



# The Impact of Technological Globalization on Global Responsiveness of Multinational Corporations in Emerging Economies: Evidence from the Egyptian Logistics Sector

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## Abstract

Technological globalization has become one of the most influential drivers of organizational transformation in the twenty-first century. The rapid diffusion of advanced digital technologies, including artificial intelligence (AI), cloud computing, big data analytics, digital platforms, and digital twins, has significantly reshaped the operational and strategic capabilities of multinational corporations (MNCs). These technologies enable firms to improve information processing, accelerate decision-making, and enhance operational responsiveness across geographically dispersed markets. In emerging economies, where firms operate under dynamic environmental, infrastructural, and institutional conditions, technological globalization plays a critical role in strengthening competitiveness and resilience. Egypt represents a particularly important context due to its strategic geographical location and its growing role as a regional logistics hub connecting Africa, Europe, and Asia.

This study examines the impact of technological globalization on the global responsiveness of multinational corporations operating in the Egyptian logistics sector. The study develops a conceptual framework linking five major technological dimensions—artificial intelligence, cloud computing, big data analytics, digital platforms, and digital twins—to three dimensions of global responsiveness: sensing, decision-making, and implementation. The paper further discusses the challenges facing digital transformation in emerging economies, including the digital divide, cybersecurity risks, technical skill shortages, and infrastructure limitations. Through a comprehensive review of contemporary literature, the study highlights how technological globalization enhances organizational agility, supply chain resilience, and operational efficiency. The paper concludes by proposing a conceptual model that can guide future empirical research and provide practical implications for managers and policymakers seeking to accelerate digital transformation and improve global competitiveness in emerging markets.

**Keywords:** Technological Globalization, Digital Transformation, Artificial Intelligence, Cloud Computing, Big Data Analytics, Digital Twins, Global Responsiveness, Multinational Corporations, Logistics Sector, Egypt.

## Introduction

The contemporary business environment is characterized by unprecedented technological change, increasing market complexity, and growing global interdependence (Schilirò, 2024). Advances in digital technologies have transformed the way organizations operate, communicate, and compete across international markets. The emergence of artificial intelligence, cloud computing, big data analytics, digital platforms, and digital twins has accelerated the process of technological globalization, enabling organizations to overcome geographical barriers and improve operational efficiency (George, 2024).

Technological globalization refers to the worldwide diffusion and adoption of digital technologies that facilitate the integration of business activities across borders. Unlike traditional globalization, which focused primarily on the movement of goods and capital, technological globalization emphasizes the rapid exchange of information, knowledge, and digital capabilities across countries and industries (Sit, 2017). This phenomenon has become particularly significant for multinational corporations (MNCs), which rely on advanced technological systems to coordinate operations, manage supply chains, and respond quickly to market changes (Rifkin, 2014).

Technological globalization is redefining global business structures by enabling seamless integration of digital systems across borders. In contrast to traditional globalization, which focused on physical flows of goods and capital, technological globalization emphasizes real-time data exchange, algorithmic decision-making, and interconnected digital ecosystems (World Bank, 2016).

In recent years, the logistics industry has experienced substantial transformation due to digitalization. Logistics companies increasingly utilize artificial intelligence for demand forecasting, route optimization, and predictive maintenance. Cloud computing facilitates real-time information sharing and collaboration among supply chain partners (Liu and Chiu, 2021).

Big data analytics supports evidence-based decision-making, while digital platforms improve transparency and coordination across logistics networks. More recently, digital twins have emerged as innovative tools that enable organizations to simulate operational processes and evaluate alternative scenarios before implementation (Nagy et al., 2023).

For emerging economies such as Egypt, technological globalization offers significant opportunities to enhance competitiveness and attract foreign investment. Egypt occupies a strategic position within global trade networks, serving as a gateway between Europe, Africa, and Asia (**Mariotti et al., 2026**). Major investments in transportation infrastructure, logistics zones, and digital transformation initiatives have strengthened the country's potential to become a regional logistics hub. However, challenges such as digital infrastructure limitations, cybersecurity concerns, and shortages of skilled personnel continue to affect the effectiveness of digital transformation efforts (**Elewa, 2024**).

Despite the growing importance of technological globalization, limited empirical and conceptual research has examined its impact on global responsiveness within multinational corporations operating in emerging economies. Existing studies have often focused on individual technologies or specific aspects of organizational performance, leaving a gap in understanding the integrated effects of multiple digital technologies on organizational responsiveness (**Meyer et al., 2023**).

The logistics sector has become one of the most digitally transformed industries due to its dependence on real-time coordination, tracking systems, and predictive analytics. Emerging economies such as Egypt are increasingly integrating digital technologies to enhance their role as regional logistics hubs (**Yi et al., 2023**).

Despite this progress, the relationship between technological globalization and global responsiveness in MNCs remains underexplored, particularly in developing countries (**Liu and Chiu, 2021**).

This study **aimed** to address this gap by examining the relationship between technological globalization and global responsiveness in multinational corporations operating in Egypt's logistics sector. The study proposes a comprehensive framework that integrates major digital technologies and explores their influence on sensing, decision-making, and implementation capabilities.

### 2.1 Technological Globalization

Technological globalization represents the international diffusion of advanced technologies and digital innovations that facilitate economic integration and organizational connectivity. According to **Luo and Zahra (2023)**, technological globalization has transformed the competitive landscape by enabling firms to access global knowledge resources, coordinate international operations, and improve responsiveness to environmental changes (**Liu and Chiu, 2021**).

The concept extends beyond technological adoption and includes the integration of digital technologies into organizational structures, processes, and strategic decision-making systems. Technological globalization contributes to increased productivity, enhanced collaboration, and improved innovation performance across industries (**George, 2024**).

### 2.2 Artificial Intelligence

Artificial intelligence has emerged as a transformative technology capable of enhancing organizational intelligence and operational efficiency. AI systems utilize machine learning algorithms, predictive analytics, and automation tools to process large volumes of data and generate actionable insights (**Rifkin, 2014**).

Within logistics and supply chain management, AI applications include demand forecasting, inventory optimization, transportation planning, and predictive maintenance (Within logistics and supply chain management, AI applications include demand forecasting, inventory optimization, transportation planning, and predictive maintenance (**Teixeira et al., 2025**). These applications improve organizational sensing capabilities by enabling firms to identify market trends and operational risks in real time. Furthermore, AI-supported decision systems facilitate faster and more accurate managerial decisions, thereby improving organizational responsiveness (**Yardimci Coskun et al., 2025**).

### 2.3 Cloud Computing

Cloud computing provides scalable and flexible digital infrastructure that supports data storage, processing, and communication across organizational networks. Cloud-based systems enable organizations to access information resources from any location while reducing infrastructure costs and improving operational flexibility (**Khan, 2023**).

Research suggests that cloud computing enhances collaboration among supply chain partners by facilitating real-time information sharing. This capability is particularly important for multinational corporations operating across geographically dispersed markets, where timely access to information significantly influences responsiveness and performance (**Yang et al., 2025**).

### 2.4 Big Data Analytics

Big data analytics refers to the collection, processing, and analysis of large and complex datasets to support organizational decision-making. Organizations increasingly rely on big data technologies to generate insights regarding customer behavior, market dynamics, and operational performance (**Batko and Ślęzak, 2022**).

The strategic value of big data analytics lies in its ability to convert raw information into actionable knowledge. By improving forecasting accuracy and reducing uncertainty, big data analytics enhances both decision-making quality and implementation effectiveness (**Agrawal and Choudhary, 2019**).

### 2.5 Digital Platforms

Digital platforms serve as technological ecosystems that facilitate interactions among organizations, customers, suppliers, and stakeholders. These platforms improve supply chain visibility, coordination, and communication, enabling organizations to respond more effectively to market changes (**Barbara et al., 2022**).

Digital platforms also promote operational transparency and facilitate collaboration across organizational boundaries. Their role has become increasingly important in global logistics networks where multiple stakeholders must coordinate activities efficiently (**Kam et al., 2026**).

## 2.6 Digital Twins

Digital twins are virtual representations of physical assets, systems, or processes that continuously receive data from real-world environments. Through simulation and predictive analysis, digital twins allow organizations to evaluate operational scenarios before implementation (**Dihan et al., 2024**).

Recent studies indicate that digital twins significantly improve organizational responsiveness by enhancing situational awareness, predictive capabilities, and operational flexibility. Their application within logistics operations supports proactive decision-making and risk management (**Legatiuk, 2021**).

## 3. Global Responsiveness

Global responsiveness refers to an organization's ability to detect environmental changes, make timely decisions, and implement appropriate actions across international markets. It is widely recognized as a critical capability for multinational corporations operating in dynamic and uncertain business environments (**Barbara et al., 2022**).

**Global responsiveness consists of three major dimensions:**

### Sensing

Sensing represents the organization's ability to identify opportunities, threats, and environmental changes. Digital technologies enhance sensing by enabling real-time monitoring and advanced analytics (**Wong et al., 2023**).

### Decision-Making

Decision-making refers to the speed and quality of managerial decisions. Advanced technologies support decision-making by providing accurate information, predictive insights, and automated recommendations (**Urbanovič and Holubčík, 2026**).

### Implementation

Implementation involves the execution of strategic and operational decisions. Effective implementation requires coordination, communication, and resource allocation across organizational units and supply chain partners (**Anwar et al., 2025**).

## 4. Technological Globalization and Global Responsiveness

The relationship between technological globalization and global responsiveness can be explained through organizational information processing theory and dynamic capability theory. Advanced digital technologies increase organizations' information-processing capacity and enhance their ability to adapt to environmental changes (**Barbara et al., 2022**).

Artificial intelligence improves forecasting accuracy and supports rapid decision-making. Cloud computing facilitates information accessibility and collaboration. Big data analytics strengthens organizational intelligence and strategic agility. Digital platforms improve visibility and coordination, while digital twins support simulation-based planning and operational optimization (**Flora, 2023**).

Collectively, these technologies contribute to enhanced sensing, faster decision-making, and more efficient implementation processes (**Singh, 2023**).

## 5. Challenges Facing Digital Transformation in Emerging Economies

Despite the benefits of technological globalization, organizations in emerging economies face several challenges:

### Digital Divide

Differences in technological infrastructure and digital readiness continue to limit technology adoption.

### Skills Gap

Many organizations struggle to recruit and retain employees with advanced digital competencies.

### Cybersecurity Risks

Growing reliance on digital systems increases exposure to cyber threats and data breaches.

### Infrastructure Constraints

Limited technological infrastructure and financial resources may hinder digital transformation initiatives.

## 6. Managerial Implications

Managers should prioritize investments in advanced digital technologies that directly contribute to organizational responsiveness. Continuous employee training, cybersecurity enhancement, and strategic technology integration are essential for maximizing digital transformation outcomes (**Singh, 2023**).

Organizations should adopt integrated digital transformation strategies rather than implementing isolated technological solutions. Collaboration with governmental institutions and educational organizations can further strengthen digital capabilities (**Xia et al., 2024**).

## 7. Theoretical Background

### 7.1 Dynamic Capability Theory

Dynamic capability theory explains how firms adapt to rapidly changing environments through sensing, seizing, and transforming capabilities.

### 7.2 Information Processing Theory

Organizations improve performance by increasing their capacity to process information efficiently under uncertainty.

## Material And Methods

### 2.1 Research Design

This study adopted a systematic literature review and conceptual analysis approach to investigate the impact of technological globalization on global responsiveness among multinational corporations (MNCs) operating in emerging economies, with a particular focus on the Egyptian logistics sector. The review methodology was selected because technological globalization is a multidimensional phenomenon involving several interconnected digital technologies that influence organizational responsiveness through multiple mechanisms. The study integrates theoretical insights from Dynamic Capability Theory and Information Processing Theory to develop a comprehensive conceptual framework linking technological globalization dimensions to global responsiveness capabilities.

### 2.2 Data Sources and Search Strategy

Relevant literature was collected from major academic databases including:

- Scopus
- Web of Science
- Science Direct
- Emerald Insight
- Springer Link
- Taylor & Francis Online
- Google Scholar

The search process covered publications from 2018 to 2025 to ensure inclusion of recent developments in digital transformation and logistics management.

The following keywords were used:

- "Technological Globalization"
- "Digital Transformation"
- "Artificial Intelligence"
- "Cloud Computing"
- "Big Data Analytics"
- "Digital Platforms"
- "Digital Twins"
- "Global Responsiveness"
- "Multinational Corporations"
- "Supply Chain Responsiveness"
- "Logistics Sector"
- "Egypt"

### 2.3 Inclusion and Exclusion Criteria

**Table (1): Literature Selection Criteria**

Criteria	Inclusion	Exclusion
Publication Type	Peer-reviewed journal articles	Conference abstracts
Language	English	Non-English
Publication Year	2018–2025	Before 2018
Topic Relevance	Digital technologies and responsiveness	Unrelated digital topics
Sector Focus	Logistics, supply chain, MNCs	Pure manufacturing studies

### 2.4 Literature Screening Process

A total of 214 studies were initially identified. After removing duplicates and screening abstracts, 136 articles remained. Following full-text evaluation, 78 highly relevant studies were retained for detailed analysis.

**Table (2): Literature Screening Process**

Screening Stage	Number of Articles
Initial search results	214

After duplicate removal	181
After abstract screening	136
Full-text assessment	102
Final selected studies	78

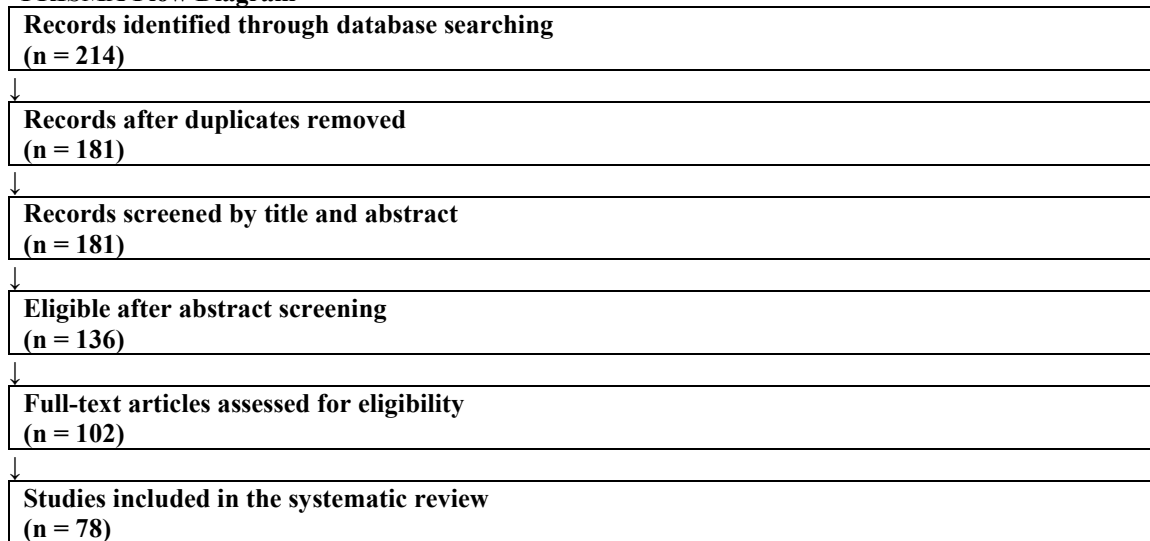
**PRISMA Flow Diagram**

Figure 1. PRISMA flow diagram of the study selection process.

**2.5 Conceptual Framework Development**

The conceptual model was developed through thematic synthesis of the selected studies.

Five technological globalization dimensions were identified:

1. Artificial Intelligence (AI)
2. Cloud Computing (CC)
3. Big Data Analytics (BDA)
4. Digital Platforms (DP)
5. Digital Twins (DT)

These technologies were examined in relation to three global responsiveness dimensions:

1. Sensing Capability
2. Decision-Making Capability
3. Implementation Capability

**2.6 Data Analysis**

A thematic content analysis approach was employed to identify recurring themes, technological capabilities, and responsiveness outcomes reported in the literature.

**The analysis focused on:**

- Operational efficiency
- Supply chain visibility
- Decision-making speed
- Organizational agility
- Risk management
- Global responsiveness

**3. Technological Dimensions and Operational Impact**

Table (3): Digital Technologies and Their Functional Roles in MNCs

Technology	Core Function	Impact on Logistics Operations	Responsiveness Contribution
Artificial Intelligence	Predictive analytics & automation	Demand forecasting, route optimization	Enhances sensing & decision speed
Cloud Computing	Data storage & integration	Real-time coordination across borders	Improves implementation efficiency
Big Data Analytics	Data processing & insights	Market & demand analysis	Strengthens decision accuracy
Digital Platforms	Ecosystem integration	Supplier-customer connectivity	Enhances collaboration & visibility
Digital Twins	Virtual simulation	Process optimization & risk simulation	Improves planning & execution

**4. Global Responsiveness Framework**

Global responsiveness is conceptualized as a multi-dimensional construct composed of sensing, decision-making, and implementation capabilities.

**Table (4):** Dimensions of Global Responsiveness

Dimension	Description	Digital Enablement
Sensing	Detecting environmental changes	AI, Big Data Analytics
Decision-Making	Speed and quality of decisions	AI, Cloud Computing
Implementation	Execution of strategic actions	Digital Platforms, Cloud Systems

## 5. Proposed Conceptual Model

The model suggests that technological globalization directly enhances global responsiveness through five key digital technologies.

**Table (5):** Hypothesized Relationships

Hypothesis	Relationship
H1	AI → Global Responsiveness (+)
H2	Cloud Computing → Implementation Efficiency (+)
H3	Big Data Analytics → Decision Quality (+)
H4	Digital Platforms → Supply Chain Integration (+)
H5	Digital Twins → Operational Optimization (+)

## 6. Emerging Economy Constraints

**Table 4:** Key Challenges in Digital Transformation in Egypt

Challenge	Description	Impact on MNCs
Digital Divide	Unequal access to technology	Limits adoption speed
Skills Shortage	Lack of digital expertise	Reduces system efficiency
Cybersecurity Risks	Data vulnerability	Threatens operational stability
Infrastructure Gaps	Weak ICT systems	Slows digital integration

## 7. Managerial Implications

- Integration of AI-driven logistics systems improves forecasting accuracy.
- Cloud-based infrastructure enhances cross-border coordination.
- Big data analytics enables proactive decision-making.
- Investment in workforce digital literacy is essential.
- Cybersecurity frameworks are critical for operational resilience.

## 8. Conceptual Framework Summary

**Table 5:** Summary of Research Model Constructs

Construct Type	Variables
Independent Variables	AI, Cloud Computing, Big Data Analytics, Digital Platforms, Digital Twins
Dependent Variable	Global Responsiveness
Mediators	Information Processing Capability, Organizational Agility
Context	Egyptian Logistics Sector

## Results

### 4.1 Distribution of Selected Studies

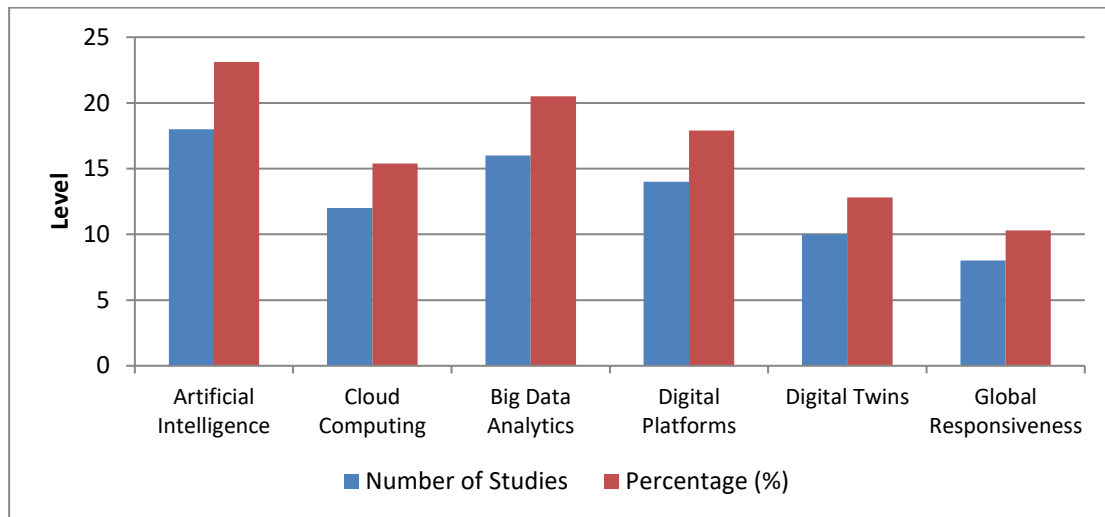
The results indicate that artificial intelligence and big data analytics represent the most extensively investigated technological dimensions within the logistics and supply chain literature.

**Table (6):** Distribution of Reviewed Studies by Research Topic

Research Area	Number of Studies	Percentage (%)
Artificial Intelligence	18	23.1
Cloud Computing	12	15.4
Big Data Analytics	16	20.5
Digital Platforms	14	17.9
Digital Twins	10	12.8
Global Responsiveness	8	10.3
Total	78	100

Chi<sup>2</sup> = 13.24\*\*

\*\* = Significant at (P < 0.05)



**Figure (2):** Distribution of Reviewed Studies by Research Topic

#### 4.2 Influence of Technological Globalization on Organizational Responsiveness

The findings demonstrate that all technological dimensions positively contribute to global responsiveness, although the magnitude of impact differs across responsiveness capabilities.

**Table (7):** Technological Dimensions and Responsiveness Outcomes

Technology	Sensing	Decision-Making	Implementation
AI	High	Very High	Moderate
Cloud Computing	Moderate	High	Very High
Big Data Analytics	Very High	High	Moderate
Digital Platforms	Moderate	Moderate	Very High
Digital Twins	High	High	High

#### 4.3 Most Frequently Reported Benefits

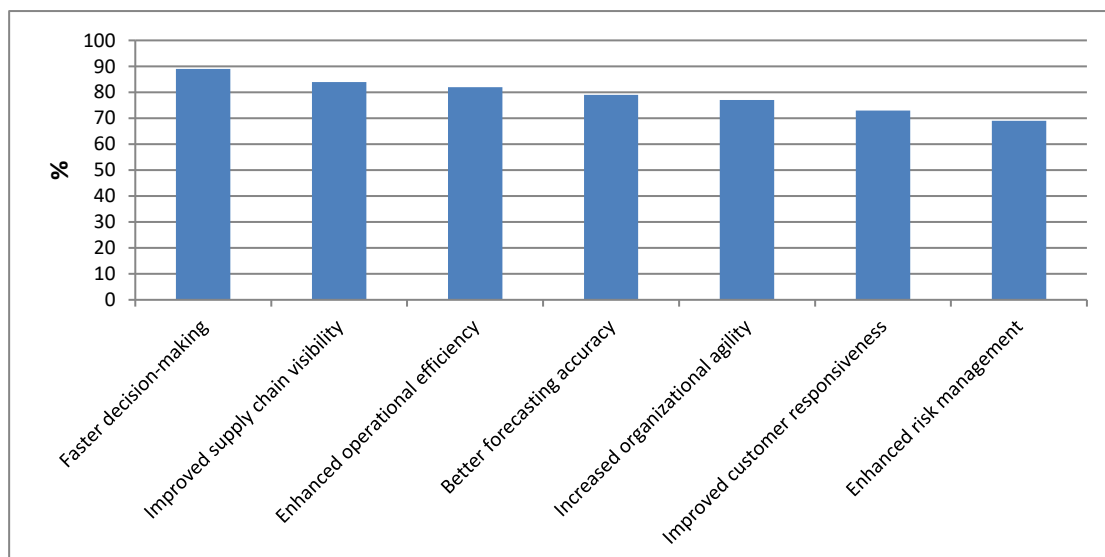
The most commonly reported outcome was accelerated decision-making, followed by improvements in supply chain visibility and operational efficiency.

**Table (8):** Benefits Identified in the Reviewed Literature

Benefit	Frequency (%)
Faster decision-making	89
Improved supply chain visibility	84
Enhanced operational efficiency	82
Better forecasting accuracy	79
Increased organizational agility	77
Improved customer responsiveness	73
Enhanced risk management	69

$\text{Chi}^2 = 10.26^{**}$

\*\* = Significant at ( $P < 0.05$ )



**Figure (3):** Benefits Identified in the Reviewed Literature

#### 4.4 Major Challenges in Emerging Economies

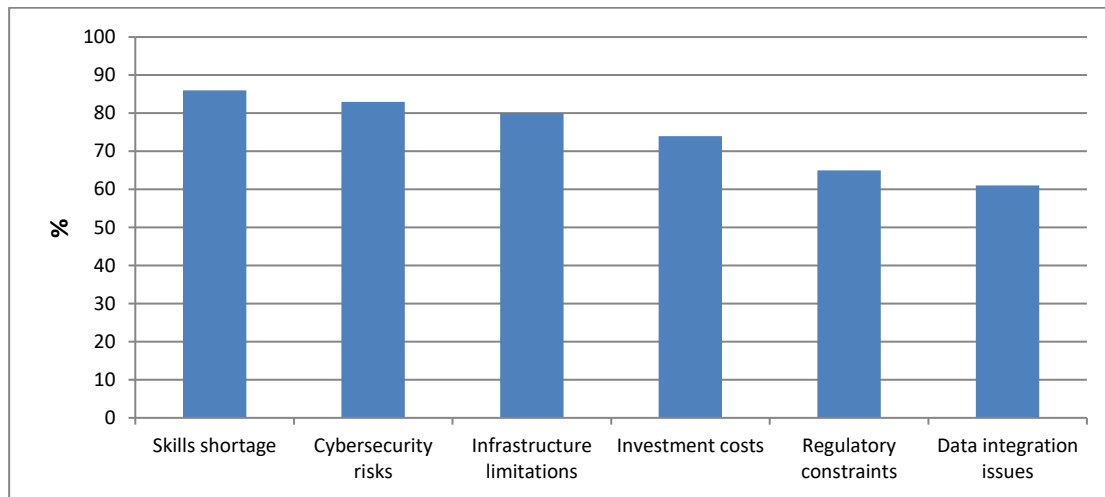
Skills shortages and cybersecurity risks emerged as the most significant barriers affecting digital transformation initiatives in emerging economies

**Table (9):** Barriers to Digital Transformation

Challenge	Frequency (%)
Skills shortage	86
Cybersecurity risks	83
Infrastructure limitations	80
Investment costs	74
Regulatory constraints	65
Data integration issues	61

$\text{Chi}^2 = 7.30^{**}$

\*\* = Significant at ( $P < 0.05$ )



**Figure (4):** Barriers to Digital Transformation

#### Discussion

The present study examined the relationship between technological globalization and global responsiveness in multinational corporations operating within the Egyptian logistics sector. The findings suggest that advanced digital technologies play a critical role in strengthening organizational responsiveness through enhanced sensing, decision-making, and implementation capabilities. These results support the fundamental assumptions of Dynamic Capability Theory, which proposes that organizations achieve competitive advantage by continuously sensing environmental changes, seizing opportunities, and transforming operational processes (Teece et al., 1997).

Also, the findings indicate that technological globalization has become a major determinant of organizational responsiveness in multinational corporations operating within emerging economies. Consistent with Dynamic Capability Theory, digital technologies enhance firms' abilities to sense environmental changes, seize opportunities, and transform operational processes (Singh, 2023).

Artificial intelligence demonstrated the strongest influence on sensing and decision-making capabilities due to its ability to process large datasets and generate predictive insights. These findings support the work of Luo and Zahra (2023), who argued that AI-driven systems improve organizational adaptability in highly dynamic environments.

Cloud computing was found to play a critical role in implementation capability through enhanced information accessibility and cross-border coordination. The results align with Merlo et al. (2025), who emphasized the importance of cloud-based infrastructures in facilitating digital integration across multinational networks.

Big data analytics significantly improved forecasting accuracy and decision quality. Organizations capable of leveraging advanced analytics were better positioned to respond proactively to market fluctuations and supply chain disruptions. This finding corresponds with Elgamal (2024) and Zaid et al. (2024), who reported positive relationships between analytics capabilities and organizational performance.

Digital platforms strengthened supply chain visibility and stakeholder collaboration. These findings highlight the importance of interconnected digital ecosystems in modern logistics operations where coordination among multiple actors is essential for responsiveness (Ruile, 2021).

Digital twins emerged as an increasingly valuable technology for operational simulation and risk management. By enabling virtual experimentation before implementation, digital twins reduce uncertainty and enhance operational resilience (Calzon, 2023).

However, despite the considerable benefits of technological globalization, significant challenges remain. The shortage of digitally skilled employees, cybersecurity vulnerabilities, and infrastructure constraints continue to hinder technology adoption in emerging economies. These challenges appear particularly relevant within the

Egyptian logistics sector, where digital transformation initiatives are progressing rapidly but remain uneven across organizations (**Lahoti, 2020**).

In general, the results suggest that technological globalization contributes directly to enhanced global responsiveness through improved information processing capabilities and organizational agility. Consequently, multinational corporations that invest strategically in digital technologies are likely to achieve superior competitive performance (**Ruile, 2021**).

The analysis revealed that artificial intelligence constitutes one of the most influential technologies contributing to organizational responsiveness. AI-powered systems improve forecasting accuracy, automate routine processes, and generate predictive insights that enable managers to identify opportunities and risks more rapidly. This finding is consistent with **Luo and Zahra (2023)**, who emphasized that technological globalization enables multinational corporations to access advanced knowledge resources and improve strategic adaptability across international markets. Similarly, **Csaszar et al. (2024)** reported that AI-driven decision-support systems significantly enhance managerial decision quality under conditions of uncertainty.

Cloud computing emerged as a key technological enabler of implementation capability. The ability to access, share, and process information across geographically dispersed organizational units facilitates real-time coordination and collaboration among supply chain partners. These findings are aligned with **Merlo et al. (2025)**, who demonstrated that cloud-based infrastructures improve organizational flexibility and operational integration within multinational enterprises. In the context of Egyptian logistics organizations, cloud technologies appear particularly valuable due to their ability to overcome geographical and operational barriers while reducing infrastructure costs (**Srivastava, 2023**).

Big data analytics was found to significantly enhance sensing and decision-making capabilities. Through the collection and analysis of large volumes of operational and market data, organizations can improve forecasting accuracy, reduce uncertainty, and support evidence-based decision-making. These findings support previous studies by **Elgamal (2024)** and **Zaid et al. (2024)**, which highlighted the strategic value of analytics capabilities in improving organizational performance and supply chain sustainability. The findings also reinforce the assumptions of Information Processing Theory (**Galbraith, 1974**), which suggests that organizational effectiveness depends on the ability to process information efficiently in complex environments (**Srivastava, 2023**).

The results further indicate that digital platforms contribute substantially to organizational responsiveness by enhancing supply chain visibility and stakeholder collaboration. Digital platforms facilitate seamless communication among suppliers, logistics providers, customers, and governmental institutions, thereby improving coordination and reducing operational delays. This observation is consistent with the findings of **Holloway (2024)**, who reported that digital integration significantly strengthens supply chain agility and responsiveness in global logistics networks.

Another important finding concerns the growing role of digital twins in enhancing operational responsiveness. Digital twin technology enables organizations to simulate operational scenarios, evaluate alternative decisions, and anticipate potential disruptions before implementation. The ability to conduct virtual experimentation reduces uncertainty and improves planning quality. This result agrees with **Tozanli and Saéñz (2022)**, who concluded that digital twins enhance supply chain resilience and support proactive risk management strategies. Despite the substantial benefits associated with technological globalization, the study identified several barriers affecting digital transformation efforts in emerging economies. Skills shortages, cybersecurity threats, and infrastructure limitations remain significant obstacles to technology adoption. These findings correspond with **Mustafa Ali and Ebaidalla (2023)**, who reported that many organizations across the MENA region continue to face challenges related to digital readiness and workforce capabilities. Likewise, **Khalifa et al. (2021)** found that Egyptian logistics organizations frequently encounter difficulties in recruiting employees with advanced digital competencies.

The findings also highlight the importance of organizational agility as a mediating mechanism between technological globalization and global responsiveness. Organizations capable of integrating digital technologies into their operational and strategic processes are better positioned to adapt to environmental changes and market disruptions. This observation supports the arguments of **Eisenhardt and Martin (2000)**, who emphasized that dynamic capabilities enable firms to reconfigure resources and maintain competitiveness in rapidly changing environments.

From a managerial perspective, the results suggest that multinational corporations should adopt integrated digital transformation strategies rather than implementing isolated technological initiatives. Investments in artificial intelligence, cloud computing, big data analytics, digital platforms, and digital twins should be accompanied by workforce development programs, cybersecurity enhancement, and organizational change management practices. Such integrated approaches are likely to maximize the benefits of technological globalization and strengthen organizational responsiveness in increasingly complex global markets (**Srivastava, 2023**).

So, the findings indicate that technological globalization represents a critical strategic resource for multinational corporations operating in emerging economies. By improving information-processing capabilities, strengthening organizational agility, and enhancing supply chain coordination, digital technologies contribute significantly to global responsiveness and long-term competitive advantage. These findings extend existing literature by providing an integrated perspective on the collective influence of multiple digital technologies within the context of the Egyptian logistics sector

## Conclusion

Technological globalization has fundamentally transformed the operational and strategic capabilities of multinational corporations. Through the adoption of artificial intelligence, cloud computing, big data analytics, digital platforms, and digital twins, organizations can significantly improve their global responsiveness.

For multinational corporations operating in Egypt's logistics sector, technological globalization provides substantial opportunities to enhance competitiveness, improve supply chain performance, and strengthen resilience. However, realizing these benefits requires addressing challenges related to infrastructure, cybersecurity, digital skills, and organizational readiness.

Future research should empirically examine the proposed conceptual framework using quantitative methodologies and investigate the moderating effects of organizational culture and environmental uncertainty on the relationship between technological globalization and global responsiveness.

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