AI-Driven Personalization as a Disruptive Strategy for the Creation of New Business Models

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***Abstract*—Artificial Intelligence (AI) is disrupting traditional markets in Latin America and the Caribbean (LAC) by enabling hyper-personalised, context-aware digital experiences that reshape customer engagement. This paper explores how AI-driven personalisation, when integrated with the Blue Ocean Strategy (BOS), creates entirely new business models tailored to underserved populations. By moving beyond saturated "red oceans," LAC firms are tapping into uncontested "blue oceans" of market growth through value innovation.**

The study highlights AI technologies such as machine learning, natural language processing, recommendation engines, predictive analytics, digital twins, and agentic AI, showcasing how they enable scalable and emotionally intelligent user experiences. Through real-world case studies in e-commerce, education, and healthcare, including Magazine Luiza, UnaAI, and 1DOC3, we demonstrate how AI personalisation drives inclusion, accessibility, and customer retention by adapting to regional cultures and digital readiness levels.

Emerging technologies like digital twins and agentic AI further shift personalisation from reactive to proactive, allowing simulations of user behaviour and autonomous decision-making aligned with cognitive science principles. These innovations not only eliminate frictions and reduce operational costs but also raise relevance and create novel, trust-driven interactions, core tenets of BOS's ERRC grid.

While ethical challenges remain particularly around data privacy, bias, and infrastructural disparities, the paper presents design and policy recommendations to ensure culturally adaptive and equitable AI deployment. Ultimately, by leveraging AI as a strategic tool for market creation, LAC firms can pioneer disruptive business models that deliver human-centered, sustainable innovation across sectors

***Index Terms*—AI, personalisation, Blue Ocean Strategy, market differentiation, customer experience, e-commerce, ed-tech, healthcare, Latin America and the Caribbean, hyper personalised engagement, digital infrastructure and inclusive innovation, new business models**

I. Introduction

As generative AI continues to reshape global markets, Latin America and the Caribbean (LAC) is presented with a huge opportunity for growth. The region must either localise innovation to meet its unique socio-technical needs or risk widening digital gaps in underserved communities. With 66% of students lacking access to digital learning resources and physician density averaging just 1.9 per 1,000 people [1], traditional services fall short. However, according to GSMA [2], more than 70% of the region has access to mobile Internet throughout the region. AI-powered personalisation is one way that offers a transformative path to increase access in underserved markets and promote responsible growth in LAC. This paper argues that by aligning AI-driven personalisation with the Blue Ocean Strategy (BOS), LAC organizations can shift from hyper-competitive markets with limited value, to uncontested markets by creating new value across various industries. The BOS emphasises creating uncontested market spaces through value innovation, which is ideal for LAC's saturated market and allows firms to target the large underserved populations. Studies have shown that applications that integrate with contextual data such as recommendation engines and conversational interfaces, significantly improve user retention and engagement across various platforms [3]. Furthermore, Gomez-Uribe and Hunt [4] demonstrated that users tend to abandon applications that fail to align with their preferences and contextual needs. Although studies like Al-Tarifi et al. [5] explored AI-driven BOS globally, few explore LAC's unique regional constraints, such as low data availability and the need for culturally adaptive systems. This study fills this gap by analysing how existing AI technologies and emerging tools like digital twins and agentic AI create new market spaces within three key sectors: e-commerce, education and healthcare. Section II outlines the strategic and technological foundations of AI personalisation, integrating the BOS with personalisation theory and customer journey mapping. Sections III-V present case studies across the mentioned industries, analysing how LAC firms have already applied AI to create blue oceans while addressing barriers like weak infrastructure and low trust. The emergence of AI agents and Digital Twins in each industry is also looked at in depth to build upon proven business models. Section VI examines ethical challenges, including bias and data privacy, proposing solutions like explainable AI. Section VII explores scaling strategies using the Pioneer-Migrator-Settler framework, a tool provided by the Blue Ocean Framework. Finally, Section VIII discusses future trends, emphasising digital twins and agentic AI. As LAC's digital economy grows at a projected CAGR of 25% through 2030 [6], this paper offers actionable insights for policymakers and businesses to harness AI personalisation for inclusive, sustainable innovation, positioning LAC as a global leader in human-centered business models and market creation.

II. Strategic and Technological Foundations of AI-Powered Personalisation

As artificial intelligence (AI) adoption accelerates across Latin America and the Caribbean (LAC), businesses are increasingly using AI to differentiate themselves in highly competitive markets. At the core is AI-powered personalisation one of the most critical applications of AI where intelligent systems modify content, services and interactions in real-time to accommodate the preferences, requirements and behaviours of each user. This section explores the strategic and technological bases of AI-driven personalisation by leveraging the Blue Ocean Strategy (BOS), personalisation theory, customer journey mapping and AI technologies such as machine learning (ML), natural language processing (NLP), recommendation systems, predictive analytics, digital twins and agentic AI to drive market differentiation.

A. Strategic Theories Supporting Personalisation

As mentioned, the Blue Ocean Strategy, created by Kim and Mauborgne [7], states that companies should shift from saturated, competition-driven 'red oceans' to untapped, demand-creating 'blue oceans' by offering distinctive value that redefines market boundaries. Unlike Porter's Five Forces, which focuses on navigating and outmanoeuvring competitive forces in existing markets, BOS emphasises value innovation [8]. For example, rather than competing on price or features, businesses can differentiate by offering personalised experiences. These foster loyalty, increase engagement and enhance retention. Thus, helping businesses find unmet needs, define micro-segments and deliver value to customers who may otherwise remain underserved.

1) Strategic Enablers: The Personalisation theory highlights that individuals are more likely to engage with brands when products and services align with their preferences or cultural values, fostering stronger connections that drive satisfaction, conversion, and long-term retention [9]. This is reinforced through customer journey mapping, which, when enhanced by AI, moves beyond static blueprints to dynamically adapt touchpoints such as apps, websites, and physical stores based on real-time behavioural data [10]. In marketing, AI has shifted the focus from broad segmentation to data-driven, personalised engagement, enabling programmatic advertising, predictive analytics, and chatbots to optimise campaigns and track performance.

2) Core Technological Enablers: As illustrated in Fig. 1, machine learning (ML), natural language processing (NLP), recommendation systems, and predictive analytics form the core of AI-driven personalisation, while emerging technologies such as digital twins and agentic AI are extending its reach. ML provides the foundation by modelling user behaviour and predicting patterns over time, while NLP enables natural, culturally aware interactions that are especially impactful in multilingual regions like LAC [11]. Recommendation systems and predictive analytics also build on these layers by tailoring suggestions and anticipating user needs seen in applications ranging from e-commerce to healthcare platforms delivering proactive recommendations. Together, these technologies create the layered infrastructure for context-aware and scalable personalisation.

3) Digital Twins: Furthermore, Digital Twins, although relatively new in the personalisation landscape, marks a shift toward proactive, testable personalisation by providing a dynamic simulation of real-world individuals or systems. In healthcare, digital twins can model patient profiles and simulate and test personalised treatment responses. Whilst in education, they can represent student learning paths and inform adaptive lesson delivery. Grounded in Norman's theory of cognitive artifacts, digital twins extend users' cognitive processes by mirroring their behaviours and decisions virtually [12].

4) Agentic AI: At the peak of the technology evolution pyramid shown in Fig. 1, is Agentic AI. This technology takes personalisation to a new level by integrating autonomous and goal-oriented behaviour through reasoning, planning and acting proactively to meet user-centred goals [13]. This is achieved by tailoring interactions over time, adapting their strategy depending on feedback and keeping people engaged [13]. Anchored in Bandura's social cognitive theory [14], it models self-directed learning and adaptive behaviour. Its ability to engage with empathy and initiative makes it particularly effective in culturally sensitive LAC markets. Thus, when integrated, these technologies make it possible to create hyper-personalised, adaptive and scalable experiences that can set organisations apart and boost customer satisfaction.

Fig. 1 illustrates the progression of AI technologies, showing how increasing autonomy and contextual intelligence: from ML to agentic AI enables organisations to transition from red oceans of competition to blue oceans of innovation. Each layer reflects increasing personalisation, independence and strategic differentiation. As organisations climb the pyramid, they go from competing in crowded red oceans to creating uncontested blue oceans by giving users experiences that are very personal, emotionally resonant and culturally relevant.

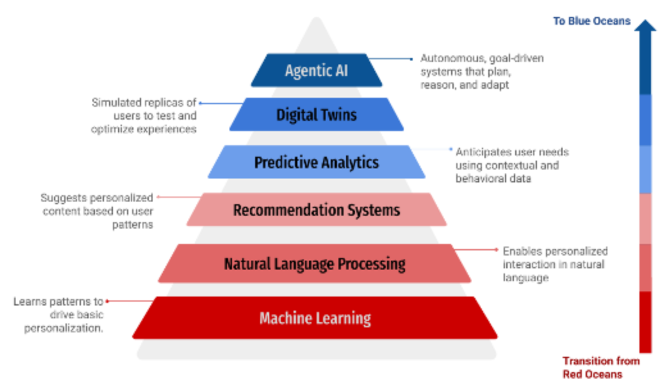

Fig. 1. The Evolution of AI Technologies Driving the Shift from Red to Blue Oceans. Figure by authors.

5) Linking Strategy and Technology for Sustainable Growth: Organisations create a Blue Ocean when they use personalisation to Eliminate friction, Reduce service cost, Raise relevance and Create experiences (ERRC) [7] . The ERRC grid is a core strategy for applying BOS. Each layer in the personalisation stack, from machine learning to agentic AI, reinforce at least one of the ERRC items. These technologies are not simply innovation trends, but strategic tools that allow companies to shift from competitive red oceans, into uncontested blue oceans. Among the most influential AI technologies are multilingual chatbots and conversational agents; that handle up to 80% of customer interactions and provide brands with round-the-clock reach without the need to increase staff headcount [15]. Furthermore, according to Taylor [16], Microsoft Copilot, an AI agent, is leveraged by 85% of Fortune 500 businesses. By marrying natural-language understanding with friendly avatars, companies can both cut the queue (Reduce) and open demand among customers who were previously silent or underserved (Create). On the other hand, according to Markets and Markets [17] the size of the global digital twin market is projected to increase from USD 10.08 billion in 2023 to USD 110.05 billion by 2028 at a CAGR of 61.3%, with the healthcare digital twin market in LAC projected to reach US$152.1 million by 2030, with a forecasted CAGR of 25% from 2025 to 2030 [6]. These virtual representations of clients, goods or services incorporate real-time data streams, allowing businesses to model interactions, forecast results and test strategies virtually before deployment. For example, companies are now leveraging digital twins to lower experimentation costs because they no longer need to rely on trial-and-error with real customers. Thus, by continuously modifying interactions in response to the customer's evolving preferences, they can simultaneously improve the quality of personalisation while addressing two ERRC grid quadrants, eliminate and reduce. On the other hand, Healthcare providers can now create precise virtual patient profiles, predicting treatment responses or medication adherence tailored to individual circumstances.

III. Use Case 1: Making Shopping Experiences Unique In Retail And E-Commerce

Price-driven competition and mass marketing have dominated the retail and e-commerce marketplaces, frequently depriving low income and rural consumers of personalised and impactful interaction. This section explores how Magazine Luiza a top tier e-commerce company in the LAC region is utilising the AI technologies mentioned in Section II and the Blue Ocean Strategy to create differentiated value and inclusive market growth.

A. Magazine Luiza: Omnichannel Personalisation and Cultural Resonance

Magazine Luiza, one of the largest retailers in Brazil has effectively made the shift from a conventional brick and mortar business model to an environment that is interwoven with digital technology [18]. At the center of this strategy is 'Lu,' an AI-powered virtual influencer with over 25 million followers, who engages customers in Brazilian Portuguese through personalised product suggestions on social media and e-commerce platforms to foster trust, represent cultural norms and communicate in ways that are relatable to local communities [19]. This approach leverages the BOS path of targeting non-customers; specifically rural and mid-tier consumers often overlooked by large-scale e-commerce players.

The company's AI strategy uses machine learning and natural language processing to analyse user behaviour, purchasing history and browser data in real time to guide product recommendations, the timing of promotions and decisions on inventory and logistics, to maximise customer satisfaction [18]. These strategies underpin a customer journey mapping to create seamless omnichannel commerce by bridging the gap between online and offline environments to ensure that customers receive relevant and contextualised experiences across touchpoints [20]. Additionally, these AI features not only enhance customer satisfaction but also support real-time journey mapping and adaptive targeting across channels.

According to Credence Research [20] LAC's AI-powered retail market is projected to grow at a CAGR of 29.85%, with firms that adopt personalisation reporting improvements in retention and conversion. Fig. 2 presents an ERRC (Eliminate, Reduce, Raise, Create) Grid that illustrates Magazine Luiza's shift into blue ocean markets by eliminating impersonal engagement, raising cultural relevance and creating trust-enhancing experiences. By doing so, Magazine Luiza eliminated mass-market generalities, raised cultural relevance and created a more emotionally resonant and data-driven shopping experience [18]. Thus achieving greater user engagement, stronger loyalty and measurable increases in conversion and retention [21].

Fig. 2. Magazine Luiza's ERRC Grid: Creating Blue Ocean Value through AI-Powered Personalisation. Figure by authors.

IV. Use Case 2: Personalisation Learning Experiences

Historically, LAC's rigid educational systems have marginalised non-traditional, low-income and rural students, with more than 66% of students in LAC having limited sufficient access to digital learning resources, according to an Inter-American Development Bank (IDB) study [22]. However, unlike conventional LMSs, which often deliver one-size-fits-all content with limited cultural adaptation, AI-powered platforms like UnaAI provide hyper-personalised and context-aware instruction marking a paradigm shift from static course delivery to relational, adaptive education ecosystems. This section explores how one of LAC's top-performing ed-tech platform, UnaAI, utilise AI technologies to achieve long-term business growth and market differentiation with emerging technologies.

A. *UnaAI: Scalable Impact through Localised AI*

Developed by Jamaica's One Academy, UnaAI exemplifies hyper-individualised instruction. Used by over 250 schools, this adaptive assistant is trained on national curricula, student preferences and local dialects. Based on each student's progress and strengths the system offers interactive exercises, real-time recommendations and feedback. The platform takes into account interventions at the cultural, linguistic and curriculum levels by integrating teachers into the personalisation loop to promote co-creation and trust which are two essential but often overlooked qualities in LAC's educational systems. These interventions helped reduce dropout rates by over 20%, improve student satisfaction and expand learning opportunities across rural and low-income regions (Inter-American Development Bank 2022). UnaAI also employs learner analytics and adaptive learning algorithms to modify content in real time and allow students to advance at their own speed. The platform exemplifies the BOS path of targeting non-customers, specifically underserved and rural school populations that have limited access to personalised digital learning. Rather than importing costly, one-size-fits-all edtech systems, UnaAI reduces cost through innovation by developing a locally adapted AI platform. This not only fosters emotional trust and relevance but also opens new demand among previously overlooked learner groups. Fig. 3, highlights how UnaAI eliminated rigid imported models and passive learning, while raising curriculum alignment and creating adaptive, culturally relevant education for underserved school communities.

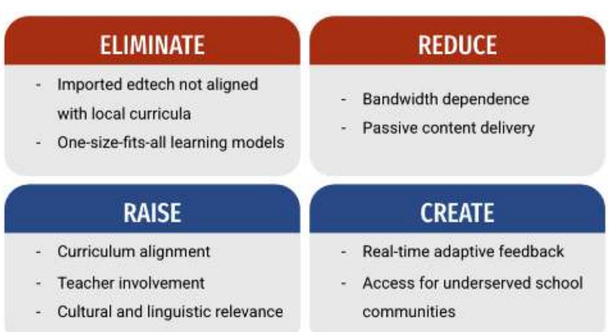

Fig. 3. UnaAI's ERRC Grid: Localised AI-Powered Personalisation to Create Blue Oceans in Jamaican Education. Figure by authors.

V. Use Case 3: Personalised Digital Experience in Healthcare

LAC face a paradox in healthcare: rising demand meets fragmented infrastructure, limited access and deep systemic inequality. Despite notable improvements in affordability and life expectancy, 9 out of 10 people in the region still report difficulty accessing a doctor when they need one. For the 95% without private insurance, emergency rooms remain the de facto entry point into the health system. Physician density averages only 1.9 per 1,000 people, far below the OECD average of 3.5 and even worse in rural or peri-urban zones [23]. AI-enabled digital health platforms are not merely optimising this broken system; they are redefining it. By shifting from episodic, reactive care to ongoing, personalised digital health journeys, 1DOC3 is creating new market spaces by addressing "non-consumers" with previously unmet needs.

This transformation reflects a classic Blue Ocean Strategy (BOS) move: rather than compete with legacy systems on cost or convenience alone, these platforms redefine the value curve by combining AI-enabled scale with emotional and cultural relevance. They eliminate the need for travel, reduce wait times, raise care quality and continuity and create entirely new care models such as proactive triage or psychosocial support delivered through a chatbot. The next sections 1DOC3 examines this evolving landscape by focusing on the customer experience, leveraging conversational models and behavioral data to deliver hyper-personalised health guidance at scale.

A. *1DOC3: Scaling Primary Care Access through Personalised AI*

In Colombia, 1DOC3 has taken a different route targeting the underinsured and digitally connected population through an AI-powered chatbot that triages symptoms, provides health guidance and connects users to teleconsultation services. Its chatbot answers over 300,000 medical queries monthly, making it one of the largest digital health platforms in LAC.

What sets 1DOC3 apart is its ecosystem design. By using conversational models fine-tuned to regional dialects and behavioral history, 1DOC3 helps deliver care in a culturally sensitive and timely way, even before the patient reaches out to a doctor. This Eliminates the ER dependency and Reduces time spent waiting resulting in 97% of inquiries to be answered in less than 5 minutes. It also Raises cultural significance and Creates AI-driven triaging. Their significant surge in monthly active users was attributed to users returning after receiving personalised responses from 1DOC3's machine learning and natural language processing engines [24].

Furthermore, 1DOC3 demonstrates how AI can deliver accessible, personalised healthcare in underserved regions throughout the broader LAC region. In Chile, for instance, the platform was linked to a 52.5% reduction in absenteeism due to mental health issues between 2022 and 2023. Similar trends appeared in Mexico and Colombia, suggesting scalable impact across diverse contexts. The AI engine also includes emotion classifiers that fast-track high-risk cases, contributing to a reported 30% decrease in unnecessary ER visits among partner insurers. To further understand how 1DOC3 creates value beyond traditional healthcare models through the BOS lens, Fig. 4 presents its ERRC grid. The platform reduces friction, increases access and opens care pathways for users without formal healthcare access.

Fig. 4. 1DOC3's ERRC Grid: Expanding access through instant culturally relevant care. Figure by authors.

VI. Ethical Challenges and Design Priorities for AI Personalisation

While AI personalisation has the potential to support new markets and improve access to services in LAC, its adoption is challenged by several ethical and practical issues. A key problem is biased data, as many AI systems are trained on data from outside the region. This leading to cultural mismatches that can result in misdiagnoses or inequitable service delivery. Another significant concern is data misuse, as only 12 of 33 LAC countries had strong data protection laws as of 2022 [25], leaving sensitive data vulnerable and allowing for irresponsible use Many AI systems rely on training data that originates from outside the region. Additionally, a lack of transparency means personalized content can manipulate user choices without their full awareness, a risk that is particularly high in areas with low digital literacy.

To overcome these challenges, building trust is paramount, and companies must design systems that prioritize the user. One promising solution is explainable AI (XAI), which helps users understand why a system made a particular recommendation, thereby reducing confusion and building trust where a "black-box" approach would not. Other critical steps include encouraging local developers and researchers to lead AI system design, implementing data policies that protect user control, and ensuring that communities have a say in how AI is used.

Finally, countries in the region should cooperate to reduce their reliance on foreign platforms, ensuring that AI innovation is fair, useful, and empowers people without limiting their choices. Even with these steps, not every use of personalisation will be ethical. The goal should be systems that help people without limiting their choices. That requires careful design and strong public oversight.

VII. Scaling Personalisation Through Strategy and Structure

Scaling AI-driven personalization in the Latin America and the Caribbean (LAC) region requires not only technological tools, but also a supportive strategy and organizational structure. Most firms use widely available "Settler" or "Migrator" tools like CRM segmentation or rule-based chatbots. These tools imitate value, and they fail to promote true innovation. To achieve value innovation, leaders must embrace a forward-looking approach that leverages Blue Ocean Strategy principles to transition from fierce competition to market creation. This means building the internal capacity to scale personalization efforts that target unmet needs and unlock new market spaces.

A. Strategic Mapping with the PMS Framework

The Pioneer-Migrator-Settler (PMS) Framework (Fig. 5) provides a strategic map for understanding where these initiatives sit in terms of innovation and long-term strategic value. Most LAC organizations currently invest in Settler or Migrator tools, which are characterized by static logic and low adaptivity. By contrast, the Pioneer zone includes proactive, hyper-personalized technologies like digital twins and agentic AI, which represent the strategic direction in which personalization must evolve. As demonstrated by the case studies, these adaptive systems can be a strategic equalizer in crowded markets.

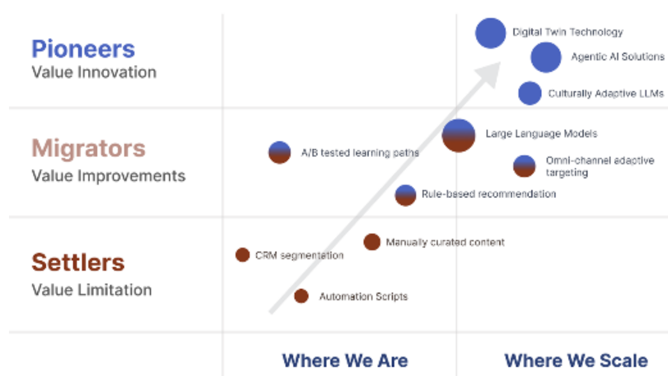

Fig. 5. Mapping AI Personalisation Strategies Using the PMS Framework (Bubble size represents strategic weight). Figure by authors.

B. Organisational Enablers and Strategic Pathways for Scale

To scale beyond isolated pilots, organizations must develop robust internal capabilities and leadership. This includes building cross-functional teams of data engineers, UX designers, and domain experts, as seen at Magazine Luiza. In parallel, robust digital infrastructure, such as cloud access and scalable data pipelines, is crucial. Additionally, for long-term success, organizations must localize AI development to ensure cultural relevance, maintain user trust and control, and align with governments that treat AI infrastructure as a public good. By aligning internal capability with systemic reform, personalization can evolve from an isolated feature into a scalable driver of Blue Ocean growth.

VIII. Conclusion and Future Trends

This research has explored how AI-driven personalization, when guided by the principles of the Blue Ocean Strategy, empowers firms in the LAC region to transition from fiercely competitive "red ocean" markets to uncontested "blue oceans" of value creation. We have demonstrated how core technologies like machine learning and predictive analytics are evolving toward proactive systems like digital twins and agentic AI, which can anticipate and address latent customer needs. The case studies of Magazine Luiza, UnaAI, and 1DOC3 illustrate how this strategic shift is already creating new business models in e-commerce, education, and healthcare.

While ethical challenges related to biased data, data governance, and transparency remain, they can be mitigated through localized, user-first design and the implementation of technologies like Explainable AI (XAI). To scale successfully, organizations must align their strategy with their structure, building cross-functional teams and robust infrastructure while governments treat AI as a public good. By embracing this approach, organizations in the LAC region have a unique opportunity to not only become pioneers in their local markets but also to lead on a global scale.

References

[1] M. Cabrol and C. Pombo, "How Digitalization can Transform Health, Education and Work as Latin America and the Caribbean Emerge from the Pandemic," Inter-American Development Bank, Tech. Rep., Oct. 2021, edition: 2021. [Online]. Available: https://publications.iadb.org/en/node/31087

[2] GSMA, "The Mobile Economy Latin America 2025," 2025. [Online]. Available: https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-economy/latam/

[3] B. Guo, Y. Ouyang, T. Guo, L. Cao, and Z. Yu, "Enhancing Mobile App User Understanding and Marketing With Heterogeneous Crowdsourced Data: A Review," *IEEE Access*, vol. 7, pp. 68 557–68 571, 2019. [Online]. Available: https://ieeexplore.ieee.org/document/8720158/

[4] C. A. Gomez-Uribe and N. Hunt, "The Netflix Recommender System: Algorithms, Business Value, and Innovation," *ACM Transactions on Management Information Systems*, vol. 6, no. 4, pp. 1–19, Jan. 2016. [Online]. Available: https://dl.acm.org/doi/10.1145/2843948

[5] S. Al-Tarifi, J. Zraqou, F. Omar, Al-Zaytoonah University, S. Magatef, and University of Petra, "Unlocking Blue Ocean Growth Powered by Artificial Intelligence," *International Journal of Advances in Soft Computing and its Applications*, vol. 16, no. 3, pp. 67–78, Nov. 2024. [Online]. Available: https://ijasca.zuj.edu.jo/PapersUploaded/2024.3.5.pdf

[6] Grand View Research, "Latin America Healthcare Digital Twins Market Size & Outlook, 2030," 2025. [Online]. Available: https://www.grandviewresearch.com/horizon/outlook/healthcare-digital-twins-market/latin-america

[7] W. C. Kim and R. Mauborgne, "Blue Ocean Leadership," *Harvard Business Review*, May 2014. [Online]. Available: https://hbr.org/2014/05/blue-ocean-leadership

[8] A. Burke, S. J, and R. Thurik, "Blue Ocean vs. Five Forces," *Harvard Business Review - HARVARD BUS REV*, vol. 88, pp. 28–29, May 2010.

[9] N. Arora, X. Dreze, A. Ghose, J. D. Hess, R. Iyengar, B. Jing, Y. Joshi, V. Kumar, N. Lurie, S. Neslin, S. Sajeesh, M. Su, N. Syam, J. Thomas, and Z. J. Zhang, "Putting one-to-one marketing to work: Personalization, customization, and choice," *Marketing Letters*, vol. 19, no. 3-4, pp. 305–321, Dec. 2008. [Online]. Available: http://link.springer.com/10.1007/s11002-008-9056-z

[10] K. N. Lemon and P. C. Verhoef, "Understanding Customer Experience Throughout the Customer Journey," *Journal of Marketing*, vol. 80, no. 6, pp. 69–96, Nov. 2016. [Online]. Available: https://journals.sagepub.com/doi/10.1509/jm.15.0420

[11] J. Camacho-Collados and M. T. Pilehvar, "From Word To Sense Embeddings: A Survey on Vector Representations of Meaning," *Journal of Artificial Intelligence Research*, vol. 63, pp. 743–788, Dec. 2018. [Online]. Available: https://jair.org/index.php/jair/article/view/11259

[12] D. Norman, "Cognitive Artifacts," in *Designing interaction: psychology at the human-computer interface*, Jan. 1991, p. 333.

[13] K. Zhang, H.-Y. Zhou, D. T. Baptista-Hon, Y. Gao, X. Liu, E. Oermann, S. Xu, S. Jin, J. Zhang, Z. Sun, Y. Yin, R. M. Razmi, A. Loupy, S. Beck, J. Qu, and J. Wu, "Concepts and applications of digital twins in healthcare and medicine," *Patterns*, vol. 5, no. 8, p. 101028, Aug. 2024. [Online]. Available: https://linkinghub.elsevier.com/retrieve/pii/S2666389924001612

[14] A. Bandura, "Social Cognitive Theory: An Agentic Perspective," *Psychology: the Journal of the Hellenic Psychological Society*, vol. 12, no. 3, p. 313, Oct. 2020. [Online]. Available: https://ejournals.epublishing.ekt.gr/index.php/psychology/article/view/23964

[15] Gartner, "Gartner Reveals Three Technologies That Will Transform Customer Service and Support By 2028," 2023. [Online]. Available: https://www.gartner.com/en/newsroom/press-releases/2023-08-30-gartner-reveals-three-technologies-that-will-transform-customer-service-and-support-by-2028

[16] A. Taylor, "How real-world businesses are transforming with AI — with 261 new stories," Apr. 2025. [Online]. Available: https://blogs.microsoft.com/blog/2025/04/22/https-blogs-microsoft-com-blog-2024-11-12-how-real-world-businesses-are-transforming-with-ai/

[17] Markets and Markets, "Digital Twin Market Size, Share, Industry Trends Report 2030," 2025. [Online]. Available: https://www.marketsandmarkets.com/Market-Reports/digital-twin-market-225269522.html

[18] T. S. Teixeira, L. A. Guissoni, and T. M. Veludo-de Oliveira, "Digital Transformation at Brazilian Retailer Magazine Luiza - Case - Faculty & Research - Harvard Business School," Aug. 2018. [Online]. Available: https://www.hbs.edu/faculty/Pages/item.aspx?num=54842

[19] Observer, "Lu, a Non-Human Influencer Created by Magazine Luiza, Has 25M Followers | Observer," May 2021. [Online]. Available: https://observer.com/2021/05/meet-lu-the-non-human-influencer-with-25-million-followers/

[20] Credence Research Inc., "Latin America Artificial Intelligence in Retail Market Size and Share 2032," Feb. 2025. [Online]. Available: https://www.credenceresearch.com/report/latin-america-artificial-intelligence-in-retail-market

[21] M. Marius, "Snapshot: How AI-ready were Caribbean countries in 2023? | ICT Pulse – The leading technology blog in the Caribbean," Feb. 2023. [Online]. Available: https://ict-pulse.com/2024/02/snapshot-how-ai-ready-were-caribbean-countries-in-2023/

[22] IDB, "IDB Report Finds Caribbean Businesses Need More Innovation and Productivity," May 2023. [Online]. Available: https://www.iadb.org/en/news/idb-report-finds-caribbean-businesses-need-more-innovation-and-productivity

[23] J.P. Morgan, "Healthy growth for Latin America: Tapping the region's healthcare sector for economic gains | J.P. Morgan Private Bank Latin America," Apr. 2025. [Online]. Available: https://privatebank.jpmorgan.com/latam/en/insights/markets-and-investing/ideas-and-insights/healthy-growth-for-latin-america-tapping-the-regions-healthcare-sector-for-economic-gains

[24] LAVCA, "1Doc3: "The Digital Revolution in the Health Industry has not even Started"," Feb. 2018. [Online]. Available: https://www.lavca.org/feature/1doc3-the-digital-revolution-in-the-health-industry-has-not-even-started/

[25] D. P. Boshe and C. G. Caride, "Is the Brussels Effect Creating a New Legal Order in Africa, Latin America and the Caribbean?" 2022.