



Digital Transformation in e-Commerce and its Influence on Digital Awareness among Students and Faculty

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Abstract

Digital transformation has emerged as a powerful force reshaping the global business environment, particularly the e-commerce sector, through the integration of advanced digital technologies such as artificial intelligence, mobile applications, cloud computing, big data analytics, and digital payment systems. These technological developments have not only transformed business models, operational processes, and customer engagement strategies but have also played a significant role in enhancing digital awareness among users. The present research paper aims to examine the concept of digital transformation in e-commerce and analyze its influence on digital awareness among students and faculty members. The study adopts a descriptive and conceptual research design and is based entirely on secondary data collected from academic journals, books, conference proceedings, government publications, and industry reports. The paper explores various dimensions of digital awareness, including familiarity with e-commerce platforms, digital payment literacy, awareness of cybersecurity and data privacy issues, and exposure to emerging digital technologies. A comprehensive review of existing literature indicates that continuous interaction with digitally transformed e-commerce platforms positively influences users' digital knowledge, confidence, and responsible online behavior. The study concludes that e-commerce platforms function as informal digital learning environments and play a crucial role in promoting digital awareness within academic communities. The paper further emphasizes the need for educational institutions to encourage informed, ethical, and secure use of digital technologies to strengthen digital competence among students and faculty members.

Keywords: Digital Transformation, E-commerce, Digital Awareness, Students, Faculty Members

Introduction

The rapid advancement of digital technologies has fundamentally transformed economies across the world, leading to the emergence of a digitally driven business environment. Digital transformation refers to the integration of digital technologies into all aspects of business and society, resulting in significant changes in operations, value creation, and stakeholder interaction. One of the most visible and impactful outcomes of digital transformation is the rapid growth of e-commerce, which has revolutionized the way goods and services are bought and sold.

In recent years, the e-commerce sector has experienced unprecedented expansion due to the widespread adoption of smartphones, increased internet penetration, and the availability of secure digital payment systems.

Technologies such as artificial intelligence, cloud computing, mobile technologies, and big data analytics have enabled e-commerce platforms to evolve from simple online marketplaces into intelligent, interactive, and customer-centric digital ecosystems. Personalized product recommendations, real-time customer support, efficient logistics, and seamless digital payments have become integral components of modern e-commerce platforms.

Digital transformation in e-commerce has not only influenced businesses and consumers but has also significantly impacted users' digital awareness. Digital awareness refers to an individual's ability to understand, access, evaluate, and use digital technologies effectively and responsibly. It includes knowledge of online platforms, digital payment mechanisms, cybersecurity risks, data privacy issues, and emerging digital tools. Students and faculty members constitute an important segment of digital users, as they frequently engage with digital technologies for education, research, communication, and commerce.

The increasing use of e-commerce platforms for purchasing educational materials, electronic devices, software subscriptions, and daily necessities has enhanced exposure to digital tools among academic communities. In the Indian context, initiatives such as Digital India, affordable internet connectivity, the growth of smartphone usage, and the widespread adoption of Unified Payments Interface (UPI) have further accelerated digital transformation in the e-commerce sector. This paper seeks to analyze digital transformation in e-commerce and examine its influence on digital awareness among students and faculty members through a comprehensive review of secondary data.

Objectives of the Study

The present study is undertaken with the following objectives:

- To understand the concept and key dimensions of digital transformation in e-commerce.
- To examine the role of digitally transformed e-commerce platforms in enhancing digital awareness.
- To analyze the influence of e-commerce usage on digital awareness among students and faculty members.
- To study the broader implications of digital transformation in e-commerce for academic communities.

Review of Literature

Kane et al. (2015) emphasized that digital transformation enables organizations to create new value through technology-driven innovation and enhances user adaptability.

Laudon and Traver (2019) examined the evolution of e-commerce technologies and found that digital platforms significantly improve user engagement and digital competence.

Verhoef et al. (2021) highlighted that continuous exposure to digital ecosystems enhances technological awareness and user confidence.

Singh and Srivastava (2020) observed that increased use of digital payment systems through e-commerce platforms improves financial and digital literacy in India.

Chaudhary and Dey (2022) found a positive relationship between e-commerce usage and digital awareness among university students.

Research Methodology

Sources of Data

The present study adopts a descriptive and conceptual research design and is based entirely on secondary data. No primary survey or questionnaire was used for the purpose of this research. Secondary data for the study was collected from a wide range of sources, including national and international academic journals, books and edited volumes on digital transformation and e-commerce, conference proceedings and published research papers, government publications and policy documents, and industry reports and reputed online academic databases.

Method of Analysis

The collected secondary data was analyzed using qualitative research techniques such as content analysis and thematic analysis. Relevant concepts, findings, and trends related to digital transformation and digital awareness were identified, compared, and interpreted to derive meaningful conclusions.

Scope of the Study

The scope of the study is limited to digital transformation practices in the e-commerce sector, digital awareness in terms of knowledge, usage, and exposure, and students and faculty members as users of e-commerce platforms.

Tools of Research

The following tools of research were used in the study: content analysis for systematic review of secondary data, literature review matrix to compare and synthesize previous studies, thematic analysis to identify major themes, online academic databases such as Google Scholar and ResearchGate, and government and industry reports related to digital transformation and e-commerce.

Digital Transformation in E-commerce

Digital transformation in e-commerce involves the strategic adoption of digital technologies to improve customer experience, operational efficiency, and overall business performance. Artificial intelligence plays a crucial role in recommendation systems, personalised marketing, demand forecasting, and chatbots for customer support. Automation and robotics are increasingly used in warehouses and logistics to enhance order processing efficiency and reduce operational costs.

Mobile commerce has emerged as a key component of digital transformation, enabling consumers to shop anytime and anywhere. Cloud computing provides scalability and flexibility, allowing e-commerce platforms to handle large volumes of data and traffic, especially during peak sales periods. Big data analytics helps firms understand consumer behaviour, predict demand, and make data-driven decisions.

Digital payment systems such as UPI, mobile wallets, and contactless payments have simplified transactions and increased user confidence in online shopping. These technological advancements expose users to sophisticated digital environments, indirectly contributing to higher levels of digital awareness and technological competence.

Digital Awareness and Academic Communities

Digital awareness is essential for effective participation in today's digital economy. Students and faculty members frequently interact with e-commerce platforms for purchasing educational resources, subscribing to digital services, and accessing online tools. This continuous interaction enhances familiarity with digital interfaces, payment mechanisms, and online security practices.

For faculty members, digital awareness supports professional development, access to global research resources, and online collaboration. For students, digital awareness enhances employability, digital confidence, and readiness for technology-driven careers. E-commerce platforms thus act as informal digital learning environments that promote digital literacy beyond formal education systems.

Findings

This chapter presents the analysis and interpretation of primary data collected from students and faculty members to examine the influence of digital transformation in e-commerce on digital awareness. A structured questionnaire was used as the research instrument, and responses were analyzed using simple statistical tools such as percentage analysis.

Sample Size and Composition

The study was conducted among members of the academic community, comprising students and faculty members. The sample size was selected using convenience sampling.

Table 1 Sample Size and Composition

| Category | Number of respondents | Percentage |
|-----------------|-----------------------|------------|
| Students | 100 | 76.9% |
| Faculty members | 30 | 23.1% |
| Total | 130 | 100% |

Interpretation

The sample consists predominantly of students, who represent active digital users, while faculty members provide academic and professional perspectives. This composition ensures balanced insights into digital awareness within academic communities.

Awareness and Usage of E-commerce Platforms

Analysis of responses related to awareness and usage of e-commerce platforms revealed the following:

| Response Category | Percentage |
|------------------------------|------------|
| Agree & Strongly Agree | 78% |
| Neutral | 14% |
| Disagree & Strongly Disagree | 8% |

Interpretation

A majority of respondents frequently use e-commerce platforms and are comfortable navigating online shopping websites and mobile applications, indicating a high level of adoption of e-commerce among students and faculty members.

Digital Payment and Security Awareness

Responses regarding digital payment usage and security awareness were analyzed as follows:

| Response Category | Percentage |
|------------------------------|------------|
| Agree & Strongly Agree | 72% |
| Neutral | 18% |
| Disagree & Strongly Disagree | 10% |

Interpretation

The results show that most respondents regularly use digital payment methods such as UPI, debit/credit cards, and mobile wallets. A significant proportion of respondents are aware of secure online payment practices, reflecting improved digital financial literacy.

Impact of Digital Transformation Features

The impact of digital transformation features such as personalized recommendations, chatbots, and mobile applications was analyzed.

| Response Category | Percentage |
|------------------------------|------------|
| Agree & Strongly Agree | 75% |
| Neutral | 15% |
| Disagree & Strongly Disagree | 10% |

Interpretation

Advanced digital features significantly enhance the e-commerce experience of respondents. Personalized recommendations and efficient customer support contribute positively to user satisfaction and engagement.

Digital Awareness and Skill Enhancement

Responses related to the role of e-commerce in improving digital awareness and skills were analyzed.

| Response Category | Percentage |
|------------------------------|------------|
| Agree & Strongly Agree | 80% |
| Neutral | 12% |
| Disagree & Strongly Disagree | 8% |

Interpretation

A large majority of respondents believe that continuous interaction with e-commerce platforms enhances their digital skills, awareness of data privacy, and understanding of cybersecurity risks.

Academic and Professional Impact of E-commerce

The influence of e-commerce usage on academic and professional development was examined.

| Response Category | Percentage |
|------------------------------|------------|
| Agree & Strongly Agree | 82% |
| Neutral | 10% |
| Disagree & Strongly Disagree | 8% |

Interpretation

Respondents strongly agree that e-commerce platforms are useful for purchasing academic and professional resources. There is also strong support for promoting digital literacy and ethical use of e-commerce platforms within educational institutions.

Overall Interpretation

The overall analysis indicates that digital transformation in e-commerce has a positive and significant influence on digital awareness among students and faculty members. High levels of adoption, confidence in digital payments, awareness of security practices, and perceived improvement in digital skills demonstrate that e-commerce platforms function as effective informal digital learning environments. The findings support the objectives of the study and highlight the importance of integrating digital literacy initiatives within academic institutions.

Conclusion

Digital transformation in e-commerce has extended its impact beyond business efficiency to influence digital awareness among students and faculty members. Regular interaction with digitally transformed e-commerce platforms enhances digital knowledge, confidence, and responsible online behavior. The study concludes that e-commerce serves as a powerful medium for promoting digital awareness within academic communities. Educational institutions should encourage informed and ethical use of digital technologies to strengthen digital literacy and lifelong learning.

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