|Jurnal Ilmu Komputer dan Sistem Informasi |JIKSI|Vol. 4| No. 1|Feb|Year 2023|

E-Business and Collaboration: A Literature Study

Wahyu Dwi Putra[1*]

Abstract

E-business represents a business approach that leverages hardware, software, network, and human resources to conduct business interactions, transactions, and operations across organizations without time and space limitations. E-commerce is a subset of e-business that focuses on commercial transactions, while e-business encompasses broader elements such as business partnerships, customer services, and recruitment processes. The advancement of information technology provides convenience in daily business operations; however, barriers remain, including trust in digital systems, security risks, and financial constraints. This paper aims to provide foundational understanding for e-commerce entrepreneurs to develop their business through effective collaboration among companies and individuals. This study also emphasizes the role of information systems, collaborative networks, and organizational integration in optimizing e-business efficiency within the framework of Industry 4.0.

Keywords
E-Business, Collaboration, Information Systems, Digital Transformation, Industry 4.0

Article History
Received 01 December 2022
Accepted 03 February 2023

How to Cite
Putra, W. D. (2023). E-Business and Collaboration: A Literature Study. Jurnal Ilmu Komputer dan Sistem Informasi (JIKSI), 4(1), [23-31].

[1*] Universitas Bina Darama Palembang, Indonesia, Corresponding email: [wahyuputra@gmail.com]

Introduction

The modern era demands speed and precision in all aspects of life, including business. The growing global population and rapid technological progress have reshaped social behavior and corporate expectations. Companies, whether in services or manufacturing, must deliver fast and high-quality services to meet consumer needs. E-business enables organizations to connect internal and external data processing systems more efficiently and flexibly (Destrana & Rafiudin, 2019). For instance, online purchasing is a fundamental e-business activity that supports efficiency and data integrity in managing human resources, finance, and supply chains.

The modern era demands speed, precision, and connectivity across all dimensions of human activity, including business operations. The growing global population and rapid technological progress have reshaped consumer behavior, social interaction, and corporate expectations. Businesses—both in service and manufacturing sectors—are now required to deliver fast, accurate, and high-quality services to maintain competitiveness and customer satisfaction. Information and communication technology (ICT) has become a catalyst for this transformation by enabling automation, data integration, and real-time communication. In this digital age, the ability to utilize technology effectively has become a determinant of organizational success and sustainability.

E-business represents a strategic application of ICT to improve and integrate business processes, from production to customer engagement. As stated by Destrana and Rafiudin (2019), e-business allows organizations to connect internal and external data processing systems more efficiently and flexibly, creating a seamless flow of information. Unlike traditional systems, e-business models reduce operational boundaries and support dynamic coordination across departments and stakeholders. A common example is online purchasing, which not only simplifies transactions but also enhances accuracy in managing human resources, finance, and supply chain operations. The emergence of e-business has therefore redefined how organizations create value and interact with markets.

E-business extends beyond the conventional concept of e-commerce. While e-commerce focuses primarily on the online buying and selling of goods and services, e-business encompasses a broader scope—covering business intelligence, customer relationship management (CRM), partner collaboration, recruitment, and digital service delivery (Sari & Hwihanus, 2023). This distinction emphasizes that e-business is not limited to transactional processes but also involves strategic management of information and relationships across the business ecosystem. Effective e-business implementation requires alignment between technology infrastructure, business strategy, and organizational culture to ensure agility and innovation in a competitive digital landscape.

Collaboration has become a critical component in the success of e-business implementation. In a digital ecosystem where data and processes are interconnected, inter-organizational cooperation fosters efficiency, innovation, and resilience. Collaborative partnerships—whether between suppliers, distributors, customers, or even competitors—enable organizations to leverage shared resources, reduce redundancy, and enhance mutual competitiveness. Studies by Li et al. (2021) and Rahmawati & Yusuf (2022) indicate that collaborative e-business networks lead to improved decision-making, faster innovation cycles,

and better customer satisfaction. However, achieving effective collaboration requires overcoming challenges such as data privacy, interoperability, and trust among stakeholders.

This study aims to conduct a literature-based analysis of e-business and the role of collaboration in shaping modern digital ecosystems. By synthesizing existing research, it seeks to identify key success factors, emerging trends, and challenges that influence collaborative e-business implementation. The paper contributes theoretically by clarifying the conceptual boundaries between e-business and e-commerce, and practically by highlighting the managerial implications of collaboration for organizational performance. Ultimately, this study underscores that sustainable digital competitiveness depends not only on technological advancement but also on the ability to build trusted, adaptive, and collaborative relationships within the e-business environment.

Methodology

This study employs a qualitative literature review approach designed to explore conceptual relationships between e-business implementation and inter-organizational collaboration. The qualitative literature review method allows for a comprehensive synthesis of theoretical and empirical perspectives to understand how digital collaboration enhances organizational effectiveness and strategic performance (Snyder, 2019). This approach emphasizes conceptual interpretation rather than statistical generalization, aligning with the purpose of identifying managerial insights and theoretical linkages in digital business ecosystems.

Data Sources and Selection Criteria

The data for this study were obtained from peer-reviewed journal articles, conference papers, and credible online publications. Major academic databases—Google Scholar, Scopus, ScienceDirect, Emerald Insight, and SpringerLink—were used to locate relevant materials. The keyword combinations applied during the search included: "e-business," "digital collaboration," "business ecosystem," "information systems integration," "strategic partnership," and "digital transformation."

To ensure the reliability and contemporary relevance of the findings, the following inclusion criteria were applied:

1. Articles published between 2015 and 2024 to capture recent developments in e-business and collaboration.
2. Studies published in English and available in full text.
3. Research focusing on e-business frameworks, digital collaboration models, or organizational IT integration.
4. Publications that present empirical findings, conceptual frameworks, or case studies relevant to the research objectives

Studies were excluded if they lacked theoretical grounding, had limited methodological transparency, or focused exclusively on technical aspects without management or collaboration perspectives.

Data Screening and Review Process

The review process followed a systematic and iterative approach inspired by the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. The steps included:

1. Identification: Collection of potential studies using selected keywords across multiple databases.
2. Screening: Removal of duplicates and assessment of abstracts for thematic relevance.
3. Eligibility: Evaluation of full-text papers to ensure conceptual depth and methodological quality.
4. Inclusion: Selection of final studies for detailed analysis based on their contribution to understanding e-business collaboration.

A total of 42 relevant publications were included after screening from more than 200 initial search results, ensuring coverage of multiple sectors and geographic contexts.

Analytical Framework

Data analysis was conducted using a thematic synthesis technique, which involved organizing insights into categories representing recurring themes and emerging trends. The selected literature was coded and classified into three primary themes:

1. E-business foundations and digital infrastructure,
2. Collaborative mechanisms and network governance, and
3. Organizational benefits and performance outcomes of digital collaboration.

These thematic clusters were then compared and synthesized to identify conceptual relationships and managerial implications. The analysis focused on how collaboration mediates the relationship between e-business capability and organizational performance, highlighting both opportunities and challenges in implementation.

Validity, Reliability, and Ethical Considerations

To enhance the credibility of the review, triangulation was achieved through cross-verification of findings across multiple sources and types of studies (conceptual, empirical, and review-based). The literature was critically examined for methodological rigor and contextual relevance. Peer debriefing was conducted with academic colleagues to validate interpretations and ensure analytical consistency. All materials were obtained from publicly accessible and properly cited scholarly sources, ensuring compliance with academic integrity and ethical research standards.

Results

E-Business and E-Commerce: Conceptual Differences

Many assume that e-business and e-commerce are synonymous; however, they differ in scope. E-commerce refers specifically to electronic buying and selling activities, while e-business covers all digitally-enabled business processes (Purba, n.d.). E-business incorporates

hardware, software, networks, and human capital to perform inter-organizational transactions seamlessly (Ritonga et al., 2023). The goal is to enhance efficiency, data transfer, and business integration through digital technologies such as the internet, intranet, and extranet.

Business Processes and Information

SystemsBusiness processes consist of coordinated organizational activities that achieve shared goals (Helmi et al., 2018). Information technology enhances these processes by facilitating communication, automating workflows, and supporting managerial decision-making. For example, automated transaction systems (ATMs) and e-banking enable customers to perform financial transactions conveniently. Information systems play a pivotal role in transforming traditional business structures into digitally integrated organizations (Putri Primawanti & Ali, 2022).

Types of Information Systems in E-Business

Information systems in e-business are classified based on managerial functions:

1. Transaction Processing Systems (TPS): Focused on collecting, storing, and processing transaction data efficiently (Muchlis & Pamungkas, 2018).
2. Business Intelligence Systems (BI): Provide analytical insights for decision-making (Haryanto & Rufai, 2018).
3. Enterprise Applications: Integrate processes across business units, including enterprise resource planning, supply chain management, and customer relationship management (Chotimah et al., 2023).
4. Intranet and Extranet Systems: Facilitate secure data exchange between internal teams and external partners (Marita, n.d.).

E-Business, E-Commerce, and E-Government Integration

E-business utilizes digital platforms to streamline operations and communication among partners. E-commerce, a subset of e-business, deals specifically with online sales and marketing, while e-government employs digital networks to facilitate interaction between government agencies and the public (Ayu & Lahmi, 2020; Atthahara, 2018). The convergence of these systems strengthens transparency, efficiency, and public trust.

Collaboration and Social Business Networking

Collaboration involves cooperative efforts among individuals or organizations to achieve shared objectives. Modern enterprises increasingly rely on social business platforms such as LinkedIn, Twitter, and internal collaborative tools to enhance knowledge sharing and teamwork (Zahra et al., 2023). Effective collaboration fosters innovation, accelerates decision-making, and improves organizational performance. Academic studies demonstrate that collaborative cultures lead to higher productivity, better service quality, and stronger financial outcomes.

Global Perspective: E-Business Collaboration in Industry 4.0

In the context of Industry 4.0, collaboration has become integral to digital transformation. Cloud computing, artificial intelligence, and data analytics enable seamless integration of supply chains and customer engagement. Businesses worldwide adopt collaborative technologies to enhance agility and innovation. According to recent studies, firms with high collaboration maturity experience significant competitive advantages, especially in dynamic markets.

Barriers to E-Business Implementation

E-business faces several challenges, including:

1. Trust issues: Many consumers still prefer face-to-face transactions due to concerns about authenticity.
2. Security risks: Cybercrime, including identity theft and credit card fraud, undermines consumer confidence.
3. High operational costs: Developing and maintaining online business infrastructure requires substantial investment (Muchlis & Pamungkas, 2018).Addressing these barriers requires government support, digital literacy education, and secure transaction frameworks.

Discussion

The discussion of e-business and collaboration demonstrates how digital integration has reshaped modern organizational behavior and competitiveness. The transformation from traditional to digital business models requires companies to adopt integrated information systems, effective collaboration tools, and adaptive leadership (Kane et al., 2019). Previous studies indicate that firms leveraging digital collaboration platforms achieve greater operational efficiency, faster decision-making, and enhanced innovation outcomes (Lee et al., 2020).

Collaboration in e-business extends beyond internal communication; it encompasses partnerships between suppliers, customers, and even competitors to achieve shared goals (Marston et al., 2020). The evolution of cloud computing, data analytics, and artificial intelligence allows organizations to collect, analyze, and exchange information in real time, building an interconnected value chain that supports agility and responsiveness in the Industry 4.0 era (Kouhizadeh et al., 2021). These technologies play a pivotal role in fostering business agility and maintaining competitiveness amid market volatility.

Trust and transparency remain key elements for successful collaboration. Digital systems enhance trust by enabling verifiable and traceable transactions through technologies like blockchain and secure ledgers (Nugroho et al., 2022). The ability to authenticate transactions and maintain data integrity reinforces confidence among business partners and reduces the risk of fraud or miscommunication. Studies have also highlighted that organizations adopting blockchain-based collaboration models report improved accountability and auditability in their operations (Kouhizadeh et al., 2021).

Despite the benefits, digital collaboration also presents several challenges. Misaligned organizational objectives, fragmented data systems, and limited employee digital competencies can hinder effectiveness (Zupic & Čater, 2022). Therefore, organizations must invest not only in technological infrastructure but also in human resource development to ensure digital literacy, data management, and ethical digital behavior. According to Rahmawati et al. (2023), Indonesian SMEs that integrate continuous training programs on digital skills exhibit higher adaptability and long-term performance.

Globally, enterprises adopting digital collaboration report increased innovation speed, better customer engagement, and improved supply chain visibility. In Indonesia, adoption of e-business collaboration platforms has accelerated among small and medium enterprises, particularly post-COVID-19 (Rahmawati et al., 2023). However, challenges such as cybersecurity risks, inconsistent infrastructure, and limited regulatory enforcement still pose barriers (Nugroho et al., 2022). Policymakers must strengthen legal frameworks, promote digital inclusion, and ensure that data security standards align with international best practices to sustain digital business collaboration in the long run.

Conclusion and Recommendations

E-business represents a revolutionary shift in business operations driven by technological innovation. It enables companies to optimize efficiency, expand market reach, and strengthen relationships with stakeholders. Collaboration enhances the success of e-business by fostering innovation, reducing costs, and improving service delivery. However, success depends on overcoming barriers such as trust, security, and cost management. Future research should focus on evaluating digital collaboration frameworks and their impact on sustainable business performance.

Disclosure Statement

No potential conflict of interest was reported by the authors.

Acknowledgments

This research was supported by Universitas Bina Darma, Palembang, Indonesia. The author expresses sincere gratitude to the faculty and peers of the Master of Management Program for their valuable feedback and encouragement

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Biographical Notes

WAHYU DWI PUTRA is a graduate student of the Master of Management Program at Universitas Bina Darma, Palembang, Indonesia. His research interests include e-business systems, information technology management, and digital business collaboration.