data mining, machine learning, and predictive analysis, as shown in Figure 8. These best practices enable them to collect high-quality data, gain meaningful insights, and make accurate forecasts, facilitating informed strategic decision-making and achieving competitive advantages.

The main study found in this regard is by Dubey et al. (2020), which aims to provide empirical support for the significant associations between entrepreneurial orientation (EO) and organizational change capability (OC) with the development of BDA-AI (Big Data Analytics with Artificial Intelligence). These associations underscore the importance of adopting innovative and flexible approaches in data collection and analysis, as well as implementing AI-based solutions for strategic planning.



**Figure 8** Semantic network of data collection and analysis found in the systematic review

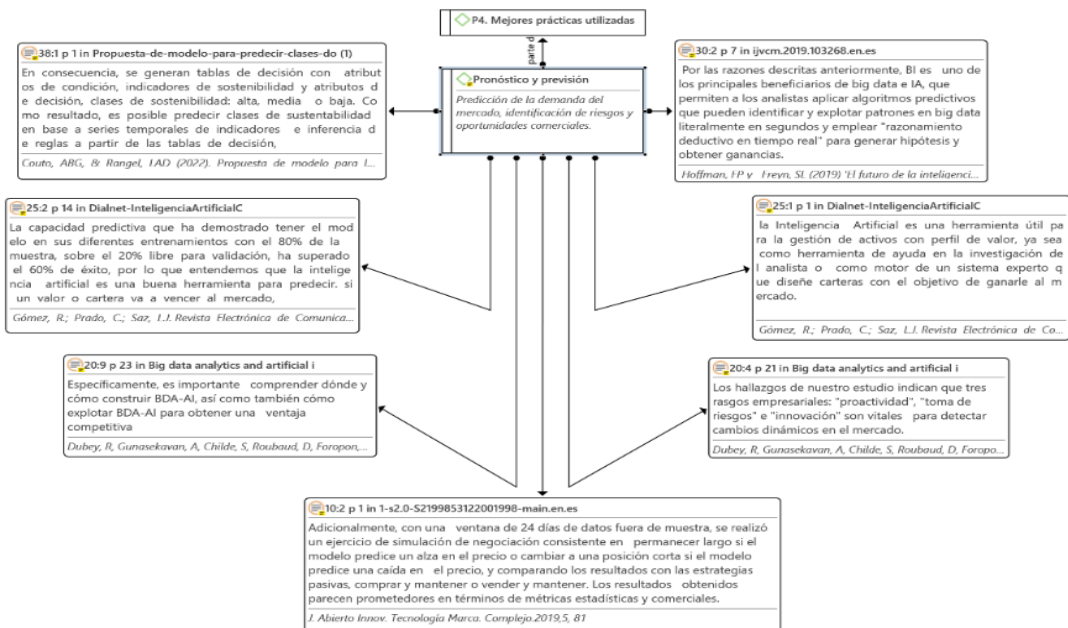
In this regard, various practices used by successful companies can be identified. According to the article by Mikalef & Gupta (2021), the quality of the data used is a critical factor, highlighting the importance of ensuring the integrity and reliability of the collected information. In this context, data mining techniques are employed to extract valuable insights from large volumes of data, allowing for the identification of relevant patterns and trends.

Transforming the core business and scaling new ventures are prerequisites for success, which

necessitates the application of machine learning to adapt to changes and optimize outcomes (Lee et al., 2019). Furthermore, predictive analysis is another relevant aspect in data collection and analysis. According to the work by Andrade & Tumelero (2022), the use of emerging technologies such as AI applications enables more accurate forecasting and predictions, contributing to better strategic decision-making.

**a) Forecasting and prediction**

AI has revolutionized the way companies approach strategic planning, providing new opportunities to gain competitive advantages. In particular, this section focuses on the category of forecasting and prediction, which includes market demand prediction and identification of business risks and opportunities, see Figure 9.



**Figure 9** Semantic network of forecasting and prediction found in the systematic review.

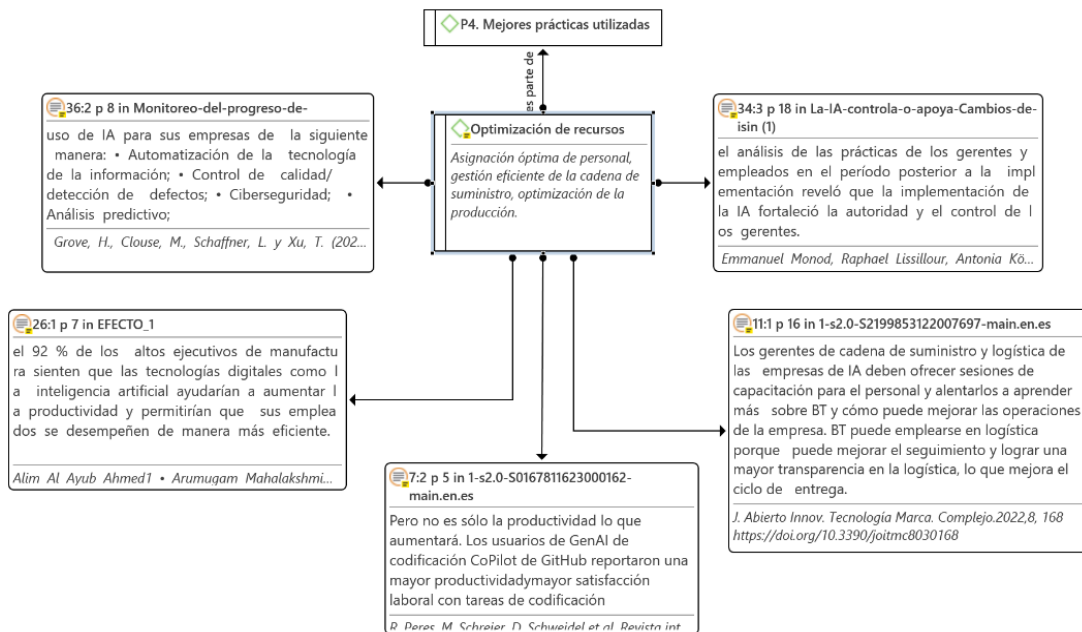
The use of data mining techniques and machine learning enables companies to analyze large volumes of data to identify hidden patterns and trends. A study showed that applying predictive models in stock trading based on price fluctuations yielded promising results in statistical and business terms (Lee et al., 2019). The ability to detect dynamic changes in the market is another crucial aspect. Business traits such as proactivity, risk-taking, and innovation are vital for adapting to environmental fluctuations (Dubey et al., 2020).

The combination of Big Data Analytics (BDA) and AI also provides a competitive advantage. By efficiently building and leveraging BDA-AI, companies can gain valuable insights for strategic decision-making (Dubey et al., 2020). In terms of predictive capability, artificial intelligence has

been shown to be effective in predicting stock or portfolio returns with success rates exceeding 60% (Martínez et al., 2020). Additionally, predictive analysis and the use of algorithms can identify patterns in large volumes of data and generate real-time hypotheses, allowing analysts to quickly capitalize on opportunities (Hoffman & Freyn, 2019). Lastly, rule inference from decision tables and the application of artificial intelligence in predicting sustainability classes have also been successfully utilized (Couto & Rangel, 2022).

**a) Optimizing resources**

The best practices employed by successful companies in resource optimization through AI include optimal allocation of personnel, efficient supply chain management, and production optimization, as depicted in Figure 10, the semantic network of resource optimization. These practices rely on the use of AI tools and techniques that enable maximizing productivity, enhancing logistics efficiency, and optimizing production processes.



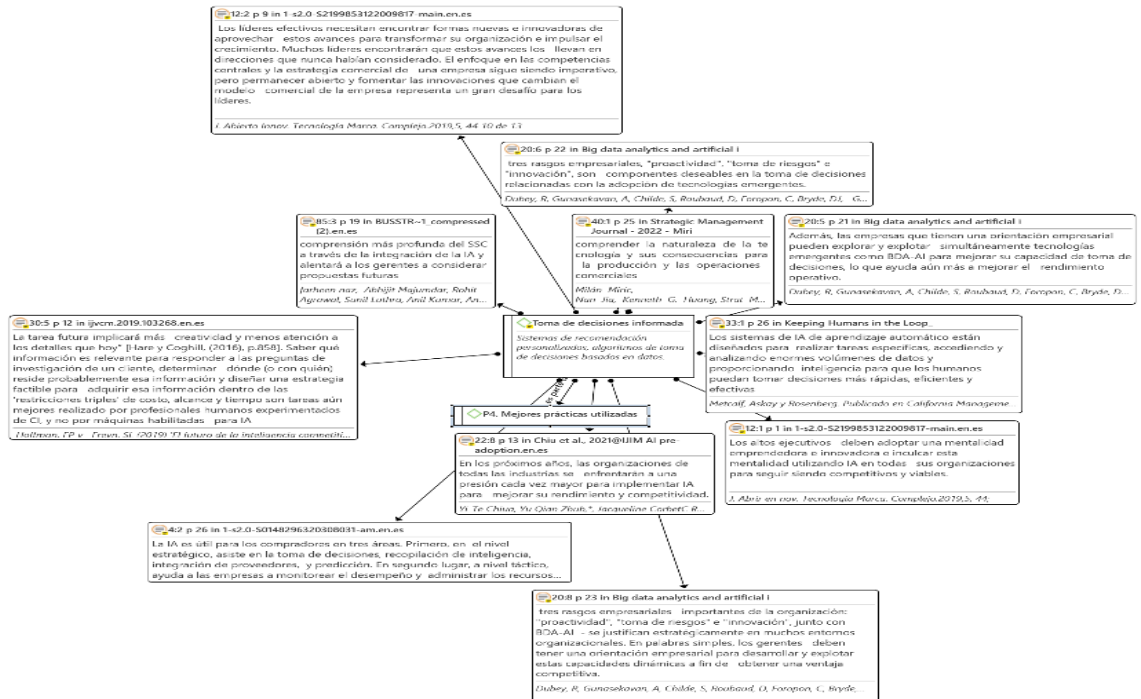
**Figure 10** Semantic network of resource optimization found in the systematic review.

In the category of resource optimization, various strategies used by successful companies stand out. Firstly, an increase in productivity and job satisfaction has been observed when using AI tools such as GitHub's GenAI and CoPilot coding (Peres et al., 2023). Additionally, in supply chain management, staff training in emerging technologies such as AI and the application of Blockchain Technology (BT) to improve logistics efficiency and transparency are promoted (Polas et al., 2022). Similarly, it has been identified that AI can increase productivity and enable more efficient employee performance in the manufacturing sector (Ahmed et al., 2023). Furthermore, the

implementation of AI has strengthened the authority and control of managers in organizations (Monod et al., 2022). Lastly, successful use of AI has been observed in the automation of information technology, quality control, cybersecurity, and predictive analytics (Grove et al., 2020).

**a) Informed decision making**

Informed decision making is a fundamental category in the successful application of AI in strategic planning for companies, as shown in Figure 11..



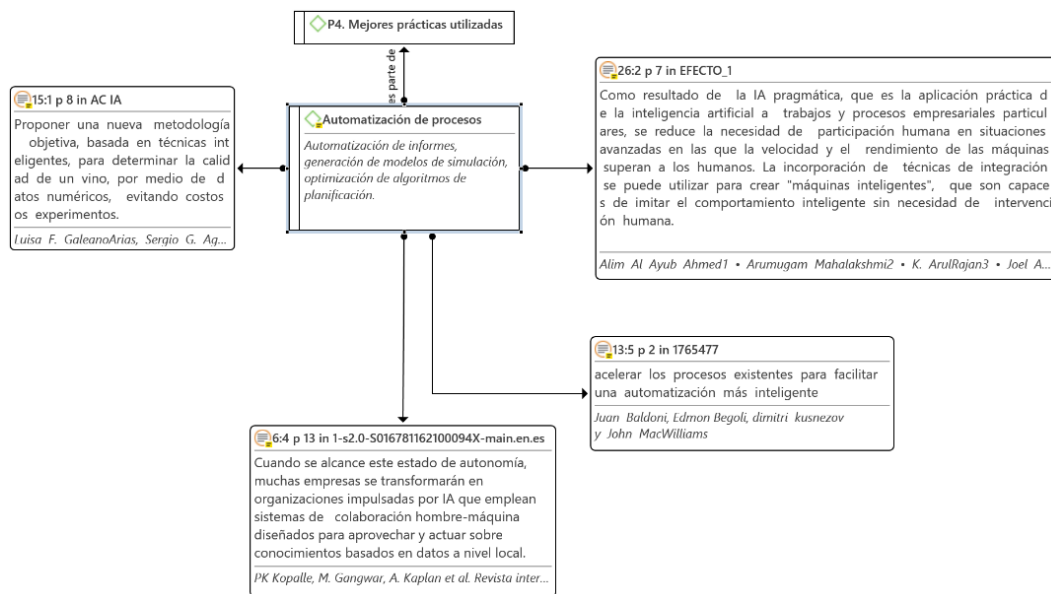
**Figure 11** Semantic network of informed decision making

The best practices used by successful companies in this aspect focus on the use of personalized recommendation systems and data-driven decision-making algorithms. Personalized recommendation systems based on AI algorithms are key tools to assist buyers in making strategic decisions. According to Allal-Chérif et al. (2021), AI assists buyers by simplifying their needs and facilitating the adoption of digital technologies. Data-driven decision-making algorithms enable companies to optimize their operations and maximize efficiency. The research by Dubey et al. (2020) highlights that big data analytics and AI enhance decision-making capability and operational performance. Méndez-Suárez et al. (2019) mention that top executives should adopt an entrepreneurial and innovative mindset by utilizing AI to lead organizational transformation and growth in a constantly changing business environment. Chiu et al. (2021) point out that organizations will face increasing pressure to implement AI and improve their performance and

competitiveness. However, Hoffman & Freyn (2019) emphasize that AI has limitations in tasks that require creativity and the identification of relevant information, which are better performed by experienced human professionals in competitive intelligence. Several studies, such as those by Metcalf et al. (2019), Miric et al. (2023), and Naz et al. (2022), highlight the ability of AI to assist in informed decision-making at different levels, from strategic to operational, by gathering intelligence, integrating suppliers, predicting outcomes, and facilitating process automation. The importance of understanding the nature of AI technology and its effective integration into supply chain management is also emphasized.

**b) Process automation**

Artificial Intelligence (AI) is a key tool in the strategic planning of successful companies. In particular, process automation stands out as a fundamental practice, as shown in Figure 12. This includes report automation, simulation model generation, and optimization of planning algorithms. These practices enable organizations to streamline their operations, reduce costs, and increase efficiency.



**Figure 12** Semantic network of process automation

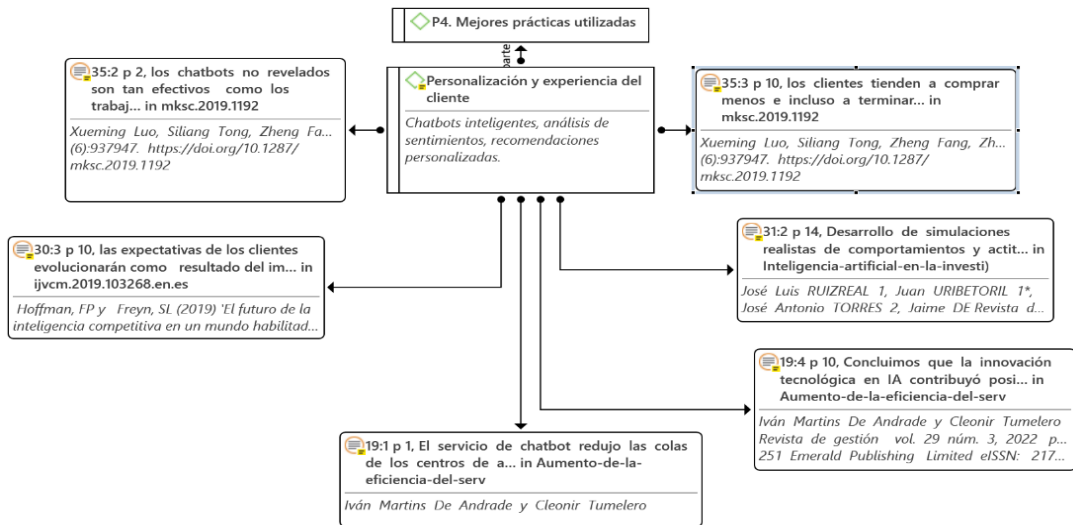
Within the category of "Process Automation," various areas are covered. Firstly, the transformation of organizations into AI-driven entities is highlighted, where human-machine collaboration systems are employed to leverage and act upon data-driven knowledge at a local level (Kopalle et al., 2022). This entails achieving a state of autonomy where processes are intelligently automated and accelerated to facilitate greater efficiency (Baldoni et al., 2020). Additionally, the application of



intelligent techniques enables the development of new methodologies for determining the quality of products, such as wine, through the analysis of numerical data, avoiding costly experiments (Galeano-Arias et al., 2021). Lastly, the implementation of pragmatic AI leads to a reduced need for human intervention in advanced situations, where machines surpass humans in speed and performance, and "intelligent machines" capable of mimicking intelligent behavior can be created (Ahmed et al., 2023). These practices enable companies to automate reports, generate simulation models, and optimize planning algorithms, resulting in increased efficiency and informed decision-making in strategic planning. AI automates repetitive tasks and facilitates informed decision-making, contributing to improved performance and business competitiveness (Ahmed et al., 2023; Baldoni et al., 2020; Galeano-Arias et al., 2021; Kopalle et al., 2022). By implementing these practices, companies can maximize the potential of AI to optimize their processes and achieve more efficient outcomes.

**a) Personalization and customer experience:**

By employing AI in strategic planning, successful companies implement practices of personalization and customer experience to enhance satisfaction and loyalty, as shown in Figure 13.



**Figure 13** Semantic network of Personalization and Customer Experience

The use of intelligent chatbots has been shown to reduce telephone waiting queues and allow human staff to focus on more complex tasks (Andrade & Tumelero, 2022). This optimizes operational efficiency and enhances the customer experience. Furthermore, sentiment analysis enables companies to better understand customer emotions and opinions, facilitating personalized interactions (Hoffman & Freyn, 2019). Additionally, the development of realistic simulations of human behaviors improves the perception of AI applications in customer interactions (Ruiz-Real

et al., 2021).

However, it is important to consider the impact of AI disclosure on the customer experience. It has been observed that undisclosed chatbots are equally effective as competent workers and more effective than inexperienced workers in generating customer purchases (Luo et al., 2019). However, when customers perceive that they are interacting with a chatbot, they may show a lower willingness to purchase and perceive the chatbot to have less knowledge and empathy (Luo et al., 2019). This highlights the importance of striking a balance in the implementation of chatbots and effectively communicating their function to customers.

### Unit of Analysis 5: Impact of Artificial Intelligence on Competitive Advantage

The impact of AI on the competitive advantage of successful companies encompasses several categories, including market differentiation, improvement of operational efficiency, increase in customer satisfaction, and the pursuit of a leadership position in the industry, Figure 14.

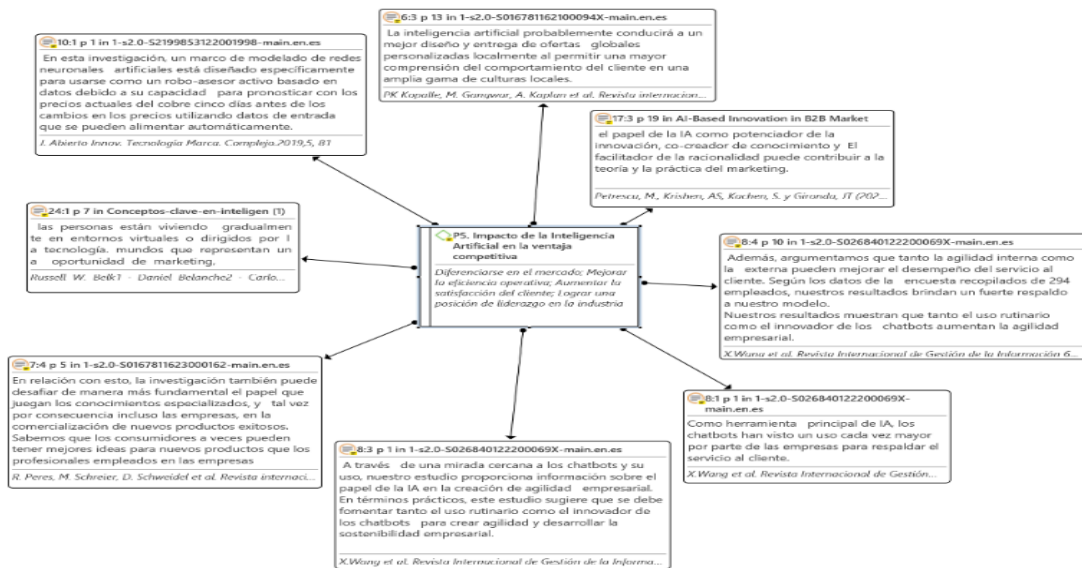


Figure 14 Semantic network of the Impact of Artificial Intelligence on competitive advantage found in the systematic review

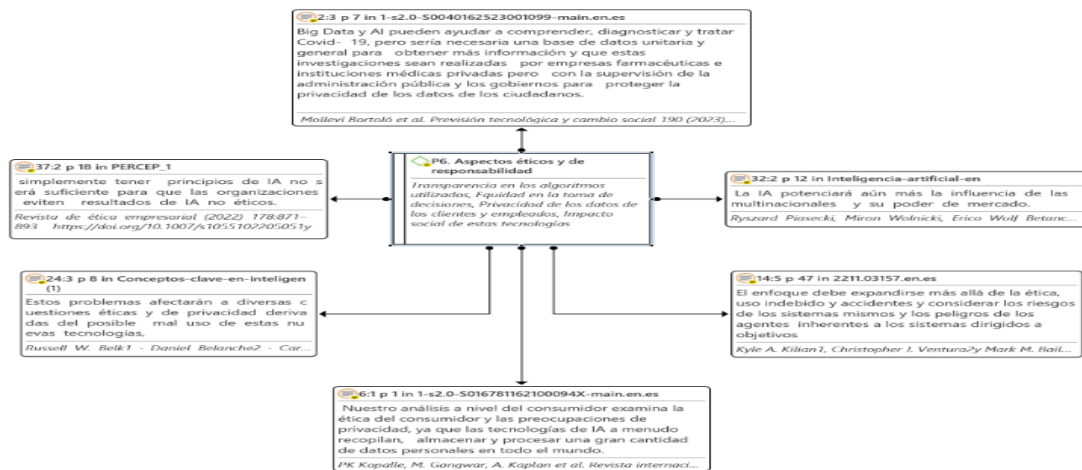
In terms of market differentiation, AI allows companies to offer personalized offerings at a local level, providing a deeper understanding of customer behavior in different cultures (Kopalle et al., 2022). This gives them a competitive advantage by tailoring their products and services according to the specific needs of each market. In terms of improving operational efficiency, the use of AI, such as chatbots, has gained popularity in customer service support (Wang et al., 2022). Chatbots not only improve internal efficiency but also contribute to customer satisfaction by providing quick responses and effective solutions to their inquiries (Wang et al., 2022). By personalizing interaction

and providing tailored recommendations, companies can create more satisfying and relevant experiences for their customers (Peres et al., 2023). AI enables a better understanding of customer preferences and needs, resulting in a higher level of satisfaction and loyalty. Additionally, AI can help companies achieve a leadership position in the industry by driving innovation and knowledge co-creation (Petrescu et al., 2022). By using AI-based tools, companies can identify new market opportunities, develop innovative products, and quickly adapt to changes in the business environment. This allows them to stay ahead in the industry and lead the way in terms of technological advancements and market strategies. Furthermore, Belk et al. (2023) note that people are increasingly immersed in virtual or technology-driven environments, which presents a marketing opportunity.

### Unit of Analysis 6: Ethical and Responsibility Aspects

The use of AI in strategic planning raises important ethical and responsibility considerations. Transparency in the algorithms used is crucial to ensure objective and fair decision-making, avoiding potential biases or discrimination, as shown in Figure 15.

The use of AI in strategic planning raises significant ethical and responsibility considerations. Firstly, transparency in the algorithms employed is essential to ensure that strategic decisions are made objectively and fairly (Kilian et al., 2023). The algorithms should be understandable and clear, allowing stakeholders to examine how certain conclusions are reached and avoiding potential biases or discrimination (Kopalle et al., 2022). Moreover, equity in decision-making is a critical aspect. AI should avoid perpetuating or amplifying existing inequalities, ensuring that all individuals are treated fairly and without discriminatory biases (Kopalle et al., 2022).



**Figure 15** Semantic Network of Ethical and Responsibility Aspects, Found in the Systematic Review

Another ethical and responsibility aspect is the privacy of customer and employee data. AI

technologies often collect and process large amounts of personal data, raising concerns about the security and protection of confidential information (Molleví Bortoló et al., 2023). It is essential to establish appropriate mechanisms to protect privacy and ensure that data is used responsibly and in accordance with individual rights (Molleví Bortoló et al., 2023).

In this regard, it is crucial to consider the social impact of AI technologies in strategic planning. AI can amplify the influence of multinational corporations and their market power, posing challenges in terms of power concentration and potential negative impacts on competition and business diversity (Piasecki et al., 2021). Only through an ethical and responsible approach can the full potential of AI in strategic planning be harnessed, avoiding possible negative consequences and promoting sustainable and equitable development (Kelley, 2022).

## CONCLUSION

The impact of AI on the strategic planning of successful companies was found to be significant, as revealed by the systematic literature review. The implementation of AI offers a wide range of applications and benefits, improving decision-making, resource allocation, market opportunity identification, and operational efficiency. However, challenges such as the lack of specialized talent, resistance to change, and concerns about ethical aspects exist. To ensure success, it is crucial to have a clear vision aligned with business objectives, high-quality data, internal capability to harness AI, an innovation-oriented organizational culture, and strategic partnerships with trusted AI providers. Best practices include pilot projects, appropriate metrics, multidisciplinary collaboration, algorithmic transparency, and continuous evaluation of results. Moreover, the importance of ethics, data privacy, and the social and labor impact of AI is emphasized. Despite the challenges, there is a growing interest in and adoption of AI in the business realm, highlighting its potential to enhance decision-making and create competitive advantages.

## References

- Ahmed, A. A. A., Mahalakshmi, A., ArulRajan, K., Alanya-Beltran, J., & Naved, M. (2023). Integrated artificial intelligence effect on crisis management and lean production: structural equation modelling frame work. *International Journal of System Assurance Engineering and Management*, 14(1), 220–227. <https://doi.org/10.1007/s13198-022-01679-1>
- Allal-Chérif, O., Simón-Moya, V., Carlos, A., & Ballester, C. (2021). Intelligent Purchasing: How artificial intelligence can redefine the purchasing function. *Journal of Business Research*, 124, 69–76. <https://doi.org/https://doi.org/10.1016/j.jbusres.2020.11.050>
- Andrade, I. M. De, & Tumelero, C. (2022). Increasing customer service efficiency through artificial intelligence chatbot. *Revista de Gestao*, 29(3), 238–251. <https://doi.org/10.1108/REGE-07-2021-0120>
- Baldoni, J., Begoli, E., Kusnezov, D., & Macwilliams, J. (2020). Solving Hard Problems with AI: Dramatically Accelerating Drug Discovery Through A Unique Public-Private Partnership. *Journal of Commercial Biotechnology*, 25(4). <https://doi.org/https://doi.org/10.5912/jcb954>

- Barrios Serna, K. V., Orozco Núñez, D. M., Pérez Navas, E. C., & Conde Cardona, G. (2021). Nuevas recomendaciones de la versión PRISMA 2020 para revisiones sistemáticas y metaanálisis. *Acta Neurológica Colombiana*, 37(2), 105–106. <https://doi.org/10.22379/24224022373>
- Belk, R. W., Belanche, D., & Flavián, C. (2023). Key concepts in artificial intelligence and technologies 4.0 in services. *Service Business*, 17(1), 1–9. <https://doi.org/10.1007/s11628-023-00528-w>
- Benhamou, S. (2022). La transformación del trabajo y el empleo en la era de la inteligencia artificial: análisis, ejemplos e interrogantes. *Publicación de las Naciones Unidas*. [www.cepal.org/apps](http://www.cepal.org/apps)
- Cardozo, A. P. (2021). El enfoque RRHH 4.0. ¿está cambiando finalmente la función recursos humanos? *Revista de Investigación latinoamericana en Competitividad Organizacional RILCO*, 9, 1–11. <http://bitly.ws/JZvu>
- Chinchay Martinez, P. M., & Lozada Celi, M. Y. (2020). Aplicaciones de la inteligencia artificial en la estrategia empresarial [Tesis, Universidad Peruana de Ciencias Aplicadas (UPC)]. <https://repositorioacademico.upc.edu.pe/handle/10757/652935>
- Comisión Económica para América Latina y el Caribe (CEPAL). (2022). Tecnologías digitales para un nuevo futuro (LC/TS.2021/43). [www.cepal.org/apps](http://www.cepal.org/apps)
- Couto, A. B. G., & Rangel, L. A. D. (2022). Model proposition for predicting sustainability classes using multicriteria decision support and artificial intelligence. *Gestao e Producao*, 29. <https://doi.org/10.1590/1806-9649-2022v29e6922>
- Dubey, R., Gunasekaran, A., Childe, S., Roubaud, D., Foropon, C., Bryde, D., Giannakis, M., & Hazen, B. (2020). Big data analytics and artificial intelligence pathway to operational performance under the effects of entrepreneurial orientation and environmental dynamism: A study of manufacturing organisations. *International Journal of Production Economics*, 226. <https://doi.org/https://doi.org/10.1016/j.ijpe.2019.107599>
- Galeano-Arias, L. F., Aguirre, S. G., & Castrillón-Gómez, O. D. (2021). Wine quality analysis through artificial intelligence techniques. *Informacion Tecnologica*, 32(1), 17–26. <https://doi.org/10.4067/S0718-07642021000100017>
- Grove, H., Clouse, M., Schaffner, L., & Xu, T. (2020). Monitoring ai progress for corporate governance. *Journal of Governance and Regulation*, 9(1), 8–17. <https://doi.org/10.22495/jgrv9i1art1>
- Hoffman, F. P., & Freyn, S. L. (2019). The Future Of Competitive Intelligence In An Ai-Enabled World," *Thriving on Future Education, Industry, Business and Society; Proceedings of the MakeLearn and TIIM International Conference 2019,* ToKnowPress. <http://bitly.ws/JZvR>
- Huang, M.-H., & Rust, R. T. (2021). A strategic framework for artificial intelligence in marketing. *Journal of the Academy of Marketing Science*, 49, 30–50. <https://doi.org/10.1007/s11747-020-00749-9>
- Kelley, S. (2022). Employee Perceptions of the Effective Adoption of AI Principles. *Journal of Business Ethics*, 178(4), 871–893. <https://doi.org/10.1007/s10551-022-05051-y>
- Kilian, K. A., Ventura, C. J., & Bailey, M. M. (2023). Examining the differential risk from high-level artificial intelligence and the question of control, *Futures*. *Futures*, 151, 59. <https://doi.org/https://doi.org/10.1016/j.futures.2023.103182>
- Kopalle, P. K., Gangwar, M., Kaplan, A., Ramachandran, D., Reinartz, W., & Rindfleisch, A.

- (2022). Examining artificial intelligence (AI) technologies in marketing via a global lens: Current trends and future research opportunities. *International Journal of Research in Marketing*, 39(2), 522–540. <https://doi.org/10.1016/j.ijresmar.2021.11.002>
- Lee, J., Suh, T., Roy, D., & Baucus, M. (2019). Emerging technology and business model innovation: The case of artificial intelligence. *Journal of Open Innovation: Technology, Market, and Complexity*, 5(3). <https://doi.org/10.3390/joitmc5030044>
- Luo, X., Tong, S., Fang, Z., & Qu, Z. (2019). Frontiers: Machines vs. humans: The impact of artificial intelligence chatbot disclosure on customer purchases. *Marketing Science*, 38(6), 937–947. <https://doi.org/10.1287/mksc.2019.1192>
- MARTÍNEZ, R. G., ROMÁN, C. P., & PEÑAS, L. J. S. (2020). Inteligencia artificial como herramienta de análisis en gestión value. *Recta*, 21(2), 89–104. <https://doi.org/10.24309/recta.2020.21.2.01>
- Mikalef, P., & Gupta, M. (2021). Artificial intelligence capability: Conceptualization, measurement calibration, and empirical study on its impact on organizational creativity and firm performance. *Information and Management*, 58(3). <https://doi.org/10.1016/j.im.2021.103434>
- Molleví Bortoló, G., Álvarez Valdés, J., & Nicolas-Sans, R. (2023). Sustainable, technological, and innovative challenges post Covid-19 in health, economy, and education sectors. *Technological Forecasting and Social Change*, 190. <https://doi.org/10.1016/j.techfore.2023.122424>
- Monod, E., Lissillour, R., Köster, A., & Jiayin, Q. (2022). Does AI control or support? Power shifts after AI system implementation in customer relationship management. *Journal of Decision Systems*. <https://doi.org/10.1080/12460125.2022.2066051>
- Nañez Alonso, S. L., & Reier Forradellas, R. F. (2022). Digitalización de empresas y economía: tendencias actuales. *ESIC*. <http://bitly.ws/JZv9>
- Naz, F., Agrawal, R., Kumar, A., Gunasekaran, A., Majumdar, A., & Luthra, S. (2022). Reviewing the applications of artificial intelligence in sustainable supply chains: Exploring research propositions for future directions. *Business Strategy and the Environment*, 31(5), 2400–2423. <https://doi.org/10.1002/bse.3034>
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., ... Alonso-Fernández, S. (2021). Declaración PRISMA 2020: una guía actualizada para la publicación de revisiones sistemáticas. *Revista Española de Cardiología*, 74(9), 790–799. <https://doi.org/10.1016/j.recesp.2021.06.016>
- Peres, R., Schreier, M., Schweidel, D., & Sorescu, A. (2023). On ChatGPT and beyond: How generative artificial intelligence may affect research, teaching, and practice. *International Journal of Research in Marketing*. <https://doi.org/10.1016/j.ijresmar.2023.03.001>
- Petrescu, M., Krishen, A. S., Kachen, S., & Gironde, J. T. (2022). AI-based innovation in B2B marketing: An interdisciplinary framework incorporating academic and practitioner perspectives. *Industrial Marketing Management*, 103, 61–72. <https://doi.org/10.1016/j.indmarman.2022.03.001>
- Piasecki, R., Wolnicki, M., & Betancourt, E. W. (2021). Artificial intelligence in the context of global resource mobility. What can be expected from it? *Comparative Economic Research*, 24(3), 93–107. <https://doi.org/10.18778/1508-2008.24.23>

- Ramón, J., Arellano, L., Cruz-Delgado, D., César, J., & Martínez, G. (2022). Introducción a la innovación de cadenas de suministro aplicadas al comercio digital. Universidad Autónoma de Sinaloa. <https://www.researchgate.net/publication/371503122>
- Rodgers, W., Hudson, R., & Economou, F. (2023). Modelling credit and investment decisions based on AI algorithmic behavioral pathways. *Technological Forecasting and Social Change*, 191. <https://doi.org/10.1016/j.techfore.2023.122471>
- Ruiz-Real, J. L., Uribe-Toril, J., Torres, J. A., & Pablo, J. D. E. (2021). Artificial intelligence in business and economics research: Trends and future. *Journal of Business Economics and Management*, 22(1), 98–117. <https://doi.org/10.3846/jbem.2020.13641>
- Villaseca, D., & González, S. (2023). De Silicon Valley a tu negocio: Innovación, data e inteligencia artificial. Alpha Editorial. <http://bitly.ws/JYNT>
- Wang, X., Lin, X., & Shao, B. (2022). How does artificial intelligence create business agility? Evidence from chatbots. *International Journal of Information Management*, 66. <https://doi.org/10.1016/j.ijinfomgt.2022.102535>