

Management,
Entrepreneurship,
and Emerging
Technologies in a
Dynamic Business Era

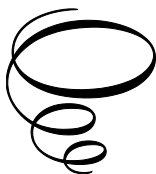
Management, Entrepreneurship, and Emerging Technologies in a Dynamic Business Era:

Strategic Synergy

Edited by

Devasis Pradhan, Ghadah Al Murshidi
and Bibhu Dash

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Management, Entrepreneurship, and Emerging Technologies
in a Dynamic Business Era: Strategic Synergy

Edited by Devasis Pradhan, Ghadah Al Murshidi and Bibhu Dash

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PREFACE

The unprecedented pace of technological advancement and globalization has profoundly transformed the ways in which organizations strategize, innovate, and compete. In this dynamic context, management and entrepreneurship have evolved beyond traditional frameworks, demanding the integration of emerging technologies, data-driven decision-making, and sustainability-driven business models. *Strategic Synergy: Management, Entrepreneurship, and Emerging Technologies in a Dynamic Business Era* seeks to address this complexity by offering a multidisciplinary perspective on the intersections of strategy, innovation, and technological disruption.

This edited volume comprises twenty rigorously curated chapters, each contributing a distinct lens to the understanding of contemporary organizational challenges and opportunities. The book commences with a critical examination of **artificial intelligence in business strategy**, providing a foundation for how machine intelligence can augment managerial decision-making and competitive advantage. Subsequent chapters advance the discourse by analyzing **public information systems performance through project management information systems**, **discipline- and year-based variations in engineering students' perceptions of online learning**, and the **prospects for ethnosport development**, illustrating the diversity of socio-technical systems shaping modern organizational contexts.

A central thematic focus is devoted to emerging technologies, with contributions on **blockchain-enabled counterfeit detection frameworks**, **trust-integrated global venture funding systems**, and **digital readiness assessments for SMEs**. These chapters illuminate the critical role of technological infrastructure in fostering transparency, scalability, and organizational resilience. Parallel discussions on **youth entrepreneurship in conflict zones**, **psychological resilience as a catalyst for business innovation**, and **leadership strategies for decision-making in educational ecosystems** underscore the human and behavioral dimensions of strategic management.

The book further engages with the evolving financial landscape, examining **alternative credit scoring models in fintech lending, trading dynamics of FIIs and DIIs in Indian markets, and behavioral finance perspectives on ESG investing.** Sectoral case studies, such as **IndiGo Airlines' sustainability initiatives and AI-driven quick-commerce supply chains for FMCG,** provide empirical insights into industry-specific applications of sustainability and technological adoption.

By weaving together these diverse yet interrelated inquiries, *Strategic Synergy* offers a comprehensive framework for scholars, researchers, industry professionals, and policymakers. It not only enriches academic discourse but also provides actionable knowledge for decision-makers seeking to navigate the volatility, uncertainty, complexity, and ambiguity (VUCA) of the present business era.

We trust that this volume will inspire further research, inform policy design, and serve as a robust reference for graduate and doctoral studies in management, entrepreneurship, and technology-driven business transformation.

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THE ROLE OF ARTIFICIAL INTELLIGENCE IN BUSINESS STRATEGY

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Abstract: Artificial intelligence has emerged, in the context of COVID-19 and digital acceleration, as one of the leading technologies reshaping business strategies. The purpose of this thesis study is to analyze the impact of AI technology in different stages of strategy from contemporaneous decisions, effectiveness of operations, innovation, and collaboration with humans. It aims to evaluate the evolution of business decision systems toward data-driven systems with flexibility frameworks through a global lens, with an emphasis on the UAE and the GCC region, utilizing case studies from Amazon, Noon, IBM, and Unilever.

A major contribution of this research is addressing the gap between automation and strategic thinking using the AI Strategic Loop model, which consists of a feedback loop that connects data input, AI processing, execution of decisions, and refinement of the feedback received. The model provides a scalable automation blueprint for organizations that require enhancement of agility, accountability, and strategic foresight.

Alongside explaining the loop, the thesis tackles the ethical and practical implications of Artificial Intelligence that intersect with its application, like bias in algorithms, the matter of explainability, and trust. Furthermore, it discusses the direction it will take with advancement in quantum computing, Super Shell-like intuitive decision systems, as well as the changing role of strategists who operate as uninformed AI interpreters and co-designers of intelligent ecosystems.

Based on case studies, reviewed literature, and relevant comparisons, this research emphasizes that the true value of AI technology does not rest solely on automation capabilities. Instead, it comes from the opportunity to

collaboratively formulate adaptive strategies together with human judgment. This dissertation serves as a robust theoretical framework and a pragmatic blueprint for educators, industry leaders, and government officials who intend to integrate AI technology at the core of strategic decision-making while ensuring responsibility and effectiveness.

Keywords: Business Strategy, Strategic Decision-Making, AI Strategic Loop, Explainable AI (XAI), Quantum Computing in Business, Organizational Agility.

1 Introduction

The challenge of Strategic business decision-making has been problematic for many leaders throughout history due to the various external forces that could impact a business. These forces include changes and fluctuations of markets, geopolitical issues, disruptions to the supply chain, and shifts in consumer behavior. This is even more intense in certain parts of the world, such as the Gulf Cooperation Council (GCC), where there is the added issue of oil price unpredictability. This ultimately makes the need for effective decision-making models even stronger.

With Uncertainty as a constant for almost every firm and leader, new technologies such as Artificial Intelligence (AI) in modern society have started to show potential in changing the way strategic business decisions are made, especially during tough times. Machines that utilize AI are now able to use tools such as predictive analytics, natural language processing, and deep learning to spot trends, forecast results, and perform simulations. Decision-making tools powered by AI have become fundamental as they possess the ability to automate tasks, propose actions, and shape business progressions for the future based on current data. Studies have shown Ai's positive impacts on the accuracy, timeliness, and responsiveness of business decisions, showcasing how AI adapts to uncertainty (Wu & Shang, 2020; Bannikov et al., 2024).

The GCC and UAE governments have taken the initiative to adopt these technologies earlier. Policies such as the AI National Strategy – UAE 2031 and the Smart Dubai Government initiative place Artificial Intelligence at the nucleus of public and private sector development. These policies improve functioning, but equally, they use AI strategically on governance and policy making frameworks. Companies such as Amazon and IBM use AI for supply chain management and market forecasting as an example of its strategic use at a global level (Kaggwa et al., 2024).

2 Objectives and Contributions

This chapter discusses the role of AI in business strategy in its primary function as a decision maker in uncertain environments. It aims to:

1. Discuss the difficulty of making decisions within an uncertain environment.
2. Analyze the rise of AI as a primary strategic actor instead of a secondary supporting tool.
3. Prepare the additional chapters by presenting important technologies, case studies, and strategic implications of AI.
4. Connect international movements with GCC/UAE policies and initiatives and highlight their shared importance.



Figure 1: Objectives and Contributions of AI in Business Strategy.

Figure 1, AI is increasingly recognized for its strategic role in businesses, especially in uncertain conditions where it can pivot from an assistant to a primary decision-maker. It illustrates four key aspects: the evolving autonomy of AI in strategy creation, industry, and implementation guiding technologies and case studies, the shifting geopolitical AI landscape concerning GCC/UAE policies, and the area's international AI strategies juxtaposed against GCC/UAE policy movements. This structure highlights the profound impact of AI in shaping cross-border and local strategies.

3 Business Decision-Making Evolution

The evolution of business decision-making is explored here, focusing on AI being positioned at the helm as a strategic center of command, the emergence of customized decision frameworks, data-driven practices that preceded AI, and the changes fueled by the digital revolution.

3.1 AI as a Strategic Command Center

The integration of Artificial Intelligence (AI) as a strategic command center signifies a shift from traditional management frameworks. Unlike static dashboards and manual analysis tools, modern AI systems perform cognitive functions in a full sequence and autonomously recommend decisions at various levels. This change is observable in global firms where AI is integrated into ERP systems, utilized for supply chain algorithms, and placed within executive decision support systems (Kaggwa et al., 2024). In the UAE, the Smart Dubai Initiative serves as a national AI platform, marking a shift towards automation in governance and business.

3.2 Tailored Decision-Making Models

Before the advancement of AI, businesses operated with decision-making frameworks such as SWOT, BCG, and even three-based decision models. These models were static in nature and relied on the environment remaining unchanged, which was detrimental to strategic planners because these environments were guided by constrained data inputs. While these frameworks proved beneficial under structured conditions, they performed poorly when exposed to uncertainty. The rigidity of these frameworks limited scalability and adaptability in the face of real-time changes (Kim & Kim, 2022).

3.3 Decision Making Fueled by Data Before AI

Intuition-based planning was previously the norm until the analytics revolution and big data technologies surfaced in the early 2000s. Businesses started utilizing an enterprise data warehouse alongside customer relationship management (CRM) systems, along with analytical tools such as regression and forecasting. While not imbued with intelligence, these systems boosted situational awareness and predictive capabilities. In any case, human managers continued to act as a bottleneck by having to interpret

and act on insights, resulting in drastic limitations concerning the speed and scale of execution (Holmström, 2022).

3.4 Transformations Following the Digital Shift

The acceleration of digital transformation gave rise to a global wave. Today, organizations have begun to adopt cloud infrastructure and the Internet of Things (IoT), in addition to machine learning tools which all redefine business operations and decision making. AI equipped technologies now operate at a strategic level to recognize market signals, adjust prices in real time, and optimize workflows. In the Gulf Cooperation Council (GCC) countries, digital transformation is considered a matter of national policy. Saudi Arabia's Vision 2030 and UAE's AI Strategy 2031 are examples of mandates aimed at AI powered governance alongside enterprise modernization on a national scale. As stated in these plans, AI is being prioritized strategically, not merely as an operational asset but as a long-term vision-setting engine (Aakula et al., 2024; Rajagopal et al., 2022).

4 Understanding AI's Strategic Brain Role

The development of artificial intelligence (AI) has made it important during strategic decision-making processes and while performing higher-order cognitive functions. Instead of automating repetitive tasks, AI is now viewed as a "strategic brain," a system that can analyze intricate, multi-faceted scenarios, forecast results, and provide support in long-term planning throughout various sectors.

In this section, we will investigate the roles AI takes in a strategic sense. In 5.1, we address how AI serves as a strategic brain, defining its basic principles and the foundational concepts. In 5.2, we explore AI's strategic cognitive proficiencies, including but not limited to advanced pattern recognition, simulation of scenarios, and learning that is adaptive. Then, in 5.3, we focus on established real-life organizational case studies that illustrate active utilization of AI for strategic growth and innovation.

These components help convey the emergence of AI as a strategy-shaper rather than a mere supporter.

4.1 AI as a Strategic Brain

The potential for Artificial Intelligence (AI) to function as an executive thinker is gaining traction, as it is now being regarded as a strategic brain or an entity that can operate something close to foresight. AI no longer operates merely in siloed analytics modules but is now embedded into every layer of the enterprise, synthesizing data, recognizing emergent patterns, and autonomously recommending or taking strategic actions. It has now risen to the level of operating cognition as the backbone of decision-making agility within multinational companies and even regionally based innovators (Singla et al., 2025).

4.2 AI's Strategic Cognitive Capabilities

AI's strategic stronghold is attributed to cognitive functions.

- ❖ *Data Sensing*: Capturing both structured and unstructured data at scale from a myriad of digital touchpoints.
- ❖ *Forecast Signal Recognition*: Interpretation of weak signals alongside macro/micro trends using time-series models and machine learning.
- ❖ *Pattern Identification*: Extracting actionable insights through deep neural networks about customers, finances, or logistical operations that are indicative of broad trends or anomalies.

By shifting from reactive to proactive leadership intelligence, AI is embedded directly into the business planning process (Davenport et al., 2019).

4.3 Case Studies

This part examines the cases of implementing digital strategies at Amazon, Unilever, Noon (UAE), and IBM Watson and how they addressed real challenges in their businesses. These cases illustrate creativity, from Artificial Intelligence and automation to customizing for the local marketplace.

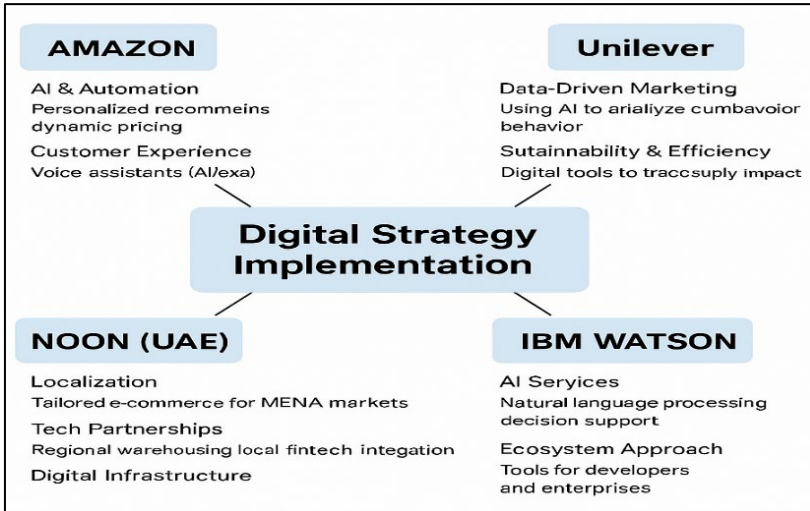


Figure 2: Mind map illustrates how Amazon, Unilever, Noon (UAE), and IBM Watson each applied digital strategies—ranging from AI and automation to localized services—to address core business challenges and drive innovation.

A-Amazon

Amazon handles its ever-increasing customer demand with the help of an AI-focused business model. Their systems like Amazon Forecast and SageMaker, adjust to real-time shifts in demand, while Alexa and the recommendation engines foster hyper-personalized engagement. AI also plays a crucial role in fraud detection, robotic fulfillment, and strategic pricing (Marr, 2019; Haouimi, 2023).

B-Unilever

AI is a useful tool for Unilever in forecasting demand, optimizing routes, and managing sustainable operations. In HR, analytics tools use machine learning for talent screening ensuring alignment, skill matching, and eliminating bias. These AI solutions have enabled the company to achieve faster time-to-market and agile responsiveness to global consumer trends (Bhuvanewari et al., n.d.).

C-IBM Watson

Watson marks a significant advancement in cognitive computing. It is used in various industries: healthcare, finance, and even sports analytics. Watson's ability to process natural language, context-sensitive subtleties, and offer prescriptive solutions makes him invaluable. It helps organizations interpret unstructured data like legal or medical text into strategic intelligence (Petiwala et al., 2021; Rajeshwari & Prasad, 2020).

D-Noon (UAE)

As with other international competitors like Amazon, Noon, the UAE-based e-commerce company, is adopting AI as its operational nerve center. Through the use of AI-powered technologies, Noon customizes shopping experiences in two ways. One, by looking at what customers have bought or browsed in the past. Two, by analyzing behavioral data from millions of touchpoints. Moreover, other uses of AI within the company include demand forecasting, dynamic pricing, inventory control, and optimization of last-mile delivery—all customized to regional market dynamics (Jabbour Al Maalouf & Sarkis, 2025; Jawabri et al., 2025).

5 AI Technologies Impacting Strategy Most

Data-powered decision-making continues to leverage artificial intelligence to enhance cross-functional intelligence integration within firms. Some of the most disruptive technologies include generative AI for creativity within a company, natural language processing for customer insight, machine learning applications in forecasting and risk assessment, and reinforcement learning for flexible strategy formulation.

5.1 Machine Learning in Predictive Analytics

Predictive analytics powered by machine learning (ML) helps firms with demand forecasting, financial planning, and risk detection by pinpointing hidden order and real-time correlations from vast historical datasets. Proactive risk management across supply chains and financial markets is possible due to ML-based models and their growing adoption, along with a significant reduction in forecasting errors (Unalp 2024).

McKinsey already estimates half of all businesses embrace ML for customer churn prediction and retail inventory optimization. In the face of

geopolitical tensions and economic turmoil, these predictive algorithms let companies pivot from being reactive to preventive.

5.2 Analyzing Customer Access Using NLP

Through the use of chatbots and voice assistants, companies can conduct sentiment analysis and gather crucial information about customer interactions and feedback with relative ease. As a result, NLP processes and interprets vast volumes of text and dialogue data, enabling businesses to gain scalable insights into customer spending patterns and underlying psychology.

NLP is integrated as a feature in voice user interfaces like Alexa or customer service bots by Noon, enhancing accessibility, improving engagement, and boosting customer retention (Rane et al., 2024).

5.3 Creativity in Business Through Generative AI

The inventions of generative deep learning models like GANs and transformers (e.g. GPT) expand the boundaries of creativity, giving rise to generative AI. Businesses have embraced these models for automating the drafting of texts for marketing, prototyping, designing, and even simulating brand visuals.

Generative AI motivates active participation by customers through the ideation of content, making it possible to advertise on an individual basis, thus improving brand recognition (Kabanda, 2024; Zavrazhnyi & Kulyk, 2024).

5.4 Reinforcement Learning for Adaptive Strategy

Adaptive decision-making in finance, logistics, or autonomous systems function best with dynamic systems and is backed by Reinforcement Learning (RL), which allows systems to learn optimal strategies from interacting with such environments. RL systems design policies that adapt action choices based on feedback over a longer cumulative reward horizon. This works well in highly variable environments. For businesses, RL can enable dynamic pricing, marketing auction in real-time, or iterative refinement in self-governing systems (Kalusivalingam & Sharma, 2022; Cao et al., 2023).

5.5 UAE AI Tools in Higher Education: Global Strategy Localized

In the UAE, universities have started embedding AI technologies into educational systems, marking an attempt to synchronize academic progress with the country's holistic digital transformation frameworks. This streamlines personalization and assessment, optimizing instructional activities while enhancing student engagement.

Examples of AI Tools in UAE Universities

UAE University (UAEU) and Zayed University have adopted AI-driven adaptive learning systems that customize instruction to individual students' learning behaviors. These systems dynamically adjust pace and complexity, providing real-time engagement tracking to maintain student motivation and identify those at risk of losing interest (Iyer, 2024).

AI systems such as Carnegie Learning and Century Tech have been implemented in UAE classrooms to provide intelligent tutoring, especially in STEM subjects, delivering real-time feedback along with tailored question sets (Iqbal et al., 2025).

In military colleges and technical universities, AI technologies serve e-learning analytics, analyzing extensive datasets of user behavior to tailor learning pathways, evaluate engagement, and model academic performance (Alnaqbi & Yassin, 2021).

Abu Dhabi University has implemented AI chatbots to offer academic advising and provide immediate assistance to students. The bots help with answering simple questions, providing instructions on how to select courses, and can transfer more complicated issues to human advisors when necessary (Alhajji et al., 2025).

These technologies demonstrate the application of AI's strategic intellectual capabilities within the context of education, improving institutional responsiveness while conforming to the current economic environment in which schooling and the world of work are integrated.

6 Use Cases: Vision in Implementing AI

The role of Artificial Intelligence (AI) technologies has reached an all-encompassing level in business functions and goals today. In addition to

improving operational effectiveness at an organizational level, AI is being leveraged by businesses and government bodies for more accurate decision-making and better personalization of services. This chapter discusses the most notable areas of AI application for businesses such as supply chain management, marketing, human resources, finance, and public services, with a focus on the UAE as well as global comparisons.

6.1 Supply Chain Optimization through AI

The application of AI technologies in advanced analytics has automated forecasting, inventory planning, route optimization, and risk assessment, leading to greater control of the supply chain. AI and machine learning technologies enable forecasters to manage demand-driven procurement cycles, forecast impending logistical bottlenecks, and manage supply-response changes looking to weather conditions, political climates, or even market sentiment (Taghipour, 2024; Singh, 2024).

Dynamic last-mile delivery scheduling combined with traffic pattern analysis and smart warehousing is used by leaders in retail such as Amazon and Noon based in the UAE.

6.2 Precision Marketing with AI

AI improves marketing effectiveness by creating hyper-personalized experiences on digital platforms. Tailored promotions, real-time recommendations, and automated campaign management are driven by advanced techniques like behavioral segmentation, forecasting, and natural language processing (Sahoo et al., 2024). Noon and Amazon e-commerce platforms harness these techniques to improve customer retention and customer lifetime value. AI-powered chatbots assist consumers in product choice, feedback collection, and promotion engagement, often outperforming human counterparts in efficiency.

6.3 AI Chatbots in Human Resources (HR)

In HR, intelligent chatbots manage many functions including recruitment, onboarding, policy briefing, and benefits administration. These chatbots simulate strategic conversations using frameworks called slot filling to steer users to defined answers and automate choices like candidate filtering or leave approvals (Pandey, 2020; Khneyzer et al., 2024).

In the UAE and internationally, job seekers engage with AI hiring systems that scan and rate applicants' qualifications against outlined roles, cross-match skills, and even perform preliminary interviews via conversational AI, increasing speed and eliminating bias.

6.4 Automation in Finance and AI-driven Tools in Business Processes

In the finance sector, AI is embraced for automating transactions, detecting fraud, analyzing credit risk, and making investment decisions. Invoicing, reconciliation, and cash flow monitoring are managed by AI-driven bots as features of SAP FICO. Predictive algorithms also evaluate a customer's creditworthiness in banking with their behavioral, financial, and social history (Khatri et al., 2022). Moreover, real-time trading and portfolio management are enhanced with reinforcement learning models that make adaptive investments based on shifting market conditions (Lekshmi et al., 2024).

6.5 AI Services Innovations in the UAE and Worldwide

AI integration into infrastructure systems and services has transformed daily life for citizens. Iris and facial recognition biometric systems are used for boarding and immigration at Zayed International Airport. Heathrow and JFK Airports utilize similar technologies, illustrating the global embrace of AI in airport operations.

In retail, smart store ecosystems where customers can grab items and check dynamic prices seamlessly pay using biometric methods like palm vein scanners that eliminate the need for bank cards or other devices are found in the UAE and across other markets.

In the UAE, the use of digital platforms in banking, document management, government activities, and online payment systems is profound. These platforms are augmented by AI technologies that provide secure authentication, risk evaluation, and process automation. As an illustration, UAE institutions are looking into hand-vein payment technologies to decrease reliance on conventional payment cards even further.

The implementation of these technologies shows the effectiveness of AI solutions in business activities but equally points to wider sociocultural readiness across GCC countries and other world economies.

7 Advantages and Disadvantages of AI in Strategic Decision-Making

The implementation of Artificial Intelligence (AI) systems comes with both advantages and potential limitations for many organizations. In this chapter, I analyze strategic agility and algorithmic bias as thematically intertwined with ethical trust while referencing real-world instances supported by relevant literature.

7.1 Strategy Agility: Market Adaptability

AI-based tools offer enhanced organizational agility, arguably serving as a strategic competitive advantage. AI provides the ability to perform real-time data gathering and analysis, recognizing patterns and recommending actions. With the current volatility fueled by economic uncertainty or sudden supply chain disruptions, timely responsiveness is vital.

Example: The COVID-19 pandemic provided a unique window of opportunity for companies like Amazon and Carrefour UAE to leverage AI in meeting their customers' changing needs for logistics, inventory control, and online shopping. Companies employing advanced AI faced greater ROI due to real time forecasting coupled with automated decision support systems (Bose, 2025).

7.2 Bias, Blind Spots, and Discriminatory Algorithms (Black Box AI) - Disadvantage

One notable AI weakness is its predictive analytics, which often contribute to mainstream biases and stereotypes. Processes like hiring discrimination, credit scoring, or criminal sentencing can all be impacted by AI black box systems where the reasoning behind them is obscured.

As an illustration, the healthcare conglomerate, Optum, came under fire for an AI system that issued Black patients comparatively less medical care than white patients with equivalent requirements. The data bias of historical inequalities was the reason that AI perpetuated bias (Dzreke, 2025). In the UAE, while there are no reports of bias, recruitment and fintech systems using AI trained on datasets from the West underscore the need for vigilance.

7.3 Trust and Disadvantage Ethical Issues

One of the primary issues of artificial intelligence in use today is centers on trust, particularly when ethics is considered peripheral. Explanations, accountabilities, and all lacking in transparency pose a risk to undermine trust, AI systems, whether in workplaces or marketplaces.

Example: Corporate finance has been challenged by algorithmic opacity, where the application of AI results in automated denial of loan requests without explanation. This not only diminishes trust among applicants but raises regulatory scrutiny under data protection frameworks in the GCC and EU (Ahmed, 2025).

Ethical implications are equally important with the use of surveillance-oriented AI for employee monitoring, which affects organizational culture, morale, and raises legal questions.

8 Proposal Framework: The AI Strategic Loop

When implementing AI technologies, organizations must ensure a cohesive strategy for ongoing learning, data alignment, and a clear rationale behind the decisions made. The “AI Strategic Loop” framework combines data input, AI processing, decision execution, and iterative feedback within a cyclical model designed to address these challenges.

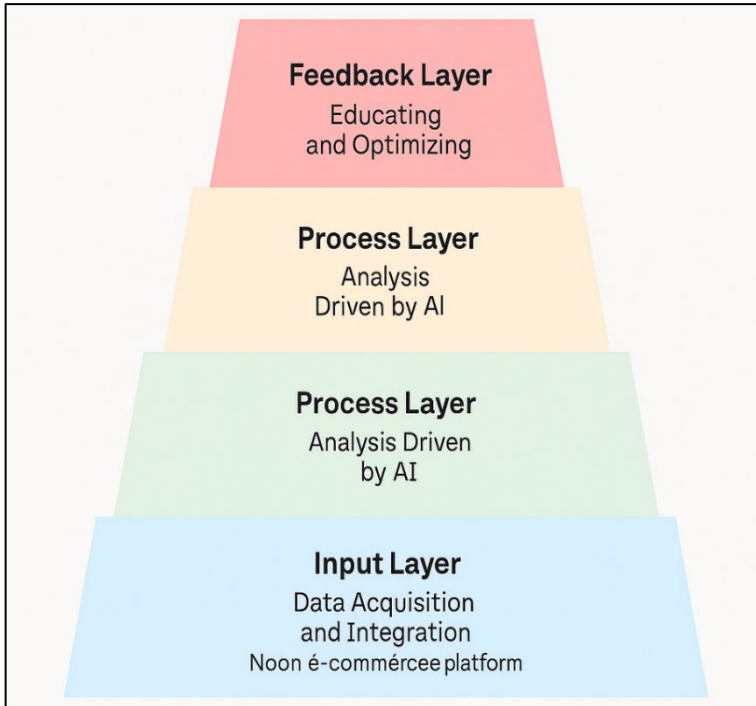


Figure 3: *AI Data Processing Framework*, Noon's e-commerce framework works with a four-layer model where the input data is collected in the Input Layer, then analyzed in two Process Layers through AI, which drives the analysis, and in the Feedback Layer, optimizes the system with continuous learning.

This chapter discusses the AI Strategic Loop and illustrates its application with peer-reviewed scholarship to underline how businesses can foster adaptive, data-driven strategy systems.

8.1 The AI Strategic Loop: Four Core Stages

The loop has four stages, which are sequential but interdependent:

A-Input Layer: Data Acquisition and Integration

In this stage, a business collects data from various sources, both structured (including ERP, and CRM systems) as well as unstructured (like customer

reviews, social media, and sensor data). This data pool is critical for generating insights using AI.

B-Illustration

Noon, an e-commerce platform based in the UAE, automatically captures and analyzes clickstream data along with purchase history to tailor marketing strategies for individual users and improve order fulfillment systems.

Sjödin et al. (2021) argue that innovation powered by artificial intelligence relies heavily on rich, dynamic input streams of data that evolve in conjunction with market forces and consumer behavior.

C- Process Layer: Analysis Driven by AI

Input information undergoes a more sophisticated analysis with AI systems such as deep learning, NLP, and AI-driven reinforcement learning to identify meaningful patterns, make predictions, and run forecasts. This layer can be viewed as the system's "operational brain."

As remarked by Spangler (2002), AI improves strategic thinking by permitting foresight, especially in situations where uncertainty prevails. Also pointed out by Kosan et al. (2023), the role of feedback-integrated AI models is crucial in the continual refinement of outputs over time.

D-Decision Level: Execution on A Strategic Level

This phase is concerned with business decisions based on AI outputs and includes actionable business steps. These decisions can also be used as a decision support tool where leadership may either fully automate (e.g., updating prices) or supplement and support through automation.

One of the first loop-based tools for strategic decision support was advanced by Merten (1991) who advocated strongly for iterative execution based on evidence. This concept is amplified by Trunk et al. (2020) when they highlight the significance of combining AI-generated suggestions with human decision-making in strategic execution.

E-Feedback Layer: Educating and Optimizing

The execution of decisions creates their outcomes that are measured and gathered as performance metrics: customer feedback, sales figures, and

operational KPIs. These feedback processes are refined through data input and AI, resulting in better performance.

Katsamakas and Pavlov (2020) suggest that strategic AI must have feedback loops for continuous innovation in learning and the business model. Likewise, Patel et al. (2021) illustrate how reinforcement learning enhances feedback integration within customer decision cycles.

8.1 Strategic Benefits of the Loop Model

The AI Strategic Loop has several organizational benefits:

Agility: Enables real-time changes to be made to strategies as well as rapid iteration.

Traceability: Canvas AI outputs, the decisions made, and the reasons behind them alongside the input data.

Scalability: Available in numerous sectors including retail, healthcare, finance, and logistics.

Transparency and Control: Ethical threats are mitigated with human governance, providing layers in the decision-making process.

8.2 Application in UAE and Global Contexts

Zayed University and Noon in the UAE implement closed-loop AI systems to tailor education, oversee logistics, and refine digital services. On a global scale, firms such as Amazon, IBM, and Tesla use real-time feedback loops for systems enhancing everything from product recommendation to decision-making autonomy.

While often overlooked as the technologists' concern, the AI Strategic Loop is now a core component of business strategy. It showcases the shift from planning in stasis towards continuously adapting and learning—a model that best accommodates the volatility and intricacy of current business conditions.

9 AI's Human Partner in the Future

As Artificial Intelligence (AI) technologies evolve further from mere automation and analytics, they are more likely to be used in strategic

planning alongside human managers. This stage incorporates intuitive AI, quantum-augmented intelligence, self-aware systems, and a sweeping change in the functions of leadership.

9.1 AI Intuition and “Super Shell” Systems

The replication of human intuition, emotion tagging, and imagination is the subject of investigation and may yield results such as Super Shell—AI systems, which are capable of higher-order cognitive functions. Such systems not only forecast but also simulate judgment and context sensitivity.

According to Tan (2024), future AI systems will exhibit “childlike creativity, curiosity, and intuition,” which are not rule-bound. Inspired by this notion, Johnsen (2025) proposes “Super AI,” which is characterized by the integration of intuition, symbolized memory, and real-time learning to form agile and context-aware responsive systems.

9.2 Quantum Computing and Explainable AI (XAI)

Quantum Computing is expected to boost the reasoning capabilities of AI modalities by solving nonlinear problems at an exponential scale. These systems enable quantum-enhanced AIs that utilize self-correcting loops and quantum parallelism functions for deeper foresight.

Quantum AI systems assist in developing self-awareness and metacognitive layers that move us closer to Artificial General Intelligence (AGI) (Kundu, 2024). Quantum principles will also co-create realities of decision making outside of classical logic, thereby transforming how businesses model uncertainty and complexity (Cuomo and Foroudi, 2025).

As AI technology develops deeper intuitions, systems will explain their decision-making processes and articulate rationale to justify trust, compliance, and regulatory expectations. This will provide more transparency from XAI AI which will start to be adopted to deal with ethical transparency issues (Namestiuk, 2023).

9.3 Changes in Roles for Managers and Strategists

The function of human decision makers is redefined with the adoption of both Intuitive and explainable AI. Leaders will now serve as collaborative

supervisors guiding systems rather than being the sole decision-making strategists. They will validate the ethical implications or infuse human values where necessary.

Hallo and Nguyen (2023) foresee an integration of analysis with intuition where managers will step into the role of sense makers rather than pure data interpreters. There is a need for “AI literacy,” characterized by empathy, interpretive reasoning, and fluency with technology if one wishes to remain relevant, said to be the future by the rising need for sociotechnical systems.

Moreover, Sart (2024) argues that executives will shift into meta-strategists, who will construct frameworks of human-AI collaboration ecosystems instead of providing them with linear instructions.

10 Conclusion

Integrating Artificial Intelligence (AI) into business processes is no longer an option but a requirement. It has become evident throughout this study that AI has a major impact on the decisions that people make, the capacity of an organization, and leadership in various sectors. It is important to note that AI is not just an automation tool: it works as a cognitive assistant that analyzes and reacts to multifaceted business ecosystems. Other AI frameworks help in guiding the processes, such as acquiring data, using it, providing feedback, and the AID Strategic Loop.

Marketing, HR, finance, and quantum aware systems, as well as other fields such as supply chain management, provide empirical and theoretical data that AI heightens strategic agility alongside operational efficiency. It also helps to achieve hyper-personalized services. Although the above-mentioned services are very useful, they do come with certain risks. There is a need for more ethical innovation due to the rise of opacity of algorithms, algorithmic bias, and stakeholders losing trust.

It is advisable that companies in the UAE and the GCC region go beyond singular pilot projects to embrace enterprise-wide initiatives with AI at the center of the business transformation process. The changing dynamics of human leaders and AI tools should not be viewed as a conflict of interests, but as a synergistic relationship where each party enhances the capabilities of the other. Success over time hinges on the creation of socio-technical systems where human values, ethics, and machine intelligence integrate.

Sustained investment in organizational education, open organizational structures, and collaboration from different fields are critical for the responsible AI integration. Businesses that treat AI as a strategic partner will have an easier time dealing with complexity, driving innovation, and sustaining a competitive foothold in the data and intelligence-dominated global market.

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