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FAMILY BUSINESSES IMPROVE THEIR PERFORMANCE WITH THE USE OF ARTIFICIAL INTELLIGENCE

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Abstract: Artificial intelligence (AI) has the potential to transform every aspect of family businesses, from their day-to-day operations to their long-term strategy. By embracing AI, these organizations can not only improve their operational performance, but also ensure their long-term sustainability and success in an increasingly competitive and technologically advanced world. Business leaders must view AI as an essential tool to adapt to changing market demands and ensure that their family businesses can thrive for generations to come. The objective of the research to present the main benefits that the use of artificial intelligence can bring to family businesses that will enable the leaders of these businesses to better understand how they can leverage AI advances to improve their competitiveness and ensure their long-term sustainability. This paper is a documentary analysis. The results show the main benefits by adopting AI-based solutions, family businesses can automate processes, make more informed decisions, innovate in their products and services, and manage knowledge more efficiently. In conclusion, as technology continues to advance, it is critical that family business leaders understand and leverage the benefits of AI to keep up in an increasingly dynamic and digitized business environment.

Keywords: Family business, artificial intelligence, performance, AI benefits, AI benefits

INTRODUCTION

Family businesses represent a fundamental pillar in economies around the world. According to various studies, these organizations contribute significantly to the Gross Domestic Product (GDP) and are responsible for generating employment in numerous sectors (Basco, 2015). However, they face particular challenges, such as managing family dynamics, making strategic decisions and, especially, adapting to new technologies in a constantly changing business environment. In this context, artificial intelligence (AI) has positioned itself as a key solution to boost their performance, providing these companies with tools that optimize operational processes, improve decision-making and foster innovation (Chrisman et al., 2018).

One of the main areas in which AI is positively impacting family businesses is in the automation of repetitive tasks, through techniques such as machine learning and robotics, allows these companies to automate administrative, accounting and manufacturing processes, which reduces human error and increases efficiency. This optimization translates into reduced costs and better allocation of human resources towards higher value-added tasks (Davenport & Ronanki, 2018). For family businesses, which often operate with limited resources and must be extremely careful with their margins, AI offers them the opportunity to become more competitive without the need for large investments in additional staff.

AI is revolutionizing the way family businesses make strategic decisions. Through predictive analytics, organizations can leverage large volumes of data to anticipate market trends, assess consumer behavior and adjust their strategies in real time. This is especially useful for family businesses that are looking to expand into new markets or diversify their products, but need to do so in an informed and calculated way to minimize risks (Galindo-Martín et al., 2021). An example of this is the use of AI algorithms for demand forecasting, which allows companies to adjust their production and distribution more efficiently, avoiding both excess inventory and product shortages.

AI is also helping to overcome one of the biggest challenges facing family businesses: generational succession. On many occasions, these companies face problems in the transi-

tion of leadership between generations, which can jeopardize the continuity of the company (Cassia & Minola, 2012). By using AI systems, it is possible to identify leadership patterns and qualities in family members, helping in the selection and development of future leaders. In addition, AI facilitates the transfer of accumulated knowledge in the company, as it allows storing and analyzing key historical data on the operation, management and strategic decisions, ensuring that this knowledge is not lost during generational change.

A key aspect is how AI is enabling family businesses to be more resilient and adaptable in times of uncertainty. The ability of AI algorithms to process large amounts of data and provide real-time analytics has been key to enabling companies to respond quickly to crises such as the COVID-19 pandemic. Organizations that implemented AI to manage their supply chains and adapt their operations to new realities demonstrated greater adaptability and, in many cases, improved their performance despite the global crisis (Varma, 2021).

Several previous studies have addressed the benefits of AI in the business domain in general (Manyika et al., 2017; Brynjolfsson and McAfee, 2014). However, there is a gap in the scientific literature regarding how AI integration specifically impacts the unique performance and dynamics of family firms. This is why the present paper seeks to explore the benefits that the use of artificial intelligence can bring to family firms

Given the above, this research paper aims to present the main benefits that the use of artificial intelligence can bring to family businesses, allowing the leaders of these companies to better understand how they can take advantage of AI advances to improve their competitiveness and ensure their long-term sustainability.

THEORETICAL FRAMEWORK

To achieve the objective of this paper, it is necessary to know the concepts of different authors on family business, artificial intelligence (AI) and business performance and its relationship with AI, which will provide a broader view of the subject.

FAMILY BUSINESS

Family businesses are those in which control of the organization is in the hands of one or more families who, in addition to sharing ownership, also have significant influence in the management and direction of the company (Zellweger, 2017). These businesses are central to the global economy; it is estimated that approximately 70% to 90% of businesses worldwide are family businesses, generating between 50% and 80% of total employment in many countries (De Massis et al., 2018).

One of the main challenges facing family businesses is generational succession. The transfer of leadership between generations can generate internal tensions, as the values and goals of new generations may differ from those of their predecessors. According to a study by PwC (2018), less than 30% of family businesses survive to the second generation, and only 12% make it to the third generation. This underscores the importance of proper planning to ensure the continuity of these companies.

Despite these challenges, family firms often have distinctive competitive advantages, such as a strong organizational culture, long-term commitment, and greater flexibility in decision making (Chrisman et al., 2018). These characteristics allow family firms to adapt to market changes more efficiently than other organizational forms.

ARTIFICIAL INTELLIGENCE (AI)

Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems. These processes include learning, reasoning, problem solving and language use (Russell & Norvig, 2020). In recent decades, AI has advanced rapidly thanks to exponential growth in data processing, computational capacity, and the development of machine learning algorithms.

The use of AI in business is revolutionizing the way companies operate and make decisions. Tools such as predictive analytics, recommender systems and deep learning algorithms allow companies to optimize their processes, reduce costs and improve efficiency (Davenport & Ronanki, 2018). A key example of AI implementation is the automation of repetitive processes, such as accounting or inventory management, which frees employees to focus on higher-value tasks.

AI enables companies to analyze large amounts of data in real time, helping business leaders make more informed, evidence-based decisions. This type of analysis can be crucial for supply chain management, product customization, and identifying new market opportunities (Brynjolfsson & McAfee, 2017).

BUSINESS PERFORMANCE AND ITS RELATION TO AI

Business performance refers to the ability of an organization to achieve its strategic and operational objectives efficiently and effectively. This concept encompasses a variety of indicators, such as profitability, revenue growth, customer satisfaction and operational efficiency (Venkatraman & Ramanujam, 1986).

AI implementation is transforming business performance in significant ways. First, by automating routine and repetitive tasks, companies can reduce costs and increase productivity (Bughin et al., 2018). In addition, AI improves decision-making accuracy, which is essential for long-term success. A McKinsey study notes that companies that adopt AI in key areas can increase their profitability by 5% to 10%, depending on the industry (Bughin et al., 2018).

For family businesses, the adoption of AI can be especially beneficial, as it allows them to compete more effectively with large multinational corporations. AI technologies enable family businesses to identify opportunities for innovation, personalize their products, and improve customer experience, resulting in better financial and organizational performance (Chrisman et al., 2018). In addition, AI is crucial for improving the sustainability of family businesses. By providing tools for knowledge management, AI helps preserve organizational knowledge, easing the transition between generations and ensuring that the firm can maintain its performance over time (Cassia & Minola, 2012).

METHODOLOGY

The research design is a strategic plan that is developed to obtain the information that describes the introductory part of the topic in a documentary way considering the objective regarding the benefits that the use of artificial intelligence can bring to family businesses.In this topic the research design will constitute the plan to make a literature review to know the main benefits of using AI in family businesses, so that it will allow the leaders of these companies to better understand how they can take advantage of the advances of AI to improve their competitiveness and ensure their long-term sustainability.

Documentary research consists of an analytical study of the knowledge obtained and its purpose is to inventory and systematize the production of a specific area of knowledge. First of all, scientific articles and books on the subject under study can be located. Subsequently, a selection process was

carried out in order to limit the amount of information considered for the research. Secondly, this research was continued through analytical reading, for this step the guidelines proposed by Garcés and Duque were taken as a reference. Subsequently, as a result of the processing of the information collected, it was classified into categories: family business, Artificial Intelligence and business performance and its relationship with AI to obtain the results and conclusions.

RESULTS

The following are the results found in the literature in relation to the research objective to present the main benefits that the use of artificial intelligence can bring to family businesses. The main benefits are:

PROCESS AUTOMATION AND OPERATIONAL EFFICIENCY

One of the biggest benefits that AI can offer family businesses is process automation. By implementing AI technologies such as robotic process automation businesses can reduce the burden of repetitive and administrative tasks, such as accounting, inventory management and customer service. This not only improves operational efficiency, but also frees employees to focus on higher-value activities such as innovation or personalized customer service.

According to Brynjolfsson and McAfee (2017), "AI-based automation not only increases productivity, but also enables companies to do more with less, improving the quality of human labor." In family-owned businesses, where resources are often limited, automation can make a big difference in the organization's ability to compete with larger, more technologically advanced companies. Process optimization can reduce operating costs and increase accuracy in critical tasks, which in turn improves the overall profitability of the company (Davenport & Ronanki, 2018).

IMPROVED DATA-DRIVEN DECISION-MAKING

Predictive analytics is one of the areas where AI has the greatest impact on business decision making. With the ability to process large amounts of data in real time, AI can identify patterns and trends that would not be evident through human analysis. This enables business leaders to make more informed decisions based on accurate and relevant data.

For family businesses, which often face challenges related to uncertainty and long-term strategic planning, this capability is critical. According to a study by Bughin et al. (2018), "companies that adopt AI in their decision-making can improve their financial performance by up to 10%." By using AI algorithms to predict product demand, adjust marketing strategies, or identify new and emerging markets, leaders of family-owned businesses can make more effective and lower--risk decisions.

In addition, AI also facilitates collaborative decision making, providing business leaders with clear and objective data to support their strategies. This is especially important in the context of family businesses, where strategic decisions can be influenced by family dynamics. With AI, decisions are based on empirical evidence, which reduces internal conflicts and improves strategic alignment (Chrisman et al., 2018).

INNOVATION AND DEVELOPMENT OF NEW BUSINESS OPPORTUNITIES

AI not only improves operational efficiency and decision making, but also drives innovation. For family-owned businesses, which often take more conservative approaches to change, AI offers new opportunities for the creation of innovative products and services. AI technologies can be used to develop customized products, improve customer experience and open up new markets.

One example of this is AI-driven personalization, which enables family businesses to offer products and services tailored to the specific needs and preferences of each customer. According to a PwC study (2021), "72% of companies that implement AI-driven personalization solutions see a significant increase in customer loyalty." For family-owned businesses, which typically compete in niche or local markets, the ability to deliver a personalized experience can be a key competitive advantage.

In addition, AI can help family firms explore new business models. For example, AI can facilitate the analysis of international markets, helping family firms identify expansion opportunities and assess the risks associated with entering new markets (De Massis et al., 2018). This is especially relevant for family businesses seeking to internationalize and diversify their revenue sources.

IMPROVED SUSTAINABILITY AND KNOWLEDGE MANAGEMENT

One of the most important challenges for family businesses is to ensure long-term sustainability, especially with regard to generational succession and knowledge preservation. AI can play a crucial role in this area, helping companies to manage and retain institutional knowledge through AI-based knowledge management systems.

AI enables companies to store, organize and access large volumes of historical and operational data, ensuring that accumulated knowledge is not lost during the succession process. According to Cassia and Minola (2012), "family businesses that adopt AI-based knowledge management systems are more efficient at transferring skills and knowledge between generations." This is essential for the continuity of operations and the implementation of long-term strategies.

In addition, AI can improve the environmental sustainability of family businesses. AI technologies can optimize resource use, reduce waste, and improve energy efficiency, which not only benefits the company's financial performance, but also reinforces its commitment to sustainability (Varma, 2021).

CONCLUSIONS AND DISCUSSION OF RESULTS

Artificial intelligence (AI) is revolutionizing the business landscape, and family businesses are no exception. While these organizations often face unique challenges, such as managing limited resources, succession planning and preserving family culture, AI offers innovative solutions that can profoundly transform their operations and long-term strategies.

Process automation is one of the most tangible benefits of AI for family businesses. By integrating technologies that automate repetitive, low-value tasks, companies can not only improve their operational efficiency, but also free up their employees to focus on strategic, higher value-added activities. This is crucial in an environment where family businesses, often with smaller structures and fewer financial resources, must maximize every available resource. Reducing operating costs and increasing precision in task execution can be key differentiators that enable family businesses to compete more effectively with larger players in the market.

In addition to automation, AI is radically changing the way business decisions are made. Family-owned businesses, which in many cases rely on the intuitive knowledge of leaders and historical experience, can benefit greatly from data-driven decision making provided by AI systems. These systems enable better understanding of market trends, identification of risks and opportunities, and prediction of customer behaviors, leading to better deci-

sions that are less prone to human error. For family businesses, where strategic decisions are also influenced by family dynamics, AI provides an objective basis on which to base key decisions, reducing potential internal tensions and promoting greater cohesion among family members involved in management.

AI also drives innovation, a vital aspect for any business seeking to remain competitive in today's marketplace. AI's ability to personalize products and services, enhance the customer experience and facilitate entry into new markets offers family businesses a significant advantage. Through AI, these companies can better adapt to changing market demands and create more compelling value propositions for their customers. This is particularly important for family businesses that have traditionally operated in local or niche markets and are looking to expand or diversify their operations globally.

Another crucial area where AI can add value is in knowledge management and long-term sustainability. One of the main concerns of family businesses is the preservation of knowledge accumulated over generations. AI can play a key role in creating systems that store and manage that knowledge, ensuring that it is not lost during generational succession processes. This allows for a smoother transition between generations, reducing the risk of critical knowledge being lost and ensuring that future generations can easily access the information and best practices established by their predecessors.

Finally, the impact of AI on environmental sustainability, an increasingly important issue in the business world, cannot be ignored. AI technologies can optimize resource use, reduce waste and improve energy efficiency, which not only benefits a company's financial performance, but also reinforces its commitment to social responsibility and sustainability. In an environment where consumers and stakeholders increasingly value sustainable business practices, this can make a significant difference for family businesses.

It is important for family business leaders to understand that AI adoption is not just an investment in technology, but a key strategy to ensure their competitiveness and relevance in a globalized and digitized marketplace. However, successful AI implementation requires more than just the acquisition of advanced technology. Business leaders must ensure that the organizational culture is aligned with technological changes, promoting a mindset of innovation, continuous learning and adaptation. They must also be willing to invest in training their workforce so they can take full advantage of AI tools and adapt to new roles that arise with task automation.

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