

Edición
13

ISSN: 2953-769X

INTELIGENCIA ARTIFICIAL CRECIENDO EN HUMANIDAD

REVISTA SEMESTRAL

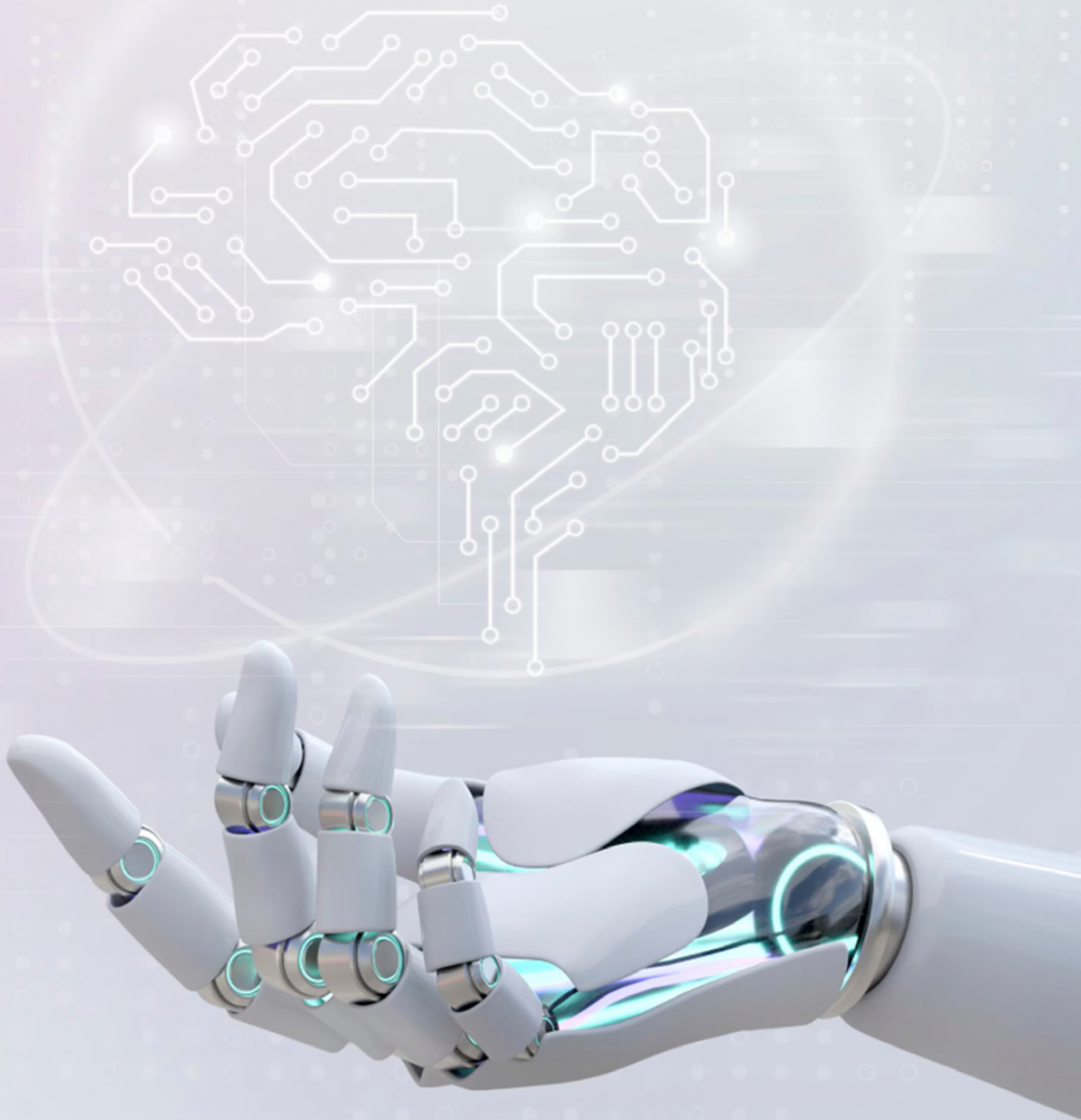


Universidad San Marcos
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AUTONOMOUS ENTERPRISES: STRATEGIC DECISION-MAKING POWERED BY ARTIFICIAL INTELLIGENCE IN BUSINESS ADMINISTRATION

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DOI: <https://doi.org/10.64183/pw7nw416>

Received: February 2025
Accepted: April 2025

Abstract. This paper looks at the growth of autonomous companies, in which cognitive artificial intelligence (AI) technologies directly support strategic decision-making, planning, and forecasting. The study looks at how artificial intelligence integration affects decision speed, cost efficiency, and management satisfaction by means of a mixed-methods methodology spanning four Latin American companies in banking, logistics, technology, and services. Results indicate that management satisfaction remained high, especially when AI systems were visible and interpretable, decision-making agility increased by up to 42%, and cost savings reached 18%. But ethical issues including algorithmic opacity and over-automation were also noted, indicating the necessity of more robust control. The paper suggests a co-leadership approach in which people and artificial intelligence work together to make decisions. Real organizational value comes from integrating

analytical intelligence with ethical responsibility; it does not come from automation by itself.

This paper supports the creation of strategic, human-centered AI adoption frameworks by stressing that in a time motivated by smart systems, leadership has to stay anchored in human values.

Keywords. Cognitive Artificial Intelligence, Autonomous Enterprises, Strategic Decision-Making, Business Administration, Human-AI Collaboration.

EMPRESAS AUTÓNOMAS: TOMA DE DECISIONES ESTRATÉGICAS IMPULSADA POR INTELIGENCIA ARTIFICIAL EN LA ADMINISTRACIÓN EMPRESARIAL

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Recibido: **Febrero 2025**

Aceptado: **Abril 2025**

Resumen. Este artículo analiza el crecimiento de las empresas autónomas, donde las tecnologías de Inteligencia Artificial (IA) cognitiva apoyan directamente la toma de decisiones estratégicas, la planificación y la previsión. El estudio analiza cómo la integración de la IA afecta la velocidad de decisión, la rentabilidad y la satisfacción de la dirección mediante una metodología de métodos mixtos que abarca cuatro empresas latinoamericanas de los sectores bancario, logístico, tecnológico y de servicios. Los resultados indican que la satisfacción de la dirección se mantuvo alta, especialmente cuando los sistemas de IA eran visibles e interpretables; la agilidad en la toma de decisiones aumentó hasta un 42 % y el ahorro de costes alcanzó el 18 %. Sin embargo, también se observaron problemas éticos, como la opacidad algorítmica y la sobreautomatización, lo que indica la necesidad de un control más robusto. El artículo sugiere un enfoque de coliderazgo en el que las personas y la IA colaboran para tomar decisiones. El verdadero valor organizacional proviene de la integración de la inteligencia analítica con la responsabilidad ética; no de la automatización por sí sola.

Este artículo apoya la creación de marcos estratégicos para la adopción de la IA centrados en el ser humano, enfatizando que, en una era impulsada por los sistemas inteligentes, el liderazgo debe basarse en valores humanos.

Palabras clave. Inteligencia Artificial Cognitiva, Empresas Autónomas, Toma de Decisiones Estratégicas, Administración de Empresas, Colaboración Humano-IA.

1. INTRODUCTION

Standing not only before a technical change but at the edge of a new ontology of leadership, we are at the beginning of the fourth industrial revolution. Business administration is no longer the only realm of strategic thinkers in an age when algorithms learn, adapt, and decide at speeds inconceivable to the human mind; it is being cohabited with intelligent systems. One of the most significant changes in organizational history is this convergence between human decision-makers and cognitive artificial intelligence (AI).

The conventional picture of the executive—the one who assesses options, balances risks, and leads a firm toward its vision—is being rebuilt. Predictive models now show market patterns; neural networks suggest financial plans; conversational bots manage customer portfolios. From back-office automation, artificial intelligence has developed into a strategic actor, an agent that never sleeps, never forgets, and never hesitates in doubt. (Abdurrahman, 2025) cautions that the boundary between organic and artificial intelligence is no longer academic; it is practical and changing management meaning.

But this change is conceptual, not just technological. It questions our ideas of control, trust, and even goal in the company. Decisions made by robots increasingly impact futures, reputations, and livelihoods. In that context, an important issue arises:

Can cognitive artificial intelligence not only assist but even redefine strategic leadership in business administration? If so, how can we maintain human agency, ethics, and purpose at the core of autonomous companies?

For the contemporary business, this inquiry is existential, not rhetorical. We are facing the fact that computers do things differently, and sometimes better, not disputing whether they can do what people do, as (Li et al., 2023) contend. (Shang et al., 2025) underline, strategic leadership is about negotiating complexity with vision and moral clarity, not just about maximizing results.

This paper investigates how autonomous companies are developing as hybrid ecosystems where artificial intelligence and human cognition interact dynamically by means of a multidisciplinary approach combining management science, artificial intelligence, and organizational theory (Acuña et al., 2025). The study aims to reveal trends in AI-driven decision-making, organizational agility, and management adaptability by means of a mixed-methods analysis of actual implementations in finance, logistics, and human resources throughout Latin America.

The final goal is to highlight the changing function of administrators in a society where leadership is no longer just human and to provide a model for co-leadership that harmonizes the analytical strength of artificial intelligence with the emotional, ethical, and

visionary aspects of human judgment (Acuña Acuña, 2024). This paper aims to add to scholarly discussion as well as the pressing need for models of responsible innovation in modern management by means of its findings.

Literature Review

The introduction of artificial intelligence (AI) into business settings is a turning point in the history of modern management. As companies use smart systems to help them make decisions and sometimes even make them, experts need to go back and look at basic ideas in business management, strategic leadership, and technology enhancement.

Artificial Intelligence: From Tool to Cognitive Partner

Artificial intelligence, which used to mean machines that could mimic how humans think and reason (Garay Gallastegui & Reier Forradellas, 2024), has grown beyond simple rule-based automation. Cognitive AI—systems that can learn from data, understand context, and make choices based on that context—is a big change from early AI. Cognitive systems, like DeepMind from Google or IBM Watson, do more than just handle data. They also draw conclusions, explain choices, and learn from comments (Shang et al., 2025).

With this change, AI is now seen as a strategic partner instead of just a practical tool. Cognitive AI, unlike older computer

systems, can make complicated decisions like changing prices, evaluating risks, choosing employees, and tailoring the customer experience. In business, this means that AI can change the results of a company, not just help it reach its goals.

Business Administration in the Age of AI

In the past, business administration was all about planning, organizing, leading, and controlling resources (Zamlynskyi et al., 2025). Now, business administration has to change to a digital world where many of these tasks can be done by intelligent agents or given advice by them. The new idea of the autonomous company is businesses where AI systems constantly look at data, suggest actions, and carry out decisions made by different teams (Wu et al., 2022).

These systems with AI added to them change the jobs of administrators. Human resource managers change from giving orders to planning strategies, focusing on figuring out what AI-driven insights mean, making sure that ethical standards are met, and making sure that actions are in line with the organization's values and goals.

Strategic Decision-Making and Machine Learning

Making strategic decisions means choosing actions that will affect how a company grows and changes over time (Uctu, Tuluze, & Aykac, 2024). In standard settings, this

process relies a lot on people's gut feelings, their experience, and their ability to put together pieces of incomplete data. This way of thinking is challenged by AI, which provides machine learning models that can find hidden patterns, recreate situations, and predict results with a high level of accuracy.

Reinforcement learning models are being used more and more to improve real-time price strategies, transportation networks, and even financial investments (Ji & Huang, 2022). Even though AI improves the speed and quality of decisions, it also raises new questions about responsibility, explainability, and bias (Zhang et al., 2023).

Human-AI Collaboration and Ethical Management

The interaction between human judgment and computer reasoning is one of the most important areas of study right now. AI does not replace management; instead, it changes how leadership works. (Miracle & Thoma, 2024) come up with the idea of "augmented leadership," in which humans and machines share decision-making power. Each brings something special to the table: humans bring moral thinking and humanity, and machines bring speed and deep analysis.

But as AI gets smarter and more independent, it's important to make sure that choices it makes are still in line with human standards. This brings up issues of justice, ethical AI

control, and the need to protect human choice in important decisions (Ahmad et al., 2021).

The Autonomous Enterprise: A New Organizational Model

Lastly, the literature points out that the rise of the independent business is a new way to run an organization. Here, supply lines are managed, marketing is tailored to each customer, and resources are distributed flexibly by AI systems that guide business units (Arranz et al., 2023). Real-time analytics, systems that learn all the time, and cross-functional data merging are important to these businesses.

While there is a lot of hope for efficiency and new ideas, the research also points out some risks, such as managers losing their skills, algorithms that are hard to understand, and relying too much on AI when things are unstable (Chaturvedi, 2025).

A lot of research points to the same conclusion: AI is not just changing tools; it's also changing how management is done and how decisions are made. The rise of self-driving businesses is both a challenge and an opportunity: it means that leadership needs to be rethought in a way that keeps people's goals while welcoming technology enhancements. This study builds on these ideas to suggest a framework for strategic co-leadership, in which cognitive AI and human judgment work together to help businesses

deal with complicated situations.

2. MATERIALS AND METHODS

This study employed a sequential mixed-methods design, integrating qualitative inquiry with quantitative performance measurement, to examine the impact of cognitive artificial intelligence (AI) on strategic decision-making, operational efficiency, and leadership perception in Latin American enterprises transitioning toward autonomous models.

Research Design

A multiple-case study method was used (Kar, Choudhary, & Singh, 2022), which let a close look at four businesses from various fields: transportation, technology, mixed services, and finance. These businesses were chosen because they have a history of using AI in at least two core management tasks, such as HR, finance, CRM, or transportation. The design used both descriptive and comparative parts to look for differences between sectors and make broad statements based on multiple cases (Mishra et al., 2024).

Phased Research Process

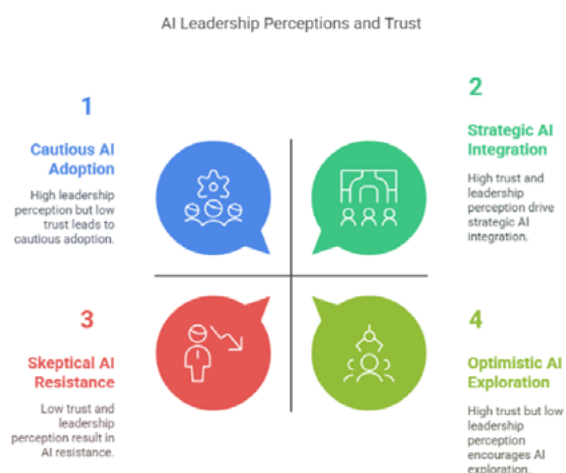
The research was structured into three sequential phases:

Phase I

Exploratory Qualitative Analysis: Twelve top

executives, AI project managers, and strategy analysts were interviewed in a semi-structured way. In these talks, people talked about things like how they see AI in leadership, how much they believe AI suggestions, and ethics issues.

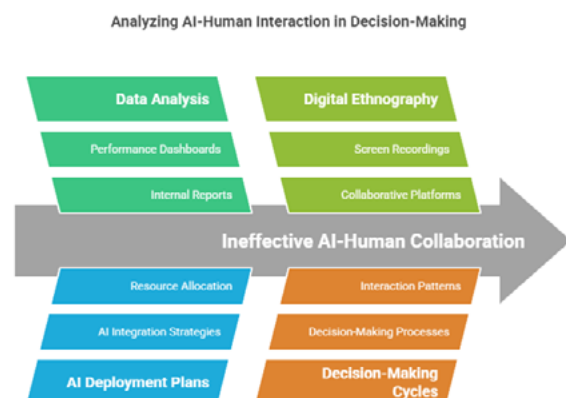
Figure 1. *Matrix of AI Leadership Perceptions and Organizational Trust.*



Source: Author (2025)

Phase II

Figure 2. *Multimethod Framework for Diagnosing Ineffective AI-Human Collaboration in Decision-Making*

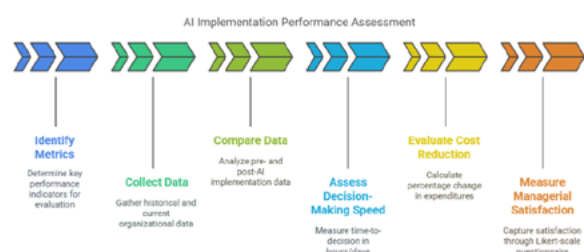


Source: Author (2025)

Documentary and System Observation: Performance screens, internal business records, and AI rollout plans were all looked over. Digital research methods were also used to watch how AI and humans interacted during decision-making cycles by recording their screens and using joint platforms.

Phase III

Figure 3. *Sequential Framework for AI Implementation Performance Assessment.*



Source: Author (2025)

- Quantitative Performance Assessment:** Data from before and after AI implementation were compared across three measures using both old and new organizational metrics:
- Decision-making speed** (measured as time-to-decision in hours/days)
- Operational cost reduction** (percentage change in process-specific expenditures)
- Managerial satisfaction** (captured through a Likert-scale questionnaire)

Instruments and Data Collection

The study employed the following

instruments:

- Interview Protocol** with open and thematic questions for triangulating perceptions about AI impact, risks, and change management.
- Observation Matrix** to record and analyze how AI tools were used in real time during team meetings and simulations(Shang et al., 2025).
- Performance Metrics Sheet** developed to standardize data extracted from organizational systems (ERP, CRM, HRIS).
- Ethical Risk Log** created to register qualitative evidence of ethical concerns raised by employees and executives during AI implementation.

Table 1. *Sample Characteristics*

Criteria	Specification
Number of organizations	4 (Finance, Logistics, Technology, Mixed Services)
Geographic location	Latin America (Costa Rica, Colombia, Mexico, Chile)
AI implementation maturity	Minimum 1 year of cognitive AI integration
Data sources	Interviews, documents, software logs, internal dashboards
Organizational size	Small (1), Medium (2), Large (1)

Source: Author (2025)

Data Analysis Techniques

The qualitative data (interviews and documents) were analyzed using thematic

coding in ATLAS.ti, following (Wang et al., 2024) six-phase model. Codes were grouped into thematic categories: AI-driven decisions, managerial trust, ethical challenges, perceived autonomy.

Also, the quantitative data (metrics on time and cost) were analyzed using descriptive statistics and percentage variation formulas, allowing for pre-post comparison. For example:

Decision Speed Improvement =

$$\frac{T_{before} - T_{after}}{T_{before}} \times 100$$

Where T_{before} and T_{after} represent average decision cycle duration before and after AI integration.

Managerial satisfaction was calculated by averaging survey responses on a five-point Likert scale, supported by qualitative quotes for interpretative depth.

Validation and Triangulation

To ensure the credibility and robustness of findings:

- a) Triangulation was applied by comparing interview data, document content, and system outputs.
- b) Member-checking was conducted by sharing case reports with participants to confirm factual accuracy and interpretation.
- c) Peer debriefing sessions were held

with academic researchers in AI ethics and business administration to assess analytical integrity.

Ethical Considerations

All procedures followed the ethical guidelines set forth by the American Psychological Association (Zhong, Zhang, & Yang, 2025) and the institutional ethics committee of Universidad San Marcos. Participants gave their full consent, and all information that could be used to identify

them was removed. It was very important to describe AI-related ethical problems properly, such as risks linked to lack of transparency, bias, and relying too much on automation.

3. RESULTS

When cognitive artificial intelligence (AI) was used in four organizations in Latin America, it produced impressive outcomes that show the real progress toward self-sufficient business structures. This part gives a full look at how AI changes strategic decision-making, cost-effectiveness, how managers see things, and how ethics work. All of these areas are important for changing how things are done in the age of intelligent systems.

Enhancing Strategic Decision-Making Agility

Decision-making processes were sped up, which was the most noticeable and

measurable effect of AI right away. As shown in Table 1, all four companies reported big gains, with time savings ranging from 28% to 42% when it came to analyzing, simulating, and carrying out choices.

Table 2. *Organizational Impact of AI Integration*

Organization	Sector	AI Functions Used	Decision Speed ↑ (%)	Cost Reduction ↓ (%)	Satisfaction (1-5)	Ethical Concerns
Org A	Finance	HR, Finance	35%	12%	4.5	Transparency
Org B	Logistics	Logistics, CRM	42%	18%	4.2	Data Bias
Org C	Technology	HR, Forecasting	28%	10%	3.9	Opacity
Org D	Mixed Services	Finance, Marketing	37%	15%	4.4	Human Oversight

Source: Author (2025)

Org B, which works in shipping, said that their decision-making speed had improved the most (42%). This happened because predictive algorithms were used to find the best routes, balance supplies, and guess what customers would want. Org C, on the other hand, even though it is a technology company, had the lowest relative growth (28%). This was because it was hard to understand the models and make strategy choices because they rely on imagination and innovation cycles (Acuña Acuña, Huertas Rosales, & Vásquez Espinoza, 2024).

The detailed questions made this trend even stronger. Executives from Orgs A and D talked about how AI-powered screens made

planning proactive instead of reactive. A business leader said, “We don’t wait for problems to happen anymore; we see them coming with more clarity than ever before.” (Sumrit, 2024).

Operational Cost Efficiency and Resource Optimization

Along with faster decision-making, business costs dropped by 10% to 18%, which was obvious. These savings were mostly made possible by automating tasks that were done over and over, improving financial predictions, and smartly moving people around.

Again, Org B stuck out. By using AI in customer service, warehouse operations, and transport schedules, they were able to cut costs by 18%. A service-sector company called Org D saved 15% by using AI to automatically divide up budgets and group customers into different groups. Even in the highly controlled finance industry, Org A saw a 12% drop in costs by automating compliance checks and optimizing payments.

These results show that AI can be used on a large scale in places where cost is important, especially when practical bottlenecks can be found, measured, and fixed using algorithms.

Managerial Satisfaction and Strategic Confidence

Another important measure that was looked

at was how happy managers were with the use of AI. With an average score of 4.25 on a range from 1 to 5, the answers showed a high level of approval generally. The most satisfied organization, Org A, gave it a score of 4.5 and emphasized the improvement in data exposure and the ability to more accurately model financial threats. Org D came next with a score of 4.4 and praised AI's role in making teamwork and communication better.

Even Org C, which got a score of 3.9, said that AI could open new ways of making decisions as long as it can be made easier to understand and for humans and AI to work together better. This shows that acceptance of AI isn't just based on results; it's also closely connected to trust, being able to explain, and fitting in with the culture of the company.

Ethical Reflections and Responsible AI Challenges

Even though the numbers were clear, all groups were very worried about the morality of using AI in key tasks. These worries were different, but they all came down to four main ideas:

- a) Transparency: Org A raised concerns about “black box” algorithms in finance, where managers could not fully explain AI-generated recommendations to stakeholders or regulators (Valle-Cruz, Fernandez-Cortez, & Gil-Garcia, 2022).
- b) Data Bias: Org B experienced biased

outcomes in HR screening tools, leading to inequitable recruitment suggestions.

- c) Opacity: Org C found that some predictive models lacked interpretability, especially those based on deep learning, which created discomfort among middle managers.
- d) Over-automation: Org D reported increasing dependence on AI recommendations, which, while efficient, led to a weakening of critical human discussion in high-level meetings (Wang & Zhang, 2025).

These problems make it clear how important it is to have ethical governance systems. It is the job of both AI creators and executive leaders to make sure that AI is accountable, explains itself, and follows human-centered values.

Sector-Specific Trends and Organizational Readiness

To get a bigger picture, means for each area were found and shown in Table 2. Based on these numbers, it's clear that the transportation and banking sectors got the most out of the whole thing, especially when it came to making decisions faster and cutting costs. Perhaps this is because their tasks are routine and involve a lot of data, which makes them easier to improve using algorithms (Borges et al., 2021).

Table 3. *Sectoral Averages of AI Benefits*

Sector	Avg. Decision Speed ↑ (%)	Avg. Cost Reduction ↓ (%)	Avg. Satisfaction (1-5)
Finance	35%	12%	4.5
Logistics	42%	18%	4.2
Technology	28%	10%	3.9
Mixed Services	37%	15%	4.4

Source: Author (2025)

But even in areas that did well, the amount of gain relied on how mature the digital infrastructure was, how open the leaders were to change, and whether there were ethical review systems in place. In every case, the human element was still necessary: AI could guide, model, and make suggestions, but it was human leadership that turned ideas into actions.

4. DISCUSSION OF RESULTS

The study's findings show that the rise of independent businesses is not just a guess; it is a real and observable change that is currently changing how business is run in Latin America. Cognitive artificial intelligence (AI) has been used in basic managerial tasks and has shown that it can change the speed, quality, and scope of strategic decision-making. At the same time, it has created new problems related to ethics, openness, and human choice.

Reframing Strategic Decision-Making with AI

The fastest decision-making processes were

seen in all four companies, with gains ranging from 28% to 42%. This is one of the most important results. This finding supports what (Chaturvedi, 2025) say, which is that AI not only helps human reasoning but can often be faster and more accurate than it. Using predictive models and real-time data tools has helped managers act proactively instead of reactively, which lets them respond quickly to changes in the market.

But these improvements aren't just technical; they also show a change in the way leaders think. (Dahiya, Le, & Kroll, 2025) say that companies that use improved leadership models, in which AI and human judgment are used together to make plans, tend to be more resilient and have more insight. We found that this model is accurate: the companies that made the most progress were the ones where managers saw AI as a partner instead of a rival.

Efficiency without Oversimplification

Cost cuts (10–18%) show that AI can be used on a large scale to improve resource distribution, automate routine jobs, and cut down on waste. This result is especially clear in fields with standard routines, like banking and transportation, where a lot of organized process data is available.

On the other hand, the study warns against oversimplifying AI as a tool for pure efficiency. (Li et al., 2023), using algorithms

to make decisions can hide important factors, resulting in choices that are best from a computer point of view but are wrong from an ethical or cultural point of view. This was clear in the case of Org B, where cost savings came with unfair hiring algorithms, which raised questions about justice and diversity (Acuña Acuña, 2023).

Managerial Acceptance and Strategic Confidence

High levels of management happiness (avg. 4.25/5) show that people are becoming more confident in administrative systems that use AI. This fits with what we know about digital transformation readiness, which says that leadership buy-in is a key factor in how well new technologies work (Kuppuchamy et al., 2025).

On the other hand, happiness was highly related to how clear and easy to understand the AI systems were. Org C, which used deeper learning models that were less clear, had lower happiness. This supports (Nawaz et al., 2024) advice that using AI without being able to explain it hurts faith and usefulness.

This result shows that scientific complexity and communicability need to be managed, especially in situations where decisions need to be explained to teams, stakeholders, and authorities.

The Ethical Frontier of Autonomy

Anytime AI was used, it brought up ethics problems, such as computer secrecy and data bias, as well as the loss of human control and the weakening of management responsibility.

These data backup (Sun, Che, & Wang, 2024) say: that the future of AI needs to be shaped by moral insight as well as technology progress. Even though the companies that were looked at had put in place internal control tools like audit trails, review procedures, and ethical panels, none of them had yet made a full AI ethics framework.

This gap is very important. It's possible that choices about jobs, investments, and users will be made without full human discussion as AI gets smarter. Without strong moral bases, this kind of freedom could turn into a technocracy instead of a strategy, making things run smoothly without thinking about the results.

Toward Human-AI Co-Leadership

The need to rethink leadership itself may be the most important thing that this study has taught us. There is proof that AI is not just making choices for us; it is also changing the job of the administrator from a central decision-maker to a collector of insights, an orchestrator of systems, and a guardian of purpose.

This change needs what this study calls

“co-leadership logic” (Verbeke, Oh, & Jain, 2025), a system where people and AI both make decisions but make sure that ethics, kindness, and the organization’s goal are still based on human judgment.

The future of business management might not rest on how much decision-making power is given to AI, but on how that power is carefully shared, led, and reviewed in a way that is ethical and strategic.

In conclusion, this study clearly shows that cognitive AI could change the way government works. However, it also warns that without rules, liberty turns into a risk, intelligence turns into obscurity, and efficiency turns into a danger. Companies that see AI not as an alternative but as a partner in leadership will do well in this new era. AI should be part of a human system that is aware, responsible, and able to change (Ye et al., 2024).

5. CONCLUSIONS

In conclusion, this study clearly shows that cognitive AI could change the way government works. However, it also warns that without rules, liberty turns into a risk, intelligence turns into obscurity, and efficiency turns into a danger. Companies that see AI not as an alternative but as a partner in leadership will do well in this new era. AI should be part of a human system that is

aware, responsible, and able to change.

This study shows a big change in the way strategic leadership works, not just small improvements in numbers. In settings that are becoming more and more automatic, the supervisor is no longer just someone who makes decisions. They are also in charge of collecting information, balancing machine logic with human meaning, and keeping things honest. In this study, the companies that did the best weren’t the ones with the most powerful AI. Instead, they were the ones whose leaders knew how to co-lead with intelligence, using its power to guide clear goals and moral judgment.

Still, the way to independence isn’t risk-free. The results also show ethical flaws, such as suggestions made by algorithms that aren’t clear, decision models that are biased, and a gradual loss of human control. These are not bugs in the software; they are signs that the social and moral framework for AI acceptance needs more work. Autonomous systems may be more efficient, but they may hurt fairness, confidence, and human respect if there aren’t clear rules for who is responsible, what can be explained, and who is in charge of watching over them.

This means that organizational duty needs to be completely rethought. Autonomous businesses need to go beyond practical excellence and commit to social excellence as well. Organizations that not only make

choices but also build them into a culture of ethical review, thoughtful practice, and inclusive design will be the ones that lead the way in strategic management in the future. AI can handle data, but only people can decide what data needs to be handled. AI can improve tasks, but people are the only ones who can decide what needs to be improved.

This study shows that computer liberty needs to be met by human awareness, which is very important. As AI becomes more aggressive, leadership must change—not by staying out of decision-making, but by giving it more power to make sure that automation doesn't turn into isolation. In this new way of thinking, leadership is about working together with smart people to make things, keeping processes rooted in values, and maintaining the unique ability to ask not only what we can do, but also what we should do.

In real life, this study gives managers, coders, and lawmakers a way to integrate AI that puts openness, fairness, and shared power between people and computers at the top of the list. It tells businesses they should set up internal ethics groups, use AI principles that can be explained, and keep human audit stops in every important decision path.

For future study, it is very important to investigate how AI co-leadership changes corporate culture, employee involvement, and strategy adaptability over time. Including psychological, social, and international points

of view would help us learn more about how cognitive liberty works in various work settings.

Finally, this study isn't just an addition to the field; it's also a call to leadership. A call to understand that in this age of smart machines, the most important wisdom is not manufactured, but human. That the ideals we put into the system are what make administration important, not the system itself. Plus, the future won't be run by machines alone, but by smart people who know how to use them well.

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