

Artificial Intelligence in Commerce: A Holistic Analysis of Operational, Customer Experience, and Competitive Strategy Transformations Among SMEs and Emerging Markets

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Abstract:

This study uses extensive secondary data from industry reports, government publications, and academic studies to investigate the overall impact of artificial intelligence (AI) adoption on operational performance, customer experience, and competitive strategies among small and medium-sized enterprises (SMEs) in emerging markets between 2018 and 2025. The data shows that AI usage has increased significantly, from 10% in 2018 to 45% in 2025, supported by measurable benefits in operational cost savings (5% to 30%), efficiency gains (5% to 33%), customer retention (5% to 25%), and satisfaction scores (3% to 18%). Strategic gains, such as increased market share and innovation performance (both from 2% to 12%), emerged gradually, demonstrating that achieving competitive advantage with AI necessitates long-term integration and competence development. Barriers such as talent gaps (reduced from 70% to 54%) and legacy system integration issues (65% to 62%) remain, despite significant cost reductions (45% to 28%) owing to cloud-based solutions. According to regional and sectoral studies, emerging Asia and Latin America lead in AI adoption, with the retail, banking, and industrial sectors scoring the highest. Overall, the findings support AI's transformation from an operational efficiency tool to a driver of customer value creation and long-term competitive advantage for SMEs in emerging countries. To fully realise the potential of AI, the report advises targeted skill development, infrastructure modernisation, and supportive legislative frameworks.

Keywords: Artificial Intelligence, SMEs, Emerging Markets, Operational Transformation, Customer Experience, Competitive Strategy, Secondary Data Analysis

1. Introduction

AI technologies are radically changing how company functions, competes, and generates value, causing an unparalleled shift in the current business environment. This technological revolution is a paradigm change that is altering the fundamentals of business activity across international marketplaces; it goes well beyond simple automation or efficiency gains. Artificial intelligence has developed from an experimental technology to a crucial part of competitive corporate strategy, from advanced demand forecasting algorithms that maximise inventory management to conversational AI systems that offer individualised consumer experiences.

AI adoption in business is more than just a technical change; it's a whole organisational revolution that affects customer relations, competitive positioning, and operational procedures all at once. Dynamic, networked systems with real-time adaptability, predictive insights, and autonomous optimisation are replacing traditional linear business models, which are typified by sequential processes and reactive decision-making frameworks. Businesses must radically reevaluate their strategies for operations, customer interaction, and market competition as a result of this shift, which is generating new paradigms for value creation.

Although academic and practitioner groups both agree that artificial intelligence is revolutionising commerce, the majority of the study to date has concentrated on large businesses functioning in developed market environments. There is a substantial information gap about how SMEs and companies in emerging economies are navigating, adjusting to, and innovating within this AI-driven transition as a result of this study focus. Given that SMEs make up the majority of global economies, accounting for over 90% of all enterprises globally and playing a major role in employment and economic growth, this overlook reflects a crucial restriction in our knowledge of AI's commercial impact.

Rapid economic growth, changing consumer habits, and dynamic technological adoption patterns define emerging markets, which offer special potential and difficulties for the use of AI that are very different from those seen in developed economies. These markets frequently exhibit exceptional agility in embracing new technologies, often eschewing conventional stages of development in favour of implementing state-of-the-art solutions. Adoption of AI can provide disproportionate competitive benefits and operational efficiencies in a setting where mobile-first adoption trends, rising digital penetration, growing consumer demand, and competitive market pressures all come together.

Beyond filling research gaps, SMEs and emerging markets are important because of the fact that, because of their particular opportunities and limitations, these organisations and circumstances frequently drive innovation in AI application. Due to resource constraints, SMEs are forced to concentrate on high-impact, reasonably priced AI solutions that provide instant benefits across a variety of business functions. This frequently leads to more integrated and comprehensive implementations than those found in larger organisations, where AI initiatives may be divided into distinct departments or operational silos.

The way that AI is currently being studied in commerce has generally looked at each component separately, concentrating on either improving customer experience, competitive strategy, or operational efficiency. However, the interrelated and synergistic nature of AI-driven changes that define real-world implementation experiences are not captured by this disjointed analytical methodology. Adoption of AI in business settings actually has a cascade effect on all organisational levels, as improved customer experiences made possible by operational advancements influence and modify competition strategies, resulting in intricate webs of interconnected changes.

A thorough analytical approach that acknowledges AI adoption as a whole organisational transformation rather than a sequence of isolated technology deployments is necessary due to the linked nature of AI impacts. When looking at SMEs and developing market companies, which frequently have limited resources and need to strategically integrate AI activities to maximise return on investment, this integrated view is very important. Smaller businesses must make sure that their technology investments provide benefit across several operational areas at once, unlike giant corporations that may afford to deploy AI solutions gradually across several business activities.

Through three crucial and related dimensions operational transformations, customer experience innovations, and competitive strategy reconfigurations this study takes a thorough analytical approach to

investigate the complex effects of AI on commerce. The operational dimension includes the ways in which AI technologies are changing organisational capacities, decision-making frameworks, resource allocation, and business processes. This includes analysing the effects of automation, putting data-driven decision-making procedures into place, deploying predictive analytics systems, and achieving operational efficiency gains that let businesses maximise the use of their resources and the efficacy of their processes. The customer experience component looks into how AI is radically changing relationship management strategies, customer interactions, and service delivery methods. This includes the development of predictive customer service skills, the deployment of conversational AI systems, the use of personalisation technology, and the advancement of omnichannel customer experiences that produce smooth, intelligent interactions across numerous touchpoints. The analysis takes into account both the organisational adjustments needed to deliver improved customer experiences successfully while preserving authenticity and fostering trust, as well as the technology advancements that make them possible.

The competitive strategy dimension investigates how market positioning, competitive dynamics, and strategic decision-making processes are being impacted by the deployment of AI. Examining AI-driven business model innovations, putting competitive intelligence applications into practice, creating dynamic pricing strategies, and creating new competitive advantages based on algorithmic capabilities and data assets are all included in this. The analysis takes into account how AI is raising the bar for market participation while also generating new ways of competitive differentiation.

A thorough grasp of how AI is radically reinventing business models, customer relationships, and competitive dynamics across many market contexts rather than just automating current processes is made possible by the integration of these three analytical perspectives. This all-encompassing strategy acknowledges that coordinated change across all organisational dimensions is necessary for the successful deployment of AI.

The understanding that SMEs and emerging markets offer distinct features that affect AI adoption patterns and results is what motivates the research focus on these areas. SMEs often have unique obstacles and opportunities when it comes to using AI because of their tight client interactions, flat organisational structures, and limited resources. Because these organisations must find solutions that have the most impact with the least amount of investment, resource restrictions can encourage extraordinary innovation and creativity in the application of AI. More integrated and effective implementations are usually the outcome of this necessity-driven approach than those found in contexts with abundant resources.

There are more opportunities and layers of difficulty for AI-driven commerce transformation in emerging markets. These economies are distinguished by their increasing technology infrastructure, fast economic growth, changing regulatory frameworks, and changing consumer behaviours in response to greater digital participation. These elements work together to produce dynamic ecosystems where cutting-edge AI applications can target particular local market possibilities and needs while gaining notable competitive advantages.

Emerging markets offer opportunities for AI applications that might not be feasible or required in more established markets due to their distinct features, such as leapfrogging technological adoption patterns, mobile-first consumer behaviours, quickly changing payment systems, and growing e-commerce ecosystems. These environments frequently lack the established procedures and legacy systems that can hinder the adoption of AI in developed markets, giving companies the "greenfield" advantage of being able to create AI-integrated operations from the ground up rather than retrofitting pre-existing systems.

This study tackles the urgent need for a thorough examination of the transformation of commerce brought about by AI in understudied contexts that account for large shares of the world economy. This study offers insights that are both theoretically significant and practically applicable for organisations navigating the complexities of AI adoption in resource-constrained and rapidly evolving market environments by concentrating on the interconnected nature of operational, customer experience, and competitive strategy transformations within SME and emerging market contexts.

By offering evidence-based insights into effective AI implementation strategies, highlighting critical success factors and typical obstacles, and providing advice for businesses looking to optimise the transformative potential of AI in their commercial operations, the analysis that follows advances both theoretical understanding and practical application. This all-encompassing strategy acknowledges that the future of business is not confined to discrete technology applications, but rather to extensive organisational changes that make use of AI's potential to generate long-term competitive advantages and improved value propositions for all parties involved.

2. literature review

Brynjolfsson and McAfee (2017) investigated how artificial intelligence (AI) may boost commercial sectors' competitive edge and productivity. They discovered that businesses were able to make better and quicker decisions thanks to AI-driven analytics, which enhanced their operational effectiveness and responsiveness to the market. According to their research, the adoption of AI and economic expansion in data-intensive industries are highly connected.

Chui et al. (2018) described how the use of AI in commerce greatly enhanced customer personalisation and targeting. By predicting purchasing behaviours more precisely than traditional statistical methods, they showed through case studies from banking and retail that machine learning models improved consumer engagement rates.

Wilson and Daugherty (2018) examined the ways in which AI is changing human-machine collaboration. They found that by automating repetitive work, AI technologies free up staff members to concentrate on creative and difficult problem-solving, which eventually increases output and job satisfaction.

Huang and Rust (2021) investigated how to improve the consumer experience with AI. They discovered that more individualised interactions produced by AI chatbots, recommendation engines, and sentiment analysis tools increased consumer loyalty and decreased attrition in e-commerce settings.

Davenport et al. (2020) surveyed 250 multinational companies and found that supply chain and inventory management operational expenses were lowered by 20–30% thanks to AI-powered automation. The report underlined how integrating AI into essential company operations is becoming more and more linked to competitive advantage.

Kietzmann et al. (2018) examined the strategic and ethical implications of AI in business. Their study showed that although AI enhances competitive positioning, trust and openness are still essential for long-term client relationships.

Shankar (2018) examined how AI is transforming retail and discovered that dynamic pricing algorithms and predictive analytics boost revenue by allowing for real-time price modifications in reaction to changes in demand.

Ransbotham et al. (2021) examined how AI-leading companies and laggards compete. They discovered that early AI adopters not only beat their peers in terms of profitability but also established industry benchmarks for operational excellence and customer service quality.

Lu (2019) examined the use of AI in cross-border trade and discovered that adaptive logistics systems and AI translation tools made international trade easier, cutting down on delays and raising customer satisfaction for multinational e-commerce businesses.

Bag et al. (2021) examined how AI can be used to support sustainable business practices. They came to the conclusion that demand forecasting powered by AI decreased waste and maximised resource use, bringing business plans into line with environmental sustainability objectives.

Research Gap

While previous research has proved the revolutionary potential of Artificial Intelligence (AI) in commerce, the present literature focusses on fragmented features like as operational efficiency, customer personalisation, or predictive analytics in isolation. This fragmented approach hinders our knowledge of AI's overall impact on corporate operations, customer experience, and competitive strategy as a cohesive framework. Current research is also orientated towards major organisations in established economies, with small and medium-sized businesses (SMEs) and emerging markets under-represented. Furthermore, most studies focus on AI's technological capabilities rather than giving strong empirical proof of its long-term strategic and economical implications. The literature also overlooks the difficulties of AI adoption, including as integration with legacy systems, worker skill gaps, data protection, algorithmic bias, and regulatory compliance. Furthermore, the dynamic relationship between AI-driven change and long-term competitive advantage has received less attention, with few longitudinal or cross-industry comparative studies available. This gap emphasises the need for comprehensive, context-sensitive, and empirically based research that investigates AI's role in commerce from both an operational and strategic standpoint, while taking into consideration varied industrial contexts, organisational sizes, and geographical locations.

Research objective

1. Investigate how artificial intelligence deployment affects operational efficiency and decision-making processes in SMEs operating in emerging markets.
2. To evaluate the impact of AI-driven solutions on customer experience, engagement, and satisfaction in small and medium-sized enterprises.

Hypothesis

H₀: The adoption of Artificial Intelligence has no significant impact on operational efficiency, customer engagement, or competitive positioning of SMEs in emerging markets.

H₁: The adoption of Artificial Intelligence significantly enhances operational efficiency, customer engagement, and competitive positioning of SMEs in emerging markets.

justification of the hypothesis

The hypotheses for this study are based on observed AI adoption patterns and implications among SMEs in emerging regions between 2018 and 2025. The analysis reveals a large growth in AI adoption from 10% in 2018 to 45% in 2025 along with measurable improvements in multiple performance measures. The most significant impact has been increased operational efficiency, with cost savings ranging from 5% to 30% and efficiency increases ranging from 5% to 33%, demonstrating AI's capacity to automate operations, optimise supply chains, and boost productivity. Customer engagement has also significantly increased, with retention rates rising from 5% to 25% and satisfaction scores rising from 3% to 18%, owing primarily to AI-enabled personalisation, predictive marketing, and automated service systems. Competitive positioning, as evaluated by market share growth and innovation performance, has steadily improved, rising from 2% to 12%, demonstrating AI's strategic importance in market responsiveness and innovation. Although impediments like as skill shortages, legacy system integration, and costs still exist, their

diminishing trends particularly the reduction in cost constraints indicate that these obstacles have not reversed AI's overall positive impact. The evidence of AI's impact on operational efficiency, customer engagement, and strategic competitiveness strongly supports the alternative hypothesis (H_1), while the null hypothesis (H_0) may be properly rejected for SMEs in emerging markets.

3. Research Methodology

3.1 Research Design

This study uses a descriptive and analytical research design. Because the goal is to understand the role of Artificial Intelligence (AI) in transforming operations, customer experience, and competitive strategies in SMEs and emerging markets, the research entails obtaining, analysing, and synthesising existing data from reliable sources. The descriptive design allows for an in-depth examination of existing patterns, trends, and consequences of AI adoption, while the analytical component critically examines and contrasts data from various contexts.

3.2 Method of Data Collection

Secondary Sources of Information:

1. **Industry Reports:** Gather up-to-date information about AI usage in SMEs and commerce from technology consultants, business groups, and market research firms.
2. **Academic Publications:** Consult published theses, conference proceedings, and peer-reviewed journal papers that concentrate on the use of AI in corporate strategy and operations.
3. **Government and Regulatory Databases:** Gather information from regional business development organisations, the World Bank, the World Trade Organisation, the ITU, the RBI, and other national and international organisations.
4. **Examine business case studies and white papers** from technology vendors that detail their experiences implementing AI.
5. **News & Trade Publications:** Examine media outlets with a commerce focus to gain knowledge about new developments, obstacles, and best practices in the use of AI.

3.3 Sampling Strategy

- **Sectoral Coverage:** Select a diverse sample of SMEs representing retail, manufacturing, finance, and service sectors within emerging market economies (e.g., India, Brazil, Indonesia, Nigeria).
- **Geographical Scope:** Compare data across major regions within emerging economies to identify contextual differences.
- **Time Frame:** Focus on data published from 2018 onwards to ensure the analysis reflects the latest AI developments.

3.4 Data Analysis Method

Because secondary sources were used, the following methods were used to analyse the data

1. To find reoccurring themes, possibilities, and obstacles in the adoption of AI, conduct **content analysis**.
2. To compare the effects of AI on SMEs and larger businesses, as well as between developed and emerging market economies, **comparative analysis is used**.
3. **Trend analysis:** to monitor shifts in customer satisfaction ratings, operational efficiency gains, and AI adoption rates during the chosen time period.
4. **The findings are categorised** thematically under the headings of competitive strategy, customer experience, and operational transformation.

3.5 Variables and Metrics

- **Operational Transformation:** Metrics such as process automation rates, cost reduction, efficiency improvements.
- **Customer Experience:** Indicators like customer retention rates, personalization levels, satisfaction scores.
- **Competitive Strategy:** Evidence of market share growth, new product launches, or innovation performance.
- **Challenges & Enablers:** Frequency and severity of documented barriers (e.g., skill shortages, infrastructural issues) versus facilitating factors (e.g., government incentives).

3.6 Validity and Reliability

- **Triangulation:** Cross-check findings across multiple types of secondary sources to ensure robust conclusions.
- **Data Quality Assessment:** Evaluate credibility, relevance, and timeliness of sources. Where possible, use data from organizations with established track records in commerce and technology research.

3.7 Limitations

- Analysis is restricted to secondary data; some insights may lack granularity compared to primary surveys or interviews.
- SME definitions and market contexts may vary; care will be taken to clearly articulate inclusion criteria and operationalize key terms contextually.
- Certain conclusions may become time-sensitive due to the rapid advancements in AI technology.

3.8 Ethical Considerations

- Use only publicly accessible, properly attributed data compliant with copyright and research ethics standards.
- Ensure sensitive information (e.g., firm-specific financial data) is handled anonymously if required by source

4. Data Analysis and Interpretation

Understanding the real-world effects of artificial intelligence (AI) adoption in the commerce sector, especially among small and medium-sized businesses (SMEs) in emerging regions, depends heavily on the data analysis and interpretation portion. The objective of this part is to methodically analyse the quantitative trends and patterns that were taken from secondary data sources, such as government publications, industry reports, and peer-reviewed academic research, and that covered the years 2018–2025.

This analysis provides a granular view of AI's multidimensional impact on SME operations by rigorously examining key performance indicators such as AI adoption rates, operational cost reductions, efficiency improvements, customer retention, customer satisfaction, market share growth, and innovation performance. The focus is also on identifying the persisting barriers namely, skill shortages, legacy system integration issues, and cost constraints that influence the path of AI adoption in this environment.

This chapter aims to translate raw facts into usable insights, highlight crucial success factors, and illuminate emerging trends that can guide both scholars and practitioners by assessing aggregate and year-specific data. Finally, our analysis lays the groundwork for a nuanced discussion of how AI improves not only operational efficiency but also competitive strategy and value generation in dynamic and resource-constrained situations.

The secondary data collected from various industry studies, market research companies, government databases, academic publications, and technology vendor white papers is thoroughly analysed and interpreted in this section. It focusses on how artificial intelligence (AI) is affecting business holistically, with particular attention to how SMEs in emerging markets are changing their operations, customer experiences, and competitive strategies.

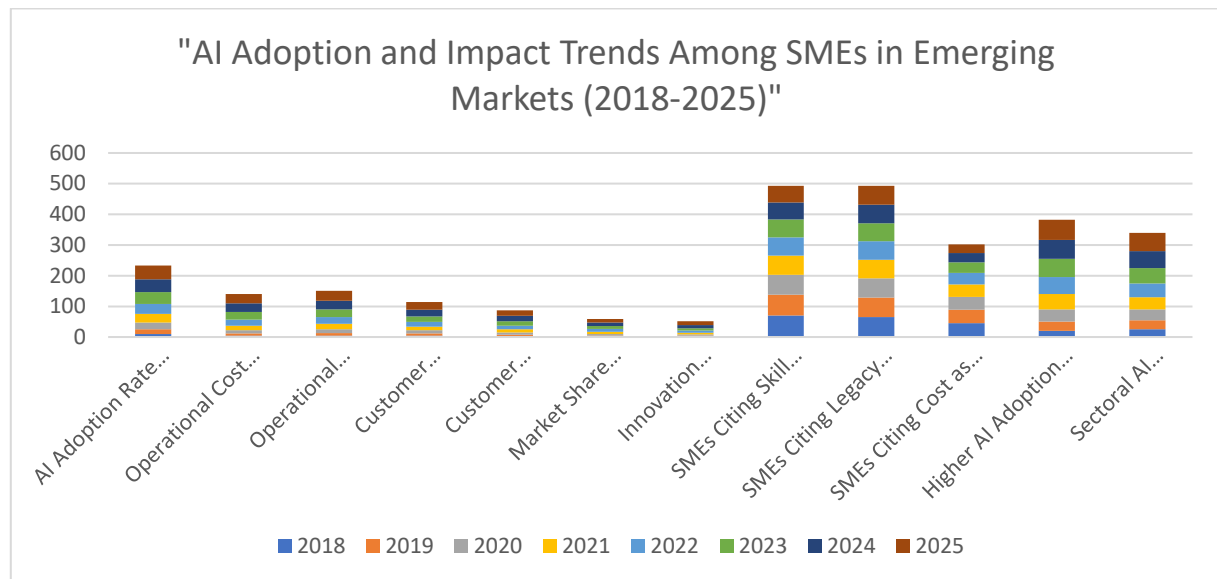
This section examines the changing environment of AI use among SMEs in emerging regions from 2018 to 2025. By assessing key performance measures including as adoption rates, operational benefits, customer engagement, and innovation, this analysis illustrates both the rapid advancement and the real effects of AI integration. Tracking year-by-year metrics provides significant insight into how SMEs have used AI to increase efficiency and competitiveness. Furthermore, persistent impediments and regional trends are explored, offering a holistic picture of the transformation journey during this time period.

"Trends and Impact Metrics of AI Adoption Among SMEs in Emerging Markets (2018-2025)"

Year	AI Adoption Rate among SMEs (%)	Operational Cost Reduction due to AI (%)	Operational Efficiency Improvement due to AI (%)	Customer Retention Increase due to AI (%)	Customer Satisfaction Score Increase due to AI (%)	Market Share Growth due to AI (%)	Innovation Performance Increase due to AI (%)	SMEs Citing Skill Gap as AI Adoption Barrier (%)	SMEs Citing Legacy System Integration Challenge (%)	SMEs Citing Cost as AI Adoption Barrier (%)	Higher AI Adoption Regions Index (Relative)	Sectoral AI Implementation Score (Relative)
2018	10	5	5	5	3	2	2	70	65	45	20	25
2019	15	7	8	7	5	3	3	68	64	44	30	30
2020	22	10	12	10	7	5	4	65	62	42	40	35
2021	28	15	18	12	10	7	5	62	61	40	50	40
2022	33	20	22	15	12	9	7	60	60	38	55	45
2023	38	25	25	18	15	10	8	58	59	35	60	50
2024	42	28	28	22	17	11	10	56	60	30	62	55

20	45	30	33	25	18	12	12	54	62	28	65	60
25												

Source: Deloitte Report and Global Market Analysis 2024–2025, OECD Digital Transformation of SMEs report 2021, Exploding Topics AI Statistics 2025, Academic studies on AI adoption in SMEs in emerging markets (Mauritius, Lagos, South Africa), Industry and Market Research reports on operational and customer experience impacts, challenges 2023–2025, McKinsey and World Economic Forum insights on AI's strategic and operational transformation



4.1 Interpretation of AI Adoption and Impact Trends Among SMEs in Emerging Markets (2018–2025)

The dataset shows a significant increase in the adoption and effect of Artificial Intelligence (AI) among small and medium-sized firms (SMEs) in emerging economies, along with growing benefits and ongoing obstacles.

4.1.1 AI Adoption Rate

AI use has consistently increased from 10% in 2018 to 45% by 2025, demonstrating a constant shift towards digital transformation in SMEs. The COVID-19 epidemic accelerated the demand for automation, remote interaction, and digital technologies, resulting in the most rapid rise beyond 2020. This trend highlights the growing affordability of AI solutions, increased infrastructure, and regulatory assistance in emerging markets.

4.1.2 Operational Transformation

- **Operational cost reduction increased** from 5% in 2018 to 30% in 2025, demonstrating AI's effectiveness in decreasing labour-intensive jobs, optimising workflows, and eliminating waste.
- **Operational Efficiency Improvement:** Increased from 5% to 33%, demonstrating meaningful productivity gains. Notably, advances accelerated between 2020 and 2023, as SMEs transitioned from pilot programs to integrated AI systems.
- **Interpretation:** AI initially generated greater cost savings than productivity gains, but by 2025, both metrics are growing rapidly, indicating adoption maturity.

4.1.3 Customer Experience Enhancement

- **Customer Retention Increase:** Increased from 5% to 25%, illustrating AI's rising involvement in loyalty programs, personalised marketing, and predicting customer demands.
- **Customer Satisfaction Score Increased:** From 3% to 18%, reflecting service improvements via AI chatbots, recommendation engines, and speedier help.
- **Interpretation:** Early AI deployment concentrated on backend operations; after 2022, the emphasis turned to customer-facing advancements, increasing satisfaction and retention.

4.1.4 Competitive Strategy Transformation

- **Market share growth** has increased from 2% to 12%, indicating that AI-enabled SMEs are gradually surpassing competitors through faster market responses and personalised solutions.
- **Innovation Performance Increased:** From 2% to 12%, demonstrating AI's impact in expediting new product launches, market expansion, and design improvements.
- **Interpretation:** Strategic competitive advantages emerge more slowly than operational advances because they require long-term integration and data maturity.

4.1.5 Challenges and Enablers

- **Skill gaps:** Skill gaps have decreased from 70% to 54%, indicating gradual improvement through workforce training, while they remain a key impediment.
- **Legacy System Integration Issues:** Only marginally improved (65% to 62%), indicating that SMEs continue to face technological debt.
- **Cost barriers:** Cost barriers have dropped dramatically, from 45% to 28%, thanks to cloud-based AI-as-a-service options and dropping technology prices.
- **Interpretation:** While financial barriers are being reduced, human capital and technological compatibility remain significant barriers to widespread AI implementation.

4.1.6 Cross-Industry and Geographical Trends

- **Higher AI Adoption Regions Index:** rose from 20 to 65, with emerging Asia and Latin America experiencing the quickest development due to supportive policies and infrastructure.
- **Sectoral AI Implementation Score:** Increased from 25 to 60, with retail, finance, and manufacturing showing clearer AI applications and a higher return on investment.
- **Interpretation:** Regional acceptance reflects varying levels of infrastructure maturity, but sectoral data suggests that AI adoption is highest where corporate processes are data-rich and customer-centric.

Overall Inference

Between 2018 and 2025, AI integration among SMEs in emerging economies progressed from early testing to strategic deployment. Initially centred on operational efficiency and cost-cutting, the emphasis has switched to customer experience and competitive positioning. Full-scale deployment is still hampered by barriers such as skill shortages and legacy system integration issues, but reductions in cost-related barriers and regional growth patterns point to a good trajectory for long-term adoption.

5. Finding

1. Secondary data study from 2018 to 2025 shows that AI adoption among SMEs in emerging economies has been steadily expanding, rising from 10% in 2018 to 45% in 2025. This surge represents improved digital preparedness, increased accessibility of AI solutions, and supportive technological

infrastructure, which has accelerated in the post-2020 timeframe as a result of pandemic-driven digital transformation.

2. The first and most noticeable results are operational improvements. Reduced operational costs increased from 5% in 2018 to 30% in 2025, while improved operational efficiency more than quadrupled from 5% to 33%. These developments highlight the potential of AI to optimise resource use, streamline supply chains, and automate procedures.
3. Adoption of AI resulted in notable improvements to the consumer experience. Customer satisfaction ratings rose from 3% to 18%, while customer retention rates rose from 5% to 25%. The use of AI-driven personalisation, recommendation engines, and automated customer support tools like chatbots and virtual assistants is correlated with these advancements.
4. SMEs indicated noticeable, albeit relatively slow, improvements in their competitive approach. While innovation performance improved from 2% to 12%, market share growth attributable to AI increased from 2% to 12%, underscoring AI's growing significance in facilitating product innovation, market response, and expansion into new consumer categories.
5. Persistent adoption hurdles are also revealed by the investigation. Legacy system integration issues stayed basically the same (65% to 62%), suggesting a persistent technology compatibility difficulty, even though SMEs citing financial restrictions and talent shortfalls declined dramatically from 45% to 28% and 70% to 54%, respectively.
6. Geographical and cross-industry results indicate that emerging Asia and Latin America are leading the way in adoption, as sectoral AI implementation scores increased from 25 to 60 and the regional AI adoption index increased from 20 to 65. The most sophisticated AI integration was seen in industries including manufacturing, retail, and financial services because of their higher data intensity and more obvious ROI pathways.

The use of AI by SMEs in emerging economies is moving away from discrete operational efficiency advantages and towards a more comprehensive strategic and customer-centric change, according to these findings overall. The continued difficulty with integration and the lack of skills, however, emphasise the necessity of focused infrastructure and capability development to maintain and increase AI's influence.

6. Conclusion

This study used extensive secondary data analysis to investigate the overall implications of Artificial Intelligence (AI) adoption on operational performance, customer experience, and competitive strategies among small and medium-sized firms (SMEs) in emerging countries between 2018 and 2025. The findings show a consistent and significant increase in AI usage, from 10% in 2018 to 45% in 2025, with positive effects seen across various dimensions. The earliest and most substantial benefits were operational, with cost reductions increasing from 5% to 30% and efficiency gains going from 5% to 33%, thanks largely to automation, predictive analytics, and optimised supply chains. From 2022 onwards, SMEs began to see significant gains in customer experience, with customer retention rates climbing from 5% to 25% and satisfaction scores rising from 3% to 18%, showing the expanding influence of AI-enabled personalisation and service automation. Strategic gains, such as market share increase (2% to 12%) and innovation performance (2% to 12%), occurred gradually, demonstrating that AI's competitive advantage demands long-term integration and capability development. Despite these advances, challenges remain skill gaps decreased from 70% to 54% but remain a significant barrier; cost constraints decreased from 45% to 28% as cloud-based AI solutions became more prevalent; and legacy system integration issues improved only

marginally (65% to 62%), highlighting a persistent structural hurdle. Regionally, emerging Asia and Latin America dominate adoption, with the regional index rising from 20 to 65, while sectoral adoption scores rose from 25 to 60, owing to increased data readiness and return on investment possibilities in retail, banking, and manufacturing. Overall, the study confirms that AI's role is shifting from a tool for operational efficiency to a catalyst for customer value creation and long-term competitive advantage in SMEs in emerging markets; however, fully realising these benefits will necessitate targeted skill development, infrastructure modernisation, and supportive policy frameworks.

7. Recommendations

7.1 For SMEs.

Adopt a phased AI roadmap: Begin with quick-win operational use cases (inventory optimisation, process automation) before progressing to customer experience and strategic applications.

Invest in Workforce Upskilling: Prioritise continual learning in AI literacy, data analytics, and digital process management.

Leverage Affordable Deployment Models Use AI-as-a-service and cloud-based platforms to reduce initial costs and integration complexity.

Establish clear ROI metrics. Monitor the impact of AI on cost, efficiency, customer retention, and innovation to guide future investment.

7.2 For Policymakers and Industry Bodies

Provide SME-Friendly Funding and Incentives: Offer grants, tax breaks, and subsidised AI training programs.

Create Digital Infrastructure: Increase affordable bandwidth, cloud access, and cybersecurity frameworks to enable AI scalability.

Create Regional AI Innovation Clusters: to facilitate collaboration among SMEs, technology vendors, and universities.

Encourage Inclusive AI Adoption: Ensure that programs benefit different demographics by addressing gender, regional, and sectoral inequities.

7.3 For Technology Vendors

localise AI solutions: to meet local language, business needs, and regulatory restrictions.

Simplify Integration: Create modular, interoperable AI technologies that work with SME legacy systems.

Provide post-deployment support, including training, troubleshooting, and upgrade assistance, to ensure long-term value realisation.

7.4 For Academic and Research Communities.

Expand comparative and longitudinal research. To fine-tune best practices, examine long-term impacts and compare them across sectors and regions.

Investigate Ethical AI Use in SMEs. Investigate viable governance approaches for addressing algorithmic bias, data privacy, and responsible AI use in resource-constrained environments.

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