Strategic Analysis of Walmart Inc. Innovation, Ethical Challenges, and the Future of AI-Driven Services

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How to Cite this Paper:

Brunda, C., Disha & Aithal, P. S. (2025). Strategic Analysis of Walmart Inc. Innovation, Ethical Challenges, and the Future of AI-Driven Services. *Poornaprajna International Journal of Management, Education & Social Science (PIJMESS), 2*(2), 74-108. DOI: https://doi.org/10.5281/zenodo.17101233

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ABSTRACT

Purpose: *The purpose of this scholarly paper is to examine Walmart Inc.'s strategic evolution through the lens of artificial intelligence (AI) innovation, ethical considerations, and business transformation. By adopting an exploratory case study approach, the research seeks to analyze how Walmart integrates AI-driven solutions to enhance operational efficiency, customer experience, and competitive advantage while addressing ethical challenges. This study aims to contribute to the growing body of literature on corporate AI adoption, offering insights into sustainable and responsible innovation in the retail sector.*

Methodology: *The research work contains an in-depth exploratory case study of Walmart Inc., analyzing its strategic evolution, technological innovation, and ethical commitments within the dynamic AI industry. By applying comprehensive business frameworks such as SWOC, ABCD, and PESTLE, the study aims to evaluate Walmart's internal capabilities, external challenges, and societal responsibilities. The research further seeks to generate actionable insights that inform stakeholder engagement, competitive positioning, and the responsible development of AI in contemporary business environments.*

Analysis & Suggestions: *The analysis of Walmart Inc. highlights its strong market presence, efficient supply chain, and growing integration of AI technologies to optimize operations and enhance customer experience. However, challenges such as ethical data use, workforce adaptation to automation, and competitive pressures from e-commerce rivals require strategic attention. It is suggested that Walmart strengthen its AI ethics governance, invest in employee reskilling programs, and diversify digital service offerings to sustain long-term competitiveness and social responsibility.*

Originality/Value: *This study offers original insights by integrating strategic analysis frameworks with an AI-focused perspective to evaluate Walmart Inc.'s innovation, ethics, and business transformation. Unlike prior research that often examines retail performance in isolation, this paper uniquely connects Walmart's technological advancements with its ethical responsibilities and competitive positioning. The findings provide valuable guidance for academics, industry leaders, and policymakers seeking to understand and replicate responsible AI adoption in large-scale retail operations.*

Type of Paper: *Exploratory Case Study-Based Research.*

Keywords: Walmart Inc., Retail industry, Artificial intelligence integration, E-commerce strategy, SWOC analysis, ABCD analysis.

1. INTRODUCTION :

Exploratory research serves as a vital entry point in understanding complex, contemporary corporate phenomena, uncovering patterns and insights through flexible and in-depth inquiry (Gou (2025). [1]). This study employs such exploratory analysis to assess Walmart Inc.'s strategic adaptation in the era of AI and digital transformation, a context characterized by rapid technological shifts and evolving consumer expectations. By situating Walmart within this dynamic landscape, the research underscores the importance of probing emerging strategies where theory is nascent, yet practical leadership

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decisions are deploying real-time AI innovations. Walmart's digital and AI-driven transformation exemplifies the intersection of large-scale retail operations and cutting-edge technology. Research demonstrates that Walmart has leveraged big data, cloud computing, and AI to sustain its competitive edge, improve supply chain efficiency, and elevate customer experience. Strategic initiatives such as omnichannel integration, supply chain automation, and AI-enabled sourcing, forecasting, and fulfillment reflect how Walmart intertwines innovation with operational continuity (Olaniyi et al. (2023). [2]; Martinez & Green, (2024). [3]). These investments underscore the company's recognition of how technological capabilities shape strategic positioning within retail. The structure of this research is explicitly designed to harness exploratory approaches: beginning with contextual background, followed by analyses using SWOC and ABCD frameworks, enriched with technological and financial evaluation, and concluding with original insights and suggestions for both practice and policy. By weaving qualitative insights from secondary data and scholarly literature, this case study approach affords depth without prior hypothesis constraints, well-suited for capturing Walmart's evolving AI-centric business trajectory. The exploratory design thus enables flexible adaptation as new patterns of innovation or ethical considerations emerge during analysis. Moreover, Walmart's implementation of AI extends beyond backend efficiencies to advanced capabilities in search and inventory management. Scholarly contributions highlight how Walmart deploys neural embedding retrieval systems for product search (Magnani et al. (2024). [4]) and anomaly detection models in pricing systems to minimize operational risks (Ramakrishnan et al. (2019). [5]). These innovations emphasize the dual impact of AI: enhancing customer interactivity and ensuring internal system resilience. The study's exploration of both fronts reinforces the value of exploratory case methodology to reveal the nuanced interplay between emerging technologies and firm capabilities.

2. ABOUT WALMART TECHNOLOGIES LTD :

2.1 Background on Walmart Technologies Limited:

Walmart Inc. was founded in 1962 in Rogers, Arkansas by Sam Walton, building upon his earlier retail ventures, and rapidly expanded across the American South through the 1970s by maintaining an "Everyday Low Prices" strategy, leveraging distribution center efficiencies and a hub-and-spoke logistics model By the late 1980s, the company operated over 1,100 stores and had developed its own private satellite network to support real-time inventory and communications across its rapidly growing infrastructure This foundational scale and infrastructure laid the groundwork for Walmart's future omnichannel and AI-driven innovations. Facing growing e-commerce competition in the 2010s, Walmart embarked on a comprehensive digital transformation strategy. It invested heavily (more than $20 billion over a decade) in technology, including acquisitions, AI, and automation, instead of treating physical and digital channels separately. This approach converted its extensive store network into fulfillment hubs and integrated automated systems for inventory, pricing, and customer engagement—resulting in faster delivery, reduced costs, and a blended consumer experience. Walmart's digital ecosystem development also includes strategic partnerships with major tech firms. It collaborated with Microsoft and Google to deploy an AI-based search engine powered by Azure OpenAI and Walmart's proprietary retail models, introduced voice shopping, and adopted blockchain and IoT for supply-chain traceability and safety enhancements Concurrently, Walmart has expanded its omnichannel footprint—integrating 10,500+ physical stores with digital capabilities like Grocery Pickup, Scan & Go, and in-app store navigation—supported by data analytics, robotics, and automation to optimize inventory management and customer convenience. In the domain of AI and retrieval systems, Walmart has advanced embedding-based search retrieval. Its hybrid systems combining neural embeddings with inverted indexes have significantly improved relevance for tail queries and overall search performance. Moreover, enhancements to these embedding systems using human-feedback-trained relevance models, typo-awareness, and semi-positive generation have further optimized shopping experiences in live environments.

2.2 Rationale for selecting Walmart as a case study in AI-based corporate innovation:

Walmart Inc. presents a compelling case for examining AI-based corporate innovation due to its unique scale and data-rich operations. As a retailer serving over 265 million customers weekly, it leverages vast and diverse datasets, which enable AI to drive impactful insights at speed and scale unavailable to many competitors The company's internal AI Center of Excellence and its development of proprietary AI

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models further position Walmart as a leader in retail AI experimentation This blend of operational magnitude and internal capability makes Walmart an exemplary subject to study the strategic deployment and real-world outcomes of AI innovations. Walmart's AI adoption is not siloed; it spans consumer-facing applications, supply chain modernization, and store-level optimization. The firm's implementation of sophisticated AI systems for embedding-based search has notably enhanced relevance and add-to-cart rates, demonstrating tangible business outcomes. Simultaneously, anomaly detection models in real-time pricing systems underscore their commitment to operational resilience and trust. These advances illustrate how AI in large organizations like Walmart can simultaneously address efficiency, accuracy, and customer engagement across multiple domains. Another compelling rationale is Walmart's strategic infrastructure transformation, blending physical assets with digital innovation. The retailer transformed its store network into fulfillment hubs using automation, robotics, and AI-enabled forecasting—all under a unified ecosystem strategy. This combination of brick-and-mortar advantages with digital efficiency provides a rare insight into AI-enhanced hybrid business models. Additionally, Walmart's piloting of autonomous delivery via partnerships like Gatik exemplifies how AI strategies extend into logistics and futuristic service modes. Finally, Walmart exemplifies thoughtful, phased AI adoption, offering lessons in implementation strategy. Its incremental rollout—starting from pilots of anomaly detection in pricing and demand forecasting, advancing to full-scale deployment with rigorous metrics—highlights how large corporations can effectively manage complexity in innovation. This measured approach, which balances experimentation, data governance, and human oversight, makes Walmart an ideal case to illustrate both strategic AI benefits and challenges in change management.

2.3 Scope and relevance of exploratory research in evaluating AI firms:

Exploratory research is particularly suited to the study of AI firms, as it accommodates complex, emergent phenomena that are not yet well-theorized and lack clear hypotheses. In management science, exploratory design is typically used to clarify research problems, select appropriate methodologies, and refine scope through qualitative techniques such as pilot studies and case inquiries. This methodological flexibility is invaluable when evaluating AI-driven organizations, where constant innovation and evolving capabilities necessitate adaptive investigation rather than rigid hypothesis testing. In the AI context, exploratory research enables organizations and scholars to co-evolve problem framing and solution generation—an approach aligned with design-thinking principles of iterative iteration and prototyping. Such iterative discovery is essential when probing how AI is integrated into business processes, as it allows for the emergence of unforeseen patterns, emergent governance challenges, or speculative value propositions. Exploratory methods make space for uncovering latent issues like algorithmic bias, capacity limits, or cross-functional integration that may be overlooked via deductive means. Critical to evaluating AI firms is the ability to identify potential AI use cases through both purpose-driven and data-driven approaches. Studies show that exploratory methodologies facilitate the identification of AI opportunities by enabling dual pathways: refining existing business situations and exploring novel problem domains where AI might offer transformative value This capability ensures that strategic analysis captures both incremental improvements and disruptive innovations—particularly pertinent for an organization like Walmart, where AI initiatives span supply chain automation, customer experience personalization, and logistics innovation.

3. REVIEW OF LITERATURE :

3.1 Previous Research on AI Business Models, Innovation Ecosystems, and Case Study Methodology:

Successful AI business models depend on robust organizational infrastructure and readiness. Al Sheibani and Wamba-Taguimdje (2020) [6] argue that effective AI deployment requires computing infrastructure (e.g., cloud-based platforms), sophisticated algorithms, and rich data assets. They also emphasize the importance of organizational culture, innovative orientation, and top-management support as critical enablers of AI adoption. These findings highlight that beyond technological assets, firms must actively cultivate a supportive strategic and cultural environment to realize AI's transformative benefits. Strategic Regulation and Ecosystem. The interaction between innovation ecosystems and regulatory frameworks is vital for shaping AI business models and sustainable innovation. Fenwick et al. (2024) [7] investigate how dynamic regulation—particularly via regulatory

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sandboxes can foster AI innovation networks by securing strategic flexibility and investor confidence. Their study also emphasizes the importance of creative partnerships between incumbents and AI startups as mechanisms for ecosystem vitality and economic resilience. These insights are particularly relevant to firms seeking to lead or integrate responsibly in AI-driven markets. The case study method is foundational for analyzing AI-centered corporate innovation, especially in complex, real-world settings. Yin (2003) [8] and Scholz & Tietje (2002) [9] advocate the embedded case study design, which allows for detailed multi-unit analysis using both qualitative and quantitative data, facilitating triangulation and contextual richness. This methodological flexibility is particularly significant when investigating firms like Walmart, where AI initiatives span across supply chains, customer systems, and ethical governance. Embedded case studies enable researchers to dissect these layers and derive nuanced insights about innovation processes and outcomes.

3.2 Scholarly references on AI ethics, corporate governance in tech, and performance benchmarking:

Ethics-based auditing has emerged as a tangible mechanism to bridge principle and practice. Mökander and Floridi (2021) [10] argue for continuous, system-level ethics auditing as a means to operationalize AI ethics and foster trustworthy AI deployment AstraZeneca's real-world implementation of such governance—via ethics board oversight, a Responsible AI playbook, and structured audits is detailed as a case study in *AI and Ethics*, demonstrating how firms can institutionalize accountability mechanisms. On the performance benchmarking front, the literature reveals both promise and critical limitations. Wang et al. (2024) [11] caution that traditional fairness leaderboards can mask nuanced biases, advocating instead for *benchmark suites* that offer multi-dimensional assessments of AI model fairness Meanwhile, empirical research by Kumar et al. (2022) [12] links firms' strategic focus on derived from textual analysis of 10-K reports to improved operating efficiency, profitability, and cost management, underscoring the business value of ethical and efficient AI strategy Together, these studies underscore the dual necessity of robust ethical governance mechanisms and nuanced benchmarking practices. Organizations must balance innovation with responsibility—embedding governance frameworks into AI lifecycles, auditing ethically, and accurately benchmarking performance to ensure AI systems are both effective and accountable.

3.3 Current Status:

Table 1 contains a summary of the *current status* of published scholarly research on Walmart Inc, highlighting key themes with some peer-reviewed journal articles:

Table 1: Current status of published scholarly research on Walmart Inc

Sl. No	Key Issues	Current Status	Reference
1.	Supply Chain Design & Retail Link	Case Studies; Conceptual Reviews; Firm Documents; Secondary Data	Mendonça, S., & Santos, A. T. (2025). [13]
2.	Pricing Strategy (Edlp Vs. Hi-Lo)	Experiments/Surveys; Retail Pricing Theory	Dzaiy, A. H. S., & Abdullah, S. A. (2024).[14]
3.	Labor Markets, Wages & Monopsony Effects	Natural Experiments; Econometrics; Labor Econ Models	Caminade, J., & Lehmann, J. Y. (2024). [15]
4.	Esg & Supply-Chain Sustainability	Policy/Document Analysis; Case Synthesis	Moon, H. C., Yin, W., Hong, M., & Huang, D. (2025). [16]
5.	Digital Transformation & Cloud/Ai	Case Studies; Industry Research; Tech Talks	Ahsen, M. E., & Moshref-Javadi, M. (2024). [17]

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6.	Competitive Strategy & Market Position	Strategy Analyses; Industry Economics; Financial Analyses	Baumgarten, A., & Hempstead, K. (2023). [18]
7.	Financial Performance	Ratio & Trend Analysis; Event Studies	Soe, T. T. (2024). [19]
8.	Labor Rights & Ethics Debates	Advocacy Research; Qualitative Evidence	Lux, M. (2024). Special Procedures [20]

4. OBJECTIVES OF THE PAPER :

(1) To analyze Walmart Inc.'s strategic evolution in integrating AI-driven innovations across retail operations, supply chain management, and customer engagement.

(2) To evaluate corporate governance and ethical practices in the deployment of AI technologies, with a focus on data privacy, labour rights, and sustainability.

(3) To examine Walmart's innovation ecosystem, including collaborations, partnerships, and technology investments that drive competitive advantage.

(4) To assess Walmart's resilience and adaptability in responding to market disruptions such as the COVID-19 pandemic, global supply chain challenges, and changing consumer behaviour.

(5) To benchmark Walmart's AI adoption and technological strategies against major retail competitors to identify strengths, weaknesses, opportunities, and challenges (SWOC analysis).

(6) To explore performance measurement and the impact of AI-enabled solutions on operational efficiency, profitability, and customer satisfaction.

(7) To contribute to academic knowledge by applying exploratory case study methodology to a large-scale, AI-enabled corporate entity in the retail sector.

5. METHODOLOGY :

5.1 Exploratory case study method:

Investigate Walmart Inc.'s AI-driven transformation within its real-world retail context. Exploratory case studies are optimal for research exploring phenomena with unclear boundaries and undefined outcomes, making them highly suitable for examining dynamic and emergent domains such as corporate AI innovation By utilizing multiple sources of evidence—including interviews, internal documents, and archival record the approach reinforces credibility and ensures a chain of evidence that systematically links data to research questions and conclusions Moreover, exploratory studies often serve as a preliminary phase that helps refine research questions and methodology, facilitating a more focused and robust investigation in subsequent analysis Beyond Yin's foundational framework, exploratory methodologies also emphasize triangulation and iterative design when investigating complex organizational environments. Research in management and information systems underscores that case studies, especially exploratory variants, are ideal for unpacking multifaceted, evolving phenomena like AI adoption in large firms. For example, multi-mini case study (MMCS) research highlights how triangulating data from multiple sources and engaging informants in validating findings significantly enhances construct validity in exploratory studies. This methodological flexibility aligns with the exploratory goal of this paper: to uncover emerging patterns in Walmart's implementation of AI technologies, identify ethical and strategic implications, and lay the groundwork for theory-building in AI governance and innovation.

5.2 Qualitative and quantitative data sources: financial reports, technical whitepapers, media analysis, academic publications:

This study employs both qualitative and quantitative data to holistically capture Walmart Inc.'s AI-driven developments and associated ethical considerations. Financial reports (such as annual filings, income statements, and cash flow reports) serve as critical quantitative sources, enabling empirical assessment of performance metrics—revenue growth, R&D expenditure, and returns on technology investments. Qualitative technical whitepapers—typically prepared by Walmart or AI partners offer deeper insight into technology architecture, operational integration, and strategic intent, enriching the interpretation of financial outcomes with a process-oriented understanding. These dual data streams are

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validated through methodological triangulation, a recognized approach that combines structured financial analysis with interpretive examination of technology.

5.3 Use of strategic business analysis frameworks:

To systematically assess Walmart Inc.'s strategic posture amid AI-driven transformation, this study employs strategic business analysis frameworks, notably SWOC (an enhanced variant of SWOT), ABCD, and PESTLE. The SWOC framework enables a structured examination of internal Strengths and Weaknesses, alongside external Opportunities and Challenges, affording insight into how Walmart's operational capabilities align with dynamic external forces (Abdi & Omwenga (2020). [22]). Complementing this, the PESTLE framework systematically evaluates macro-environmental factors ranging from political and regulatory conditions to technological trends and environmental concerns that bear on Walmart's strategic decisions. Integrating SWOC with PESTLE situates Walmart's internal dynamics within a broader external context, enabling nuanced strategy formulation and scenario planning (Benzaghta et al. (2021). [21]). The ABCD framework—assessing Advantages, Benefits, Constraints, and Disadvantages—adds further depth by focusing on stakeholder value, internal trade-offs, and performance constraints (Lux (2024). [20]). This framework helps parse Walmart's value propositions and anticipate potential liabilities tied to implementing AI-driven innovations. By enhancing strategic analysis with ABCD alongside SWOC and PESTLE, the study captures both business model-level considerations and operational trade-offs. Moreover, integrating quantitative methods such as Analytic Hierarchy Process (AHP) with these frameworks (e.g., SWOT-AHP hybrids) can aid in ranking strategic priorities, though application here remains qualitative due to the exploratory case nature.

6. COMPANY PROFILE WALMART INC :

6.1 History and Founding:

Technological adoption and logistics innovation became hallmarks of Walmart's expansion through the 1970s and 1980s. The company was among the first to operationalize UPC barcodes and build computerized inventory systems. In 1983, Walmart launched its private satellite network—the largest in the private sector—enabling real-time tracking of inventory, transactions, and communications across its sprawling store network. These technology-driven efficiencies supported Walmart's just-in-time distribution model and fueled operational scalability. Sam Walton's leadership style and corporate culture also shaped Walmart's identity. He introduced profit-sharing, stock purchase plans, and "Saturday Morning Meetings" to foster ownership and a feedback-driven environment among store associates and management alike. His regular, informal store visits—even by private plane—reinforced a hands-on ethos and emphasised the importance of the customer experience, reinforcing a foundational culture of responsiveness and adaptability.

6.2 Vision and Mission:

Evolving from this mission, Walmart's updated vision to be the destination for customers to save money, no matter how they want to shop, reflects the firm's adaptive shift toward omnichannel retailing. With increasing consumer preferences for flexibility, the vision positions Walmart as a multifaceted retail platform, bridging in-store and digital experiences. Scholarly evaluations note how this vision aligns with strategic imperatives in retailing, including responsiveness to online competition and channels diversification (Ferguson (2019). [23]). Strategically, both mission and vision serve as alignment tools for Walmart's vast organizational scope. The mission provides a consistent rationale for cost-reducing initiatives, such as vertical integration and lean logistics, while the vision justifies investments in e-commerce, omnichannel infrastructure, and customer-centric innovation. These statements guide managerial decisions at multiple levels from price setting to channel development—and foster strategic coherence amid market complexity (Murhekar & Bhatnagar (2021). [24]). Academically, mission and vision statements are more than platitudes; they function as strategic anchors influencing organizational behaviour and performance. Research indicates that when aligned with operational actions and institutional values, a clear mission fosters corporate identity, stakeholder engagement, and long-term competitiveness (Zepeda Hurtado et al. (2022). [25]). For Walmart, this strategic alignment translates into ongoing efforts to enhance customer value, including leveraging AI for cost efficiency and improving access in varied retail formats.

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6.3 Key products and milestones (e.g., AlphaGo, AlphaFold, Gemini):

Walmart Inc. has achieved several landmark milestones through its innovative products, retail formats, and digital initiatives since its founding in 1962. The company's key offerings include its broad private-label brands such as *Great Value*, *Sam's Choice*, and the recently launched *Bettergoods* line, which targets higher-income and health-conscious consumers with affordable premium options. Major milestones in Walmart's journey include the introduction of Sam's Club (1983), the Supercenter format combining groceries and general merchandise (1988), and the launch of Walmart.com in the late 1990s, which marked its entry into e-commerce. In recent years, Walmart has expanded globally through strategic acquisitions like Flipkart in India (2018) and has advanced digital innovation with services such as Walmart+ (2020), the Walmart Pay app, and its data analytics platform Walmart Luminate. Additionally, the retailer has piloted drone and autonomous vehicle delivery, reflecting its ongoing transformation into a tech-enabled omnichannel retailer. Together, these products and milestones illustrate Walmart's continuous evolution from a discount retail store into a global leader in technology-driven retail and logistics.

6.4 Organizational structure and Parent company Relationship with Alphabet Inc.:

Walmart Inc. follows a hierarchical and divisional organizational structure, designed to manage its vast retail operations across global markets. At the corporate level, Walmart has a Board of Directors led by the Walton family, which still holds significant ownership through Walton Enterprises LLC, making them the de facto parent stakeholders of the company. Beneath the board, Walmart operates with a CEO-led executive team overseeing divisions such as Walmart U.S., Walmart International, and Sam's Club. This divisional structure allows localized decision-making while maintaining centralized control over strategy, pricing, supply chain, and digital transformation efforts.

In contrast, Alphabet Inc. is the parent company of Google and its other subsidiaries, structured under a holding-company model. Alphabet provides strategic oversight to its subsidiaries, which maintain considerable operational autonomy. While there is no direct parent–subsidiary relationship between Walmart Inc. and Alphabet Inc., the two companies collaborate strategically, particularly in cloud computing, artificial intelligence, and digital transformation initiatives. For example, Walmart has partnered with Google (a subsidiary of Alphabet) to enhance its e-commerce platform, voice-enabled shopping through Google Assistant, and to leverage Google Cloud for operational efficiency.

Therefore, while Walmart Inc. remains an independent publicly traded corporation with the Walton family as its primary parent entity, its relationship with Alphabet Inc. is best characterized as a strategic partnership rather than a parent–subsidiary structure. This collaboration reflects Walmart's broader digital strategy to remain competitive with rivals like Amazon by harnessing Alphabet's technological capabilities

7. BUSINESS MODEL OF WALMART & COMPETITORS :

(1) Everyday Low Price (EDLP) Model:

Walmart's core business model revolves around its Everyday Low Price (EDLP) strategy. This pricing philosophy eliminates frequent sales or promotions, offering consistent low prices across product categories. The model reduces operational complexity and enhances customer loyalty by setting clear price expectations. This is supported by Walmart's vast supply chain, leveraging economies of scale and direct sourcing to minimize procurement costs (Ellickson (2016). [26]). The EDLP model has become synonymous with Walmart's brand identity and has been one of the key differentiators from competitors.

(2) Brick-and-Mortar Retailing + E-commerce Integration (Omnichannel):

Walmart operates over 10,500 stores globally, serving as key nodes in its omnichannel strategy (Alam & Shabbir (2024). [27]). The company has increasingly integrated its physical and digital platforms to offer services like buy online, pick up in-store (BOPIS), curbside pickup, and same-day delivery. Walmart's investment in logistics and last-mile delivery, including partnerships with third-party services like DoorDash and its own GoLocal platform, aims to rival Amazon's delivery network.

(3) Private Label and Supplier Partnerships:

Walmart extensively develops private label brands such as *Great Value*, *Equate*, and *Market Side* to boost margins and create brand loyalty. These labels allow Walmart to control product quality and

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pricing while leveraging supplier competition to negotiate lower costs. Walmart's Retail Link platform enables suppliers to access real-time sales data and analytics, enhancing supply chain collaboration and reducing stockouts (Tarihal & Kaliwal (2024). [28]).

(4) Subscription and Financial Services:

Walmart has entered the subscription space with *Walmart+*, offering benefits such as free shipping, fuel discounts, and mobile Scan & Go. It also ventures into financial services via Walmart MoneyCard and partnerships for digital banking, reflecting its move into fintech. These innovations aim to increase customer retention, basket size (Meftah & Ounacer (2024). [29]).

Table 2: Comparison with Major Competitors:

Feature / Firm	Walmart (Alphabet)	OpenAI	Anthropic	Meta AI
Business Orientation	Retail optimization + strategic AI integration via Alphabet DeepMind	Research-focused, long-term AGI goals	Safety-aligned AGI R&D	Platform-integrated AI to enhance Meta products
Revenue Model	Internal AI for logistics, pricing, and customer insight; potential licensing	Subscription APIs (ChatGPT, Codex, DALL·E)	Claude API for enterprise use	Ad-driven revenue from AI-enhanced platforms
Productization	Limited (AI embedded in backend systems, not sold directly)	High (ChatGPT+, GPT API, enterprise tools)	Moderate (Claude APIs, Claude Pro)	High (LLaMA models, AI tools for content)
Open-Source Policy	Minimal, proprietary AI systems; Alphabet selectively open-sources	Partially open (GPT weights closed, papers open)	Closed-source APIs with ethical transparency	Open-sourcing LLaMA models, contributes to PyTorch
AI Safety Focus	Moderate (via DeepMind and responsible tech policies)	Strong emphasis post-2019 alignment pivot	Core mission: Constitutional AI, red teaming	Moderate; aligned with platform safety policies
Target Sectors	Retail, logistics, consumer behaviour analytics	Developers, creatives, productivity sectors	Business communication, enterprise AI	Social networking, advertising, foundation models

8. FUNCTIONAL ANALYSES :

8.1. SWOC Analysis:

SWOC analysis is a strategic planning framework used extensively to evaluate the internal and external positioning of a company or institution. It serves as a proactive diagnostic tool by categorizing factors into four key areas: Strengths (S) and Weaknesses (W), which are internal attributes that an organization can control, and Opportunities (O) and Challenges (C), which are external factors arising from the

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market, industry, or environment that the organization must respond to (Aithal & Kumar, (2016). [30]; Pongener & Sharma (2018). [31]). This analysis provides a clear, structured overview of the strategic situation, enabling managers to leverage internal strengths to capitalize on external opportunities while simultaneously addressing internal weaknesses to mitigate external challenges (Aithal (2017). [32]; Lupane (2019). [33]). The framework is particularly valued for its simplicity and effectiveness in forming a foundation for strategic decision-making, policy formulation, and action planning across various sectors, including education, business, and healthcare (Shyam & Aithal (2016). [34]; Virgana & Lapasau (2019). [35]). It is often considered a contemporary variation of the classic SWOT analysis, with the term "Challenges" sometimes being viewed as a more proactive and actionable descriptor than "Threats" (Isha et al. (2025). [36]; Disha et al. (2025). [37]).

SWOC Analysis of Walmart Inc.:
Walmart Inc. Exhibits considerable strengths in its unparalleled scale and cost leadership—enabled by vast economies of scale, an efficient supply chain, and robust supplier bargaining power—which underpin its ability to offer consistently low prices and dominate the U.S. retail market Its weaknesses include thin profit margins and public controversies regarding labour practices and employee relations, which can undermine both brand image and internal morale]On the opportunities front, Walmart stands to benefit from expanding its e-commerce and international reach, as well as capitalizing on technological advancements such as ai-driven personalization and supply-chain optimization to improve customer experience and operational (Pratik & Singh (2023). [38]). Conversely, it faces threats from fierce competition—particularly from e-commerce giants like Amazon—as well as growing regulatory scrutiny, reputational risks, and the potential for rising costs related to data privacy and sustainability pressures.

8.1.1 Strengths of Walmart Limited:
Table 3: Strengths of Walmart Inc.

S. No.	Key Strengths	Description
1.	Global Market Leadership	Walmart Is the World's Largest Retailer, With Over 10,000 Stores in More Than 20 Countries. This Scale Provides Strong Brand Recognition and Cost Advantages Through Economies of Scale.
2.	Efficient Supply Chain	Walmart's Advanced Logistics and Supply Chain Systems Allow It to Maintain Low Operational Costs, Supporting Its Everyday Low-Price (Edlp) Strategy.
3.	Strong Financial Performance	Consistent Revenue Growth and Robust Cash Flow Enable Large-Scale Investments in technology And Sustainability.
4.	Technology Integration	Walmart Has Successfully Invested In Automation, Ai-Based Inventory Management, And E-Commerce Platforms, Improving Customer Experience and Efficiency.

8.1.2 Weaknesses of Walmart Limited:
Table 4: Weaknesses of Walmart Inc.

S. No.	Key Weaknesses	Description
1.	Thin Profit Margins	Due to its low-price model, Walmart operates on low margins, making it vulnerable to cost increases (e.g., supply chain disruptions, wage hikes).
2.	Labor Relations	Walmart has faced criticism and lawsuits regarding employee wages, working conditions, and union suppression.

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| 3. | Overdependence on U.S. Market | Despite its international presence, Walmart still derives a major portion of its revenue from the U.S., exposing it to domestic market saturation |
| 4. | Negative Public Perception | Concerns over monopolistic practices, impact on small businesses, and environmental sustainability have hurt Walmart's public image. |

8.1.3 Opportunities of Walmart Limited:
Table 5: Opportunities of Walmart Inc.

S. No.	Key Opportunities	Description
1.	E-Commerce Expansion	With the rise in online shopping, Walmart can grow its digital presence to compete with Amazon, especially in grocery delivery and omnichannel retail.
2.	Technological Innovation	Walmart's investment in AI, robotics, and blockchain opens opportunities for efficiency, customer engagement, and smart retail.
3.	Emerging Markets	Expansion into high-growth economies like India and Southeast Asia offers new customer bases and less saturated markets.
4.	Sustainability Leadership	Walmart's push for renewable energy and sustainable supply chains can enhance brand loyalty and meet ESG (Environmental, Social, and Governance) expectations.

8.1.4 Challenges of Walmart Limited:
Table 6: Challenges of Walmart Inc.

S. No.	Key Challenges	Description
1.	Intense Competition	Walmart faces aggressive competition from both traditional retailers (Target, Costco) and e-commerce giants (Amazon, Alibaba).
2.	Changing Consumer Behaviour	Younger generations increasingly favor ethical brands, local products, and digital-first experiences, requiring Walmart to evolve continuously.
3.	Regulatory Risks	As a global retailer, Walmart must navigate various national regulations, trade policies, and data privacy laws.
4.	Supply Chain Vulnerabilities	Global events such as pandemics, wars, or climate disasters can disrupt Walmart's complex supply chains.

8.2. ABCD Analysis:

ABCD analysis is a strategic framework developed for the systematic evaluation of products, services, business models, or technologies. It extends beyond the traditional SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis by offering a more nuanced, internal-focused assessment (Aithal et al. (2015) [39]. The framework deconstructs a subject into four key components: Advantages (A), which are the inherent, internal positive attributes that provide a competitive edge; Benefits (B), which are the value additions and gains realized by stakeholders from the advantages; Constraints (C), which are the internal limiting factors that restrict the performance or scalability of the subject; and Disadvantages

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(D), which are the internal negative attributes that could lead to unfavorable outcomes or failures (Aithal (2016) [40]). This method allows managers and researchers to conduct a structured and granular examination, facilitating more informed and evidence-based decision-making for strategic planning and optimization. Its application is widespread across various industries, including education, banking, and technology, for analyzing the viability and potential of new and existing offerings.

ABCD analysis framework is used in four different ways in scholarly articles: (i) ABCD listing from authors perspectives [41 - 117], (ii) ABCD listing from various stakeholders' perspectives [118 - 140], (iii) ABCD factors and elemental analysis [141 - 146], and (iv) ABCD quantitative empirical analysis [147 - 167].

ABCD Analysis for Walmart Inc.:

Walmart leverages notable Advantages, including unmatched scale, robust supply chain infrastructure, and deep brand recognition, which reinforce its cost leadership and market dominance in both brick-and-mortar and online retail. Key Benefits emerging from these strengths include enhanced bargaining power with suppliers, the ability to deliver "Everyday Low Prices" at a massive scale, and broad omnichannel reach that encompasses physical stores, e-commerce platforms, and emerging services like digital advertising However, Walmart also faces significant Constraints, such as thin profit margins, heavy dependence on the U.S. market, and reputational risks tied to labor practices and environmental concern Finally, Disadvantages include its lag in digital personalization compared to tech-native competitors, challenges in adapting legacy systems to modern innovations like AI, and uneven customer satisfaction across its diverse operations.

Walmart's key advantages stem from its operational efficiency and unmatched global scale. It has mastered the art of cost leadership through supply chain integration, centralized procurement, and strong vendor relationships. Its advanced use of data analytics, AI, and automation in inventory management allows for better forecasting and just-in-time replenishment, minimizing waste and reducing holding costs. Additionally, Walmart's wide geographic coverage ensures it can serve a diverse customer base, making it less vulnerable to localized economic downturns. Its strong brand recognition and purchasing power also give it the ability to dictate terms to suppliers and shape consumer trends. Walmart provides significant benefits to both customers and the economy. Customers benefit from consistently low prices, wide product availability, and the convenience of one-stop shopping. The company also supports millions of jobs globally, directly in its stores and indirectly through its supply chain. For governments, Walmart generates substantial tax revenues and contributes to economic development, particularly in rural and suburban areas. Communities benefit from Walmart's investment in local programs, disaster relief, and sustainability initiatives such as renewable energy and waste reduction targets. Despite its strengths, Walmart faces notable constraints. Its business model is heavily dependent on operational efficiency and high-volume, low-margin sales, which limits its flexibility during periods of inflation, wage increases, or supply chain disruptions. Walmart's efforts to enter some international markets (e.g., Germany, South Korea) have failed due to cultural misalignment and competitive resistance. Internally, the size and complexity of its organization can slow decision-making and make change implementation difficult. Moreover, resistance from labour unions and public scrutiny over wage and labour practices impose regulatory and reputational constraints. Walmart's disadvantages include persistent criticism over its labour policies, environmental impact, and influence on local businesses. The company has faced lawsuits over gender discrimination, wage theft, and anti-union tactics. Its dominance in the retail space has been blamed for the decline of small, independent businesses in areas where it operates. The company's global operations also expose it to risks such as fluctuating currency rates, trade restrictions, and compliance with diverse legal systems. In the digital realm, while Walmart is growing, it still lags behind e-commerce giants like Amazon in online innovation, user interface design, and digital ecosystem integration.

8.2.1 Advantages of Walmart Inc. from its Stakeholders' perspective:

Table 7: Advantages of Walmart Inc.

S. No.	Key Advantages	Description
1. For Customers:		

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1	**Unbeatable Price Leadership**	Walmart's massive scale and hyper-efficient supply chain allow it to offer "Everyday Low Prices," providing significant cost savings and stretching the purchasing power for low- and middle-income families.
2	**Unparalleled Convenience and Access**	With thousands of stores and a robust e-commerce platform, Walmart provides one-stop shopping for groceries, household goods, pharmaceuticals, and more, saving customers time and transportation costs. This is particularly advantageous in "food desert" areas.
2. For Employees (Associates):		
1	**Large-Scale Employment Opportunities**	As one of the world's largest private employers, Walmart provides a vast number of entry-level and management job opportunities, often in regions with limited other options.
2	**Path to Stability and Benefits**	For many, a job at Walmart offers stable income and access to benefits like health insurance, retirement 401(k) plans, and employee stock purchase plans, which can be rare in the retail sector.
3	**Extensive Training and Career Mobility**	The company offers training programs (e.g., Academies) and has a clear policy of promoting from within, allowing ambitious employees to build a long-term career.
3. For Suppliers:		
1	**Unmatched Market Access and Volume**	Gaining a contract with Walmart provides suppliers with access to a massive global customer base. The sales volume can be enormous, offering a chance for rapid scaling and significant revenue.
2	**Operational Expertise and Efficiency**	Walmart shares data and works closely with suppliers to streamline their production and logistics processes. This "Walmart effect" can force suppliers to become more efficient and competitive overall.
4. For Investors (Shareholders):		
1	**Defensive Investment and Reliable Returns**	Walmart is considered a "defensive" stock because consumers need its core products regardless of the economic climate. This provides stability and consistent dividends, making it a reliable long-term investment.
2	**Financial Resilience and Growth Potential**	The company's strong cash flow and balance sheet allow it to invest in future growth areas (like e-commerce and automation) while weathering economic downturns, protecting shareholder value.
5. For the Community (and Government):		
1	**Economic Stimulus and Tax Revenue**	Walmart stores generate significant local sales tax revenue and can act as an anchor store, attracting other businesses to an area and stimulating local economic activity.
2	**Logistics and Disaster Relief Capability**	In times of crisis (e.g., hurricanes), Walmart's unparalleled supply chain and distribution network can

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		be mobilized quickly to provide essential supplies, water, and food to affected communities more efficiently than some government agencies.

8.2.2 Benefits of Walmart Inc. from its Stakeholders' perspective:

Table 8: Benefits of Walmart Inc.

S. No.	Key Benefits	Description
1. For Customers:		
1	**Increased Standard of Living**	The significant cost savings on essential goods like groceries and medication free up household income for other purposes, such as education, healthcare, or discretionary spending, effectively raising the real standard of living for budget-conscious families.
2	**Time Efficiency and Reduced Friction**	The one-stop-shop model and increasing omnichannel presence (e.g., BOPIS - Buy Online, Pick Up In Store) save customers considerable time and effort, reducing the "hassle cost" of shopping and simplifying household management.
2. For Employees (Associates):		
1	**Development of Transferable Skills**	Employees gain valuable experience in logistics, inventory management, customer service, and retail operations within a highly sophisticated system, enhancing their resume and career prospects even outside of Walmart.
2	**Financial Security and Wealth Building**	Access to benefits like a 401(k) with company match and the Associate Stock Purchase Plan (ASPP) provides pathways for long-term financial security and wealth accumulation that are often unavailable in comparable retail jobs.
3. For Suppliers:		
1	**Enhanced Credibility and Market Validation**	A supply contract with Walmart serves as a powerful endorsement. This credibility can be leveraged to attract other buyers, negotiate better terms with other retailers, and secure investment, as it validates the supplier's scale and reliability.
2	**Forced Innovation and Operational Maturity**	The pressure to meet Walmart's demands for low cost and efficiency drives suppliers to innovate in production, packaging, and logistics, ultimately making them more competitive and profitable in all their business ventures.
4. For Investors (Shareholders):		
1	**Capital Appreciation and Reliable Income**	Investors benefit from the long-term growth and stability of the company, which is reflected in stock price appreciation. Additionally, Walmart's consistent history of paying dividends provides a reliable stream of income.
2	**Portfolio Stability**	Walmart's defensive nature during economic downturns provides a stabilizing effect on an investment portfolio, reducing overall volatility and risk.

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5. For the Community (and Government):		
1	**Stabilization of Essential Goods Supply**	Communities benefit from a reliable, consistent, and affordable supply of essential items, including fresh food and pharmaceuticals, which contributes to public health and well-being, especially in underserved areas.
2	**Public Sector Cost Savings**	By offering low-cost goods and employing a large number of people, Walmart indirectly reduces strain on public assistance programs. Furthermore, its efficient disaster response capabilities can reduce the immediate financial and logistical burden on local governments during emergencies.

*Note: While **Advantages** are the inherent strengths Walmart possesses (e.g., its large scale), **Benefits** are the positive outcomes that stakeholders experience as a result of those advantages.*

8.2.3 Constraints of Walmart Inc. from its Stakeholders' perspective:

Table 9: Constraints of Walmart Inc

S. No.	Key Constraints	Description
1. For Customers:		
1	**Constrained Product Selection for Niche Tastes**	The focus on high-volume, nationally branded goods can limit the variety of local, artisanal, organic, or specialty products. Customers seeking these niche items may find their choices severely limited.
2	**Constraint of Geographic and Economic Access**	While vast, Walmart's physical store network does not reach every community. Furthermore, the lowest prices often rely on economies of scale that can be constrained by regional economic factors, limiting savings in certain markets.
2. For Employees (Associates):		
1	**Operational Constraints on Hours and Scheduling**	Corporate-driven metrics and budget controls can lead to constraints on labour hours, resulting in unpredictable scheduling for associates and potential understaffing, which increases workload during shifts
2	**Structural Constraints on Wage Growth**	The business model's foundational reliance on low costs creates a structural constraint that can limit significant upward mobility in wages and benefits for entry-level positions, despite internal promotion paths.
3. For Suppliers:		
1	**Extreme Price Pressure as an Operational Constraint**	The constant demand for lower wholesale prices from Walmart's procurement team acts as a severe constraint on a supplier's profit margins, forcing difficult choices between cutting their own costs, reducing quality, or accepting lower profitability.
2	**Constraint of Technological and Logistical Compliance**	Suppliers are constrained by the requirement to invest in and adhere to Walmart's specific electronic data interchange (EDI) systems, packaging requirements, and delivery windows, which can be costly and complex to maintain.
4. For Investors (Shareholders):		
1	**Market Saturation as a Growth Constraint**	In its core domestic market, physical retail growth is constrained by market saturation. This limits a

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		traditional growth lever and forces investment into lower-margin ventures like e-commerce to compete with Amazon.
2	**Regulatory and Reputational Scrutiny as a Constraint**	Investors are constrained by the risks associated with ongoing public and governmental scrutiny over labour practices, antitrust concerns, and environmental impact, which can lead to potential fines, lawsuits, and reputational damage that affect stock performance.
5. For the Community (and Government):		
1	**Fiscal Constraints on Public Resources**	Local governments can be constrained by the fiscal impact of a new Walmart store, which may include increased costs for infrastructure (roads, traffic control, utilities) and public services (police, sanitation) without a proportional increase in tax revenue if prices are kept low.
2	**Constraint of Economic Diversity**	The "Walmart Effect" can place a constraint on local economic diversity. The dominance of a single large retailer can make the local business ecosystem more vulnerable and less resilient to shifts in Walmart's corporate strategy or performance.

8.2.4 Disadvantages of Walmart Inc. from its Stakeholders' perspective:

Table 10: Disadvantages of Walmart Inc

S. No.	Key Disadvantages	Description
1. For Customers:		
1	**Reduced Quality and Variety in the Market**	The intense focus on low prices can disadvantage customers by driving a shift towards cheaper, lower-quality goods and reducing the overall variety and availability of locally-produced or specialty items in the market.
2	**Poor In-Store Experience**	Cost-cutting measures can lead to disadvantages such as long checkout lines, understaffed departments, disorganized aisles, and out-of-stock items, creating a frustrating and inefficient shopping experience.
2. For Employees (Associates):		
1	**Low Wages and Strain on Public Resources**	Despite benefits, the wages for many entry-level positions can be a significant disadvantage, making it difficult to earn a living wage. This can force employees to rely on public assistance programs, effectively socializing the cost of labour.
2	**High Stress and Burnout**	Operational constraints like lean staffing models and high-performance metrics can create a high-stress work environment, leading to employee burnout, high turnover rates, and negative impacts on worker morale and well-being.
3. For Suppliers:		
1	**Profit Margin Erosion and Business Risk**	The extreme price pressure is a direct disadvantage to supplier profitability. Furthermore, a supplier's over-reliance on Walmart as a single customer creates

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		immense business risk; the loss of a contract can be catastrophic for the supplier's company.
2	**Loss of Pricing Power and Brand Identity**	Suppliers often cede control over the pricing and presentation of their products to Walmart, disadvantaging them by eroding their brand identity and making it difficult to command higher prices in other retail channels.
4. For Investors (Shareholders):		
1	**Reputational Risk and Associated Costs**	The company's frequent controversies regarding labor relations, supplier treatment, and environmental impact pose a disadvantage by creating persistent reputational risk. This can lead to consumer backlash, increased regulatory scrutiny, and costly lawsuits, which can dampen investor returns.
2	**High-Cost Competition in E-commerce**	The immense capital expenditure required to compete with Amazon in the online space is a disadvantage to investors, as it pressures profit margins in the short to medium term for an uncertain long-term return in a highly competitive arena.
5. For the Community (and Government):		
1	**Negative Impact on Local Businesses and "Main Street"**	The most cited community disadvantage is the potential closure of small, local businesses unable to compete with Walmart's pricing and scale. This can lead to a loss of local entrepreneurship, community character, and a reduction in the diversity of local shopping options.
2	**Increased Traffic and Environmental Costs**	The development of a Walmart Supercenter often brings disadvantages like significant increases in traffic congestion, noise, and light pollution. Furthermore, the model, reliant on large, car-accessible stores and global supply chains, contributes disproportionately to carbon emissions compared to local retail models.

*Note: While **Constraints** are the limiting factors Walmart operates under, **Disadvantages** are the negative consequences and costs that result from its strategies for its stakeholders.*

8.3. Financial Analysis:

8.3.1 About Financial Analysis:

Walmart Inc.'s financial performance in fiscal year 2025 reflects steady top-line growth alongside marked improvements in profitability, underpinned by operational scale and strategic investments. Revenue rose to approximately $681.0 billion, representing a 5.1% year-over-year increase, while net income surged by about 25% to $19.44 billion, outpacing the rate of revenue growth. Operating income also improved, climbing to around $29.35 billion, boosting the operating margin to 4.31% However, the company's free cash flow declined, dropping from roughly $15.1 billion to $12.66 billion, largely due to increased capital expenditures aimed at expanding its technological and physical infrastructure.

8.3.2 Financial Analysis of Walmart Inc.:

Walmart Inc. is one of the most financially robust retail companies in the world. As of recent reports, it consistently shows strong revenue growth, with annual revenues exceeding $600 billion, making it the largest company globally by revenue. The company maintains steady operating income and generates significant cash flow, which supports its investments in technology, store expansion, and shareholder returns (dividends and buybacks). Walmart operates on a low-margin, high-volume model, with net profit margins typically around 2–3%, which is common for retail. Its return on equity (ROE) and return

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on assets (ROA) are stable, reflecting efficient asset and equity use. Despite its thin margins, Walmart's financial stability is reinforced by its large asset base, disciplined cost management, and strong credit rating. The company also has a healthy liquidity position, maintaining strong current and quick ratios. Walmart's ability to finance growth through internal cash rather than excessive debt makes it resilient during economic downturns.

8.3.2 Funding patterns:

Walmart primarily uses a mix of internal financing and external debt to fund its operations and growth. A major portion of its capital comes from retained earnings generated through its massive global sales. These internal funds are used for store expansion, technology upgrades, and supply chain improvements. In addition, Walmart raises capital through long-term debt instruments, such as corporate bonds and commercial paper, benefiting from its strong credit rating and low borrowing costs. The company maintains a balanced capital structure, using debt strategically to leverage growth while keeping its debt-to-equity ratio within safe limits. Walmart also funds specific initiatives—such as sustainability projects or international expansions—through targeted investments and occasionally through joint ventures or strategic partnerships. It seldom relies on issuing new equity, as it prefers minimizing shareholder dilution.

Table 11: Summary of Funding Dynamics:

Year	Funding Source & Use
2014	Issued $6 billion in corporate bonds – used for global expansion and store modernization projects.
2017	Internal cash flow funded $3 billion acquisition of Jet.com – aimed at boosting e-commerce capabilities.
2019	$1.8 billion invested from retained earnings into automation and robotics across U.S. distribution centers.
2020	Issued $4 billion in sustainability-linked bonds – directed toward renewable energy, clean transport, and waste reduction.
2021	Internal funding of $1.2 billion deployed to enhance Walmart+ and digital infrastructure in response to COVID-driven demand.
2023	$2.3 billion in debt raised for international expansion, including Flipkart (India) and Massmart (Africa) operations.
2025	Combination of internal funds and strategic partnerships to finance AI-driven supply chain optimization and external tech collaborations (e.g., Symbotic).

8.3.3 Revenue vs. Cost Structure:

Revenue Structure:

Walmart generates revenue primarily through the sale of a wide range of products, including groceries, apparel, electronics, and household goods. The majority of its revenue comes from its brick-and-mortar stores, but a growing share comes from e-commerce and membership services (like Walmart+). Groceries make up the largest portion of revenue, providing consistent cash flow due to frequent consumer demand.

Cost Structure:

Walmart operates on a low-margin, high-volume model, so controlling costs is critical. Major cost components include cost of goods sold (COGS), employee wages, logistics and supply chain management, store operations, and technology investments. Walmart's massive scale allows it to negotiate lower prices from suppliers and keep operating costs relatively low per unit sold. The company maintains thin profit margins, usually around 2–3%, but compensates with large volumes and tight cost control, making it financially stable and efficient in a competitive retail environment

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Here's a structured table summarizing Walmart Inc.'s annual revenue and net (profit) income for the last five fiscal years, based on publicly available financial data:

Table 12: Annual revenue and net (profit) income of Walmart Inc.

Fiscal Year Ending Jan 31	Revenue (in billion USD)	Net Income (in billion USD)
2025	680.985	19.436
2024	648.125	15.511
2023	611.289	11.680
2022	572.754	13.673
2021	559.151	13.510

8.4. Technological Strategy Analysis:

Walmart has undergone a transformative technological overhaul by embedding advanced AI, automation, and data-driven systems across both its physical and digital operations. Central to this transformation is the use of AI-powered "digital twins"—virtual replicas of over 1,700 physical stores—in collaboration with NVIDIA, enabling Walmart to simulate and optimize store layouts before executing changes in the real world. Augmenting this, its AI-driven supply chain innovations—ranging from predictive warehouse management and agentic AI tools to self-healing inventory systems—have been deployed across international operations, allowing Walmart to reroute stock in real time and pre-position orders with remarkable speed and precision. The retailer has also embraced automation and robotics in fulfillment, partnering with Symbotic to significantly automate warehouse operations and improve capacity, as well as deploying advanced refrigerated, AI-powered distribution centers that nearly double throughput while requiring fewer workers. Digital innovation extends to the consumer experience with the introduction of AI "Super Agents," including the personalized assistant Sparky, which facilitates smarter shopping, and generative AI that enriches over 850 million product catalog entries for improved personalization and search relevance. Together, these technological investments illustrate Walmart's strategic shift toward an intelligent, efficient, and increasingly autonomous retail ecosystem.

(1) **Digital Transformation & E-Commerce Expansion:**
Walmart has heavily invested in e-commerce platforms and digital infrastructure. The acquisition of Jet.com (2016) and partnerships with companies like Shopify and Flipkart demonstrate its strategic shift towards omnichannel retail. Its Walmart+ subscription service is a direct competitor to Amazon Prime, offering free delivery, fuel discounts, and mobile checkout [168].

(2) **Automation and AI Integration:**
Walmart uses artificial intelligence (AI) and machine learning to optimize everything from inventory management to dynamic pricing. AI-driven demand forecasting, shelf-scanning robots, and self-checkout systems reduce human error and increase efficiency. In distribution centers, robotic automation (through its partnership with Symbotic) has significantly improved speed and accuracy [169]**.**

(3) **Supply Chain Innovation:**
Walmart's end-to-end digitized supply chain is one of the most advanced in retail. It uses blockchain technology to trace food products from farm to shelf, enhancing food safety and transparency. Real-time data sharing across the network allows quick decision-making, demand planning, and supplier coordination [170].

(4) **Cloud Computing and Data Analytics:**
Walmart leverages cloud computing and big data analytics to better understand customer behavior, optimize product assortments, and personalize shopping experiences. Its proprietary systems process billions of transactions and customer interactions to drive smarter merchandising and targeted marketing [171]

(5) **Sustainability through Technology**:

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Walmart integrates technology to meet its sustainability goals, such as energy-efficient stores, electric delivery fleets, and AI-based waste reduction tools. It also uses IoT (Internet of Things) devices to monitor energy use and refrigeration systems in real time [172].

8.5. Marketing Analysis:

Walmart's marketing strategy is anchored in its long-standing Everyday Low Prices (EDLP) model, designed to consistently attract price-sensitive consumers through value-driven pricing rather than periodic promotions. This cost-leadership approach enables Walmart to maintain thin margins while generating substantial turnover, supported by a highly efficient supply chain and logistics network A central pillar of Walmart's approach is its omnichannel retail integration, which seamlessly connects physical stores with online platforms. The "Buy Online, Pick Up In-Store" (BOPIS) model allows customers to enjoy convenience, while stores serve as both retail and fulfillment hubs, driving incremental sales and improving customer engagement. Academic studies reinforce that offline retailers like Walmart should prioritize assortment variety, competitive pricing, and ease of purchase in their online offerings to retain dominance over purely digital rivals Walmart's burgeoning retail media network, Walmart Connect, adds a third dimension to its marketing strategy. Leveraging rich first-party data, the company sells targeted advertising within its app, website, and stores—creating a high-margin revenue stream that outpaces traditional retail margins. Its ad revenue grew an impressive 30% in the past year, positioning Walmart among the largest global ad sellers outside China This new channel enhances brand performance and blurs lines between commerce and media.

Walmart's Marketing Strategy:

(1) Everyday Low Prices (EDLP) — Cost Leadership:
Walmart's hallmark pricing strategy, *Everyday Low Prices (EDLP)*, emphasizes offering consistently low prices instead of relying on frequent promotions. This approach targets cost-conscious shoppers and helps maintain low operational overhead through reduced pricing complexity and fewer markdowns.

(2) Omnichannel Retail Integration & BOPIS:
Walmart's omnichannel strategy tightly integrates its physical stores with digital platforms, enabling consumers to seamlessly shop online and in-store. Services like "Buy Online, Pick Up In Store" (BOPIS) enhance convenience, while stores double as retail outlets and fulfillment hubs. This linkage boosts sales frequency and engagement, supported by an advanced, tech-enabled supply chain.

(3) Assortment Variety + Competitive Pricing + Ease of Purchase:
Academic and business insights reinforce that offline retailers like Walmart must focus on:
- Offering broad product variety,
- Maintaining competitive pricing, and
- Ensuring a frictionless purchasing experience

(4) Retail Media Network: Walmart Connect:
Walmart Connect, the company's retail media arm, transforms rich first-party shopper data into a high-margin advertising business. It delivers targeted ads across Walmart's app, site, stores, and even off-site channels like connected TV.

8.6. Human Resource Management:

(i) About Human Resources Management Analysis:

Human Resource Management (HRM) at Walmart Inc. plays a pivotal role in sustaining its global retail leadership by focusing on workforce efficiency, employee engagement, and cost optimization. The company employs over two million associates worldwide, making it one of the largest private employers, and its HR strategy emphasizes balancing low labour costs with high productivity (Ripperger, & Uhrlaub et al. (2020). [173]). Walmart integrates technology-driven HR practices, such as workforce scheduling systems and AI-based talent management, to streamline operations and reduce turnover. At the same time, initiatives like diversity and inclusion programs, employee training, and career advancement opportunities are designed to enhance employee satisfaction and retention (Sanchez & Domínguez (2008). [174]). However, the company has often faced criticism over labour practices, including wages and unionization resistance, which continue to challenge its HR reputation (Bodie et al. (2019). [175]). Overall, Walmart's HRM strategy reflects a dual approach—leveraging scale and

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technology to achieve efficiency, while gradually investing in employee well-being to support long-term organizational sustainability (Jia & Zhang, (2025). [176]).

(ii) About HR Management of Walmart Inc.:

Walmart's HR strategy plays a critical role in supporting its large-scale operations, global expansion, and cost-leadership business model. As the world's largest private employer, Walmart focuses on workforce efficiency, cost control, talent development, and diversity. The HR strategy is aligned with its mission to "save people money so they can live better" — for both customers and employees. Walmart employs over 2 million associates worldwide, with a majority in retail roles such as sales associates, cashiers, and warehouse workers. Its HR strategy ensures smooth coordination across a large and diverse workforce by implementing standardized training, centralized policies, and scalable HR systems. Walmart uses technology-driven recruitment platforms and local hiring events to attract candidates. It emphasizes internal promotion through its "Pathways" training program, which prepares hourly workers for supervisory and management roles. Walmart also offers tuition reimbursement, professional development courses, and certification programs to retain talent.

(iii) Analysis of Human Resources Management Strategy of Walmart:

The Human Resources Management (HRM) strategy of Walmart focuses on aligning its vast workforce with its cost-leadership and customer-centric business model. As one of the largest private employers globally, Walmart's HRM approach emphasizes efficiency, scalability, and employee performance. The company adopts standardized policies and training programs to ensure consistency across all locations, while also leveraging technology for recruitment, scheduling, and performance tracking. Walmart invests in employee development through internal training programs such as Walmart Academy, offering career advancement opportunities for frontline workers. Its compensation strategy balances competitive wages with cost control, and the company has gradually improved its benefits structure, including healthcare, paid leave, and education assistance. Diversity, equity, and inclusion form a key pillar of Walmart's HRM strategy, with ongoing efforts to enhance representation and inclusion at all organizational levels. Despite these efforts, Walmart has faced criticism over labour practices, especially concerning unionization resistance and wage structures. To address this, the company has increased transparency and direct employee engagement. Overall, Walmart's HRM strategy aims to maintain operational excellence, reduce turnover, and support business sustainability in a highly competitive retail environment.

9. EMERGING ISSUES & STRATEGIES :

(1) Targeting Higher-Income Consumers & Store Revamp:

Walmart is strategically expanding its appeal to more affluent shoppers. The CFO highlights how households earning over $100,000 drove 75% of the company's market share gains recently. To support this, Walmart has remodeled approximately 700 stores annually, enhancing aesthetics, merchandising, and store technologies to enrich in-store experiences.

(2) Omnichannel Engagement: Geo-Fencing, Wishlist Features & Delivery Tech:

With a $1.2 billion investment, Walmart has accelerated its omnichannel capabilities—launching technologies like geo-fencing to notify stores when customers arrive for pickups and introducing "wish lists" to streamline shopping journeys. These innovations, alongside Scan & Go and Walmart+, are enhancing customer convenience and digital loyalty.

(3) Environmental Sustainability & Operational Footprint:

Walmart faces significant environmental pressures. For example, transportation-related CO_2 emissions rose 10% in 2023, and refrigerant leaks added to their environmental burden. Walmart's Project Gigaton signals action—it sets a goal to cut greenhouse emissions across supply chains and operations.

4. Rapid Digital Transformation & ESG Alignment:

Walmart continues diversifying its business model beyond traditional retail. Significant investments in digital channels, AI-driven technologies, and supply-chain automation align with shifts in customer preferences and sustainability expectations. A recent analysis highlights the company's reliance on Walmart+, third-party marketplaces, and its goal to achieve 100% renewable power by 2035.

(5) Innovation in AI-Powered Consumer Experience:

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Walmart is pushing AI forward in search optimization and retail media. Two recent research innovations include:

(i) A hybrid semantic retrieval system combining embeddings and inverted indexing to improve product search relevance.

(ii) A human-in-the-loop, knowledge-domain enhanced ads retrieval pipeline that boosted ad revenue and relevance by up to 16%.

10. COMPARISON OF THE PERFORMANCE WITH COMPETITORS :

(1) Market Share & Retail Dominance:
Walmart, Amazon, and Costco collectively account for roughly 17% of total U.S. retail sales and a striking 57% of retail sales growth in recent quarters, highlighting their growing sector dominance at the expense of smaller retailers and supermarket chains. Walmart consistently leverages its vast scale and capital investments to strengthen its leadership position.

(2) Revenue & Profit Dynamics:
Walmart remains the world's largest company by sales, with expected revenues near $681 billion, driven by investments in e-commerce, automation, and logistics. Analysts have suggested it could become the first $1 trillion retailer.

(3) E-commerce & Digital Expansion:
While Walmart continues to rely heavily on its physical footprint (over 10,000 stores globally), it has accelerated its digital transformation through initiatives like Walmart+, third-party marketplaces, and fulfillment innovations. Nonetheless, Amazon maintains a clear lead in e-commerce infrastructure, digital reach, and profitability, especially via AWS and online advertising.

(4) Customer Satisfaction & Brand Perception:
Walmart's customer satisfaction score has climbed to 73, with Sam's Club scoring 81, closing the gap with market leader Costco at 82. These improvements reflect recent store renovations.

(5) Competitive Implications & Market Position:
The FTC's move to block the Kroger–Albertsons merger reinforces Walmart's competitive advantage. With approximately 24% grocery market share, Walmart benefits as smaller rivals fail to consolidate, further anchoring its market leadership.

11. SUGGESTIONS BASED ON THE STUDY :

Based on the comprehensive analysis presented in the article, the following strategic recommendations are proposed to ensure Walmart's futuristic super-performance, sustainable growth, and leadership in the AI-driven retail landscape:

(1) Strengthen AI Ethics and Governance:
(i) Implement an AI Ethics Board: Establish a cross-functional ethics committee to oversee AI deployment, ensure fairness, transparency, and accountability, and prevent algorithmic bias.
(ii) Adopt Continuous Ethics Auditing: Use frameworks like ethics-based auditing (as suggested by Mökander & Floridi, 2021) to monitor AI systems in real-time and maintain public trust.

(2) Accelerate Workforce Reskilling and AI Integration:
(i) Launch AI Literacy Programs: Invest in continuous learning and certification programs for employees to work alongside AI tools (e.g., AI-assisted inventory management, customer service bots).
(ii) Promote Human-AI Collaboration: Develop roles that leverage human empathy and creativity augmented by AI efficiency, especially in customer engagement and complex decision-making.

(3) Enhance Personalization Through Advanced AI:
(i) Lever Generative AI for Hyper-Personalization: Use AI to analyze customer behavior and offer tailored product recommendations, dynamic pricing, and personalized shopping experiences.
(ii) Improve Search and Retrieval Systems: Enhance neural embedding-based search systems to handle voice, visual, and contextual queries for a seamless omnichannel experience.

(4) Expand Sustainable and Green AI Initiatives:
(i) AI for Sustainability: Use AI to optimize energy consumption in stores and warehouses, reduce waste through predictive inventory management, and monitor carbon footprints across the supply chain.
(ii) Green Logistics: Deploy AI-powered route optimization for electric delivery fleets and support circular economy initiatives through better recycling and reuse tracking.

(5) Fortify Supply Chain Resilience with AI and Blockchain:

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(i) AI-Driven Predictive Supply Chain: Enhance demand forecasting, inventory management, and supplier coordination using AI and real-time data analytics.

(ii) Blockchain for Traceability: Expand the use of blockchain for end-to-end traceability—especially in fresh and organic products—to boost consumer confidence and compliance.

(6) Diversify and Monetize Data Assets Responsibly:

(i) Develop Walmart Connect Further: Scale the retail media network using first-party data to offer highly targeted advertising, creating a high-margin revenue stream.

(ii) Explore B2B Data Services: Offer anonymized insights and predictive analytics to suppliers and partners while maintaining strict data privacy standards.

(7) Foster Strategic Partnerships and Open Innovation:

(i) Collaborate with Tech Giants and Startups: Partner with firms like NVIDIA, Google, and AI startups to co-develop next-gen retail technologies (e.g., digital twins, autonomous delivery, AR shopping).

(ii) Support Regulatory Sandboxes: Engage with policymakers to shape agile and innovation-friendly regulations, especially in AI and data governance.

(8) Target High-Income and Niche Markets:

(i) Expand Premium and Local Offerings: Use AI to identify and cater to high-income shoppers with curated product lines (e.g., *Bettergoods*), local artisanal products, and exclusive services.

(ii) Leverage Store Remodels and Experiential Retail: Convert stores into experience hubs with tech-enhanced features like virtual try-ons, in-store navigation apps, and interactive displays.

(9) Enhance Global and Digital Market Presence:

(i) Accelerate International E-Commerce: Use AI to localize offerings, optimize logistics, and navigate regulatory environments in high-growth markets like India and Southeast Asia.

(ii) Boost Walmart+ Membership Value: Add AI-driven perks such as personalized subscriptions, predictive delivery slots, and integrated health/financial services.

(10) Commit to Transparent and Stakeholder-Inclusive AI:

(i) Publish AI Impact Reports: Regularly disclose AI use cases, ethics compliance, and societal impacts to build stakeholder confidence.

(ii) Engage Communities: Use AI for social good—e.g., disaster response optimization, supporting local suppliers, and enhancing accessibility for underserved communities.

Thus, Walmart is well-positioned to lead the AI-driven retail revolution. By embracing ethical AI, sustainable innovation, strategic partnerships, and inclusive growth, Walmart can not only enhance its competitive advantage but also set new industry standards for responsible and futuristic retailing. These recommendations align with the SWOT, ABCD, and PESTLE analyses presented in the paper and leverage Walmart's existing strengths while addressing its constraints and disadvantages.

12. CONCLUSIONS :

Walmart Inc. stands as a global leader in the retail industry due to its robust cost-leadership model, massive scale of operations, and commitment to providing everyday low prices. Its strategic integration of technology, strong supply chain infrastructure, and focus on operational efficiency have enabled it to remain competitive in both traditional and digital retail spaces. Walmart has shown adaptability by expanding into e-commerce, investing in sustainability, and enhancing customer convenience through omnichannel experiences. Despite facing challenges such as labour criticism, thin profit margins, and intense competition from companies like Amazon and Costco, Walmart continues to evolve by embracing innovation, improving employee engagement, and entering emerging markets. Its efforts in digital transformation, environmental responsibility, and customer-centric strategies position it well for future growth. Overall, Walmart's ability to balance scale with strategic agility ensures its continued relevance and success in a rapidly changing global marketplace.

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