
THE ROLE OF E-COMMERCE BASED ON MARKETING 4.0 IN BUSINESS TRANSFORMATION: A THEORETICAL STUDY

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Abstract

This research investigates the role of e-commerce based on Marketing 4.0 in the transformation of businesses in the digital era. Through a theoretical study approach, the research aims to provide insights into the interplay between e-commerce, Marketing 4.0, and consumer behavior. The study begins by formulating clear research questions centered around the impact of e-commerce in the current digital landscape. Extensive literature review is conducted to identify relevant theoretical sources, including scholarly journals, books, articles, and publications related to e-commerce, Marketing 4.0, and consumer behavior. The findings of the study are synthesized into a coherent exposition, which offers a nuanced understanding of the role of e-commerce based on Marketing 4.0 in shaping business strategies and consumer behavior. Practical implications for companies seeking to develop effective marketing strategies in the dynamic digital landscape are discussed, along with suggestions for further research. Overall, this research contributes to the understanding of the evolving role of e-commerce and Marketing 4.0 in driving business transformation in the digital age.

Keywords: Marketing, E-Commerce, Business Strategy

INTRODUCTION



In this globalization era, we witness significant transformations in various aspects of life, particularly in technology and consumer behavior. The rapid development of technology has been a key catalyst in changing the way we interact, work, and shop. This phenomenon includes a major shift in consumer behavior that drives a paradigm shift in the world of marketing. Alongside the widespread adoption of technology, consumers are not only becoming more connected but also increasingly demanding personalized and customized experiences.

E-commerce, as one of the tangible manifestations of technological development, has played a crucial role in driving marketing transformation towards what is known as Marketing 4.0 era [7]. In this context, e-commerce is not just an electronic trading platform but also an ecosystem that harnesses the power of digital to transform marketing dynamics comprehensively. Through the integration of advanced technologies such as

artificial intelligence, deep data analytics, and high-content personalization, e-commerce has opened the door to a new era where consumers not only become customers but also an integral part of the marketing process itself. The importance of e-commerce in Marketing 4.0 transformation cannot be overlooked, as it enables companies to gather and analyze consumer data with unprecedented accuracy [11]. This allows companies to craft more targeted and relevant marketing strategies tailored to individual needs. Thus, it can be understood that e-commerce is not just a transaction tool but also a laboratory for experiments and innovations in creating unique and value-added consumer experiences.

E-commerce has undergone significant transformations that depict an intriguing journey from its inception to reaching the Marketing 4.0 phase. Initially, e-commerce started as a basic concept of electronic commerce where transactions were conducted through the exchange of electronic documents and communications. This is often identified as the first generation of e-commerce involving the use of simple electronic communication protocols to facilitate data exchange. At this stage, transactions were mainly conducted between businesses (B2B), and consumers had limited involvement. The second generation of e-commerce witnessed significant developments with the emergence of the World Wide Web (WWW) and the introduction of HTTP and HTML protocols. This laid the foundation for the emergence of more interactive and user-friendly online stores. Consumers began to access various products and services more easily, triggering the growth of consumer-to-consumer (C2C) and business-to-consumer (B2C) e-commerce. However, security and trust remained significant challenges at that time.

The development of the third generation of e-commerce is characterized by the integration of mobile technology and the emergence of mobile applications. The ability to shop via mobile devices provided high mobility to consumers, expanding the coverage and accessibility of e-commerce. Additionally, business models such as e-marketplaces and auction sites continued to evolve, significantly changing the way transactions were conducted. The emergence of Marketing 4.0 takes e-commerce to a higher level. In this era, technologies such as big data, artificial intelligence (AI), Internet of Things (IoT), and cloud computing are the main drivers of transformation. Continuous collection and real-time analysis of consumer data enable high-content personalization and targeted marketing. The presence of intelligent chatbots and virtual assistants provides increasingly interactive and personalized shopping experiences.

Marketing strategies in Marketing 4.0 era are not only focused on product sales but also on creating value and long-term relationships with consumers. The omnichannel concept is key, where companies strive to integrate offline and online shopping experiences. Additionally, security and data privacy aspects are the main focus to build consumer trust in an increasingly complex digital environment. By detailing each stage of e-commerce evolution, we can see how e-commerce has evolved from a simple platform into a complex and globally connected ecosystem. A deep understanding of this development provides insights into how the marketing world continues to adapt to evolving

technology, shaping how we interact with products and services, and how marketing strategies continue to change to meet the demands of this ever-changing digital era.

With the progress of globalization and rapid technological advancements, the basic concept of e-commerce has become a cornerstone in transforming the way business is conducted. E-commerce, which stands for electronic commerce, is a form of electronic trade where buying and selling transactions are conducted online through the internet. This concept depicts a fundamental shift from traditional physical trading methods to the virtual realm, leveraging digital technology to facilitate interactions between sellers and buyers. It is important to understand that e-commerce is not just a platform but a complete ecosystem involving business processes, technology, and consumer interactions. E-commerce encompasses various business models such as B2C (Business-to-Consumer), B2B (Business-to-Business), C2C (Consumer-to-Consumer), and so on. Within it, sellers and buyers are no longer limited by geographical or time boundaries but can connect anytime and anywhere, enabling limitless global access.

E-commerce as an electronic trading platform, offers convenience and flexibility in transactions [9]. Users can easily browse various products or services, compare prices, and read consumer reviews without leaving the comfort of their homes. This concept changes the conventional paradigm of how consumers interact with goods and services, placing convenience, speed, and affordability as the primary focus. In the business context, e-commerce provides new opportunities and unique challenges. An electronic trading platform can encompass the creation and management of online stores, electronic payment systems, inventory management, and customer service. With advanced encryption technology, online transaction security is also a priority, building trust between customers and sellers.

Another important aspect of the basic concept of e-commerce is that the platform is capable of collecting consumer data, creating individual profiles, and presenting product recommendations that align with preferences and purchase history. This personalization not only enriches the consumer experience but also provides opportunities for sellers to enhance customer retention and increase transaction value. Furthermore, the role of mobile commerce or m-commerce is becoming increasingly prominent, where transactions can be conducted via mobile devices such as smartphones and tablets. This reflects the higher mobility in everyday life, where consumers can shop wherever they are, bringing unprecedented freedom and convenience.

METHODS

In this research, the research method used is theoretical study. This approach involves in-depth analysis of various theories, concepts, and literature relevant to the research topic, without the need to directly collect primary data. We began the research by formulating clear research questions, specifically addressing the role of e-commerce based on Marketing 4.0 in the business transformation in the current digital era. Subsequently, we conducted extensive literature review to identify relevant theoretical sources, including

scholarly journals, books, articles, and other publications related to e-commerce, Marketing 4.0, and consumer behavior.

Once the theoretical sources were gathered, we conducted critical analysis of the information presented in the literature. We examined and evaluated various theories and concepts found to understand how e-commerce and Marketing 4.0 are interrelated, as well as their impact on consumer behavior and business transformation. This analysis process involved identifying trends, patterns, and key findings in the relevant literature, as well as developing a comprehensive understanding of the research topic. We also compared and contrasted various perspectives existing in the literature to construct a conceptual framework. Furthermore, we synthesized our analysis findings into a coherent and structured exposition, which encompasses our understanding of the role of e-commerce based on Marketing 4.0 in the context of business and consumer behavior. By referring to existing theories and literature, we provided deep insights into how e-commerce and Marketing 4.0 can be applied in marketing strategies to achieve optimal outcomes. This exposition also includes suggestions for further research and practical implications for companies in developing their marketing strategies in the evolving digital era.

RESULTS AND DISCUSSION

Marketing 4.0 as the main concept in marketing evolution, brings about a significant transformation in how companies perceive and execute their marketing strategies. To understand Marketing 4.0 in the digital context, we need to engage in the development of marketing evolution and how this era marks a turning point in the relationship between business, technology, and consumers. In general, Marketing 4.0 reflects a paradigm shift from traditional marketing to the digital era characterized by advanced technology [15]. Marketing 1.0 represents a time when products were marketed through print media and radio. Marketing 2.0 entered the era of television and increased consumer access to information. Marketing 3.0 was marked by the arrival of the internet and exploration of marketing through social media. Currently, Marketing 4.0 brings a new era where data, artificial intelligence, and digital connectivity are transforming the marketing landscape.

Marketing 4.0 not only involves new technologies but also emphasizes fundamental changes in marketing approach. This era is defined by the presence of big data obtained from digital consumer interactions. This data becomes the backbone for more personalized and targeted marketing strategies [3]. The digital context in Marketing 4.0 includes the use of technologies such as data analytics, artificial intelligence, and the Internet of Things (IoT). Data analytics is used to collect, process, and analyze consumer data deeply, providing valuable insights into consumer behavior and preferences. Artificial intelligence, through sophisticated algorithms, enables high-level personalization in consumer experience from product recommendations to customer interactions. While IoT brings broader connectivity by integrating devices and providing more data on product usage.

Marketing 4.0 also places the omnichannel concept at the center, where consumers interact with brands through various channels from physical stores to online platforms, and marketing strategies must integrate all of these. Seamless and integrated customer experiences across channels are key to building long-term relationships [5]. In the digital context, real-time and responsive interactions are essential in Marketing 4.0. Through evolving technology, companies can quickly and efficiently respond to changes in consumer behavior. Marketing activities can be dynamically adjusted based on the latest data, and customers can feel that the brand truly understands and responds to their needs. The importance of content also emerges in Marketing 4.0 where content must not only be informative and engaging but also align with individual consumer preferences. This drives companies to produce more creative and relevant content, and build engagement through various media, including video, images, and interactive content.

Marketing 4.0 brings several key features that define the paradigm shift in marketing strategies. One key feature of Marketing 4.0 is high-level personalization [17]. In this era, companies use consumer data to build deep profiles of preferences, behaviors, and individual needs. Through sophisticated data analysis, e-commerce can present highly relevant product recommendations to consumers [8]. For example, if a consumer frequently searches for health products, e-commerce can automatically offer vitamins or other health products when they access the site. This personalization enhances consumer engagement and increases the likelihood of conversion.

Integration of artificial intelligence (AI) is also a hallmark of Marketing 4.0 [10]. In the e-commerce context, artificial intelligence is used to enhance user experience. For example, AI-powered chatbots can provide 24/7 customer support, answer consumer questions, and even provide product recommendations based on previous preferences. Artificial intelligence can also be used to analyze consumer behavior in real-time, allowing companies to respond quickly to market trends. Another feature is interactivity across various channels. Marketing 4.0 emphasizes the importance of two-way interaction between brands and consumers. In the e-commerce context, this includes features such as product reviews, community forums, and collaborative features that allow consumers to actively participate in the marketing process. For example, consumers can provide product reviews, share their experiences, or even provide input on products they desire. This creates a more social shopping experience and builds trust among the consumer community.

Furthermore, Marketing 4.0 incorporates experience-based marketing strategies [1]. In e-commerce, this includes creating captivating and engaging shopping experiences. Well-optimized e-commerce sites not only offer product listings but also present inspiring content, product usage tutorials, and perhaps even virtual experiences that allow consumers to 'try out' products before purchasing. This integration aims not only to sell products but also to create emotional connections with the brand. Another important aspect is the use of big data and analytics in Marketing 4.0. E-commerce collects vast amounts of data from every transaction, click, and consumer interaction [18]. This data

analysis not only aids in personalization but also in deep understanding of consumer behavior and market trends. By using big data, companies can make more informed decisions, tailor their marketing strategies, and even predict future trends.

It is important to understand that Consumer Behavior Transformation 4.0 not only encompasses technological aspects but also considers changes in values, needs, and consumer expectations. This era is characterized by high connectivity, instant information accessibility, and more active consumer participation in the marketing process. Consumer 4.0 lives in an era where internet access via mobile devices is the norm. Continuous connectivity enables them to search for information, compare products, and share experiences quickly. They are no longer passive recipients of information but actively involved in seeking information before making purchasing decisions.

Significant changes in consumer behavior are seen in the need for personalization; Consumer 4.0 desires experiences tailored to their individual preferences and characteristics. In this context, e-commerce and personalization technologies play a major role. Artificial intelligence algorithms capable of analyzing consumer data provide the basis for offering highly relevant product recommendations. For example, e-commerce sites can recognize previous purchasing patterns and present similar or additional products that may interest consumers. Social interaction and peer influence are becoming more dominant. Social media platforms become the primary channel for consumers to share experiences, recommend products, and seek validation from their communities. Peer influence becomes a key factor in purchasing decisions. Companies that understand the power of social influence can leverage it in their marketing strategies, engaging consumers in their brands and creating activities that build trust through consumer testimonials and reviews.

The importance of sustainability and consumer ethics is also becoming more prominent. Consumer 4.0 tends to be more environmentally and socially conscious, seeking brands that prioritize sustainability [14]. In choosing products or services, they consider the environmental impact and brand contributions to society. Sustainability initiatives and corporate social responsibility become key factors in winning consumer hearts. Given the increasingly complex behavior of Consumer 4.0, companies must use data analytics wisely. In-depth data analysis helps companies understand consumer behavior trends, preferences, and purchasing patterns [16]. With this understanding, companies can adjust their marketing strategies more precisely, provide added value, and build long-term relationships with consumers.

Consumer Behavior Transformation 4.0 is a phenomenon involving changes in how consumers interact with brands, how they seek information, and the purchasing decisions they make. Technological developments, consumer values, and the evolving digital environment all have a significant influence on consumer behavior.

The role of e-commerce in shaping consumer purchasing decisions reflects a fundamental transformation in how consumers shop and make purchasing decisions. To understand in

depth how e-commerce influences consumer purchasing decisions, we need to investigate its role in various stages of the purchasing journey, from product awareness to purchasing action. In general, e-commerce plays a crucial role in increasing consumer awareness of products and brands. Through e-commerce platforms, consumers can easily search for the products they need, browse various options, and obtain detailed information about features, benefits, and user reviews. Well-optimized e-commerce websites provide an informative and easily navigable experience, helping consumers form their initial perceptions of specific products or services. Furthermore, e-commerce facilitates the information search stage in the consumer purchasing journey. Consumers can compare prices, evaluate product features, and read user reviews directly. With e-commerce platforms, the information needed to make purchasing decisions becomes more open and transparent. This gives consumers greater control over the information search process and reduces reliance on direct sales in physical stores [2].

The importance of e-commerce increases as consumers begin to investigate specific brands or products; e-commerce allows customers to access tailored content such as video tutorials, product demos, or user guides, which can strengthen their understanding of the product. At this stage, the role of e-commerce in providing relevant and in-depth information can shape positive or negative perceptions of a product, and therefore, influence their purchasing decisions. Personalization also becomes a key element in shaping purchasing decisions through e-commerce. By using consumer data, e-commerce platforms can present product recommendations that align with their preferences and shopping history. For example, consumers who have searched for health products may see recommendations for relevant supplements or vitamins. This personalization increases product relevance, enhances the likelihood of conversion, and plays a critical role in shaping preferences and purchasing decisions.

In the consideration stage as a form of consumer behavior before choosing a product, e-commerce provides consumers with the opportunity to gain social perspectives through reviews and testimonials from other users. These features provide valuable insights into real consumer experiences with specific products. E-commerce allows consumers to provide and view product reviews, illustrating strong social impacts in building trust and purchasing decisions. The most direct role of e-commerce occurs at the transaction or purchasing action stage. E-commerce platforms provide convenience for consumers to make transactions without leaving the comfort of their homes. Facilities such as online payments, flexible shipping options, and real-time order tracking all contribute to the convenience and speed of making purchases. E-commerce is also involved in the post-purchase stage by providing online customer service, loyalty programs, and after-sales support. This engagement provides added value and builds long-term relationships with consumers, influencing future purchasing decisions and brand loyalty.

Based on these points, it can be understood that e-commerce is not just a transaction tool but also a significant influence in shaping every aspect of the consumer purchasing journey. The role of e-commerce not only includes providing information and transaction

convenience but also involves complex interactions that shape consumer perceptions, preferences, and purchasing decisions.

E-commerce marketing strategies based on Marketing 4.0 reflect a holistic and innovative approach to designing and implementing digital marketing activities. To understand this strategy deeply, we need to explore the integrated role of Marketing 4.0 with e-commerce marketing strategies to achieve optimal results. Marketing 4.0 as the latest marketing framework places data and technology at the center of strategy. Marketing 4.0 strategies in the context of e-commerce begin with the collection and analysis of in-depth data on consumer behavior. By involving artificial intelligence (AI) and advanced analytics, this strategy understands the needs and preferences of individual consumers to provide a more personalized and targeted experience.

A Marketing 4.0-based e-commerce strategy leverages technology to understand the consumer purchasing journey [12]. By tracking consumer interactions from awareness to purchase action, companies can understand trends and behavioral patterns that provide valuable insights. This data is used to optimize each stage of the consumer journey from targeting socialization to personalizing the purchasing experience. One key element of Marketing 4.0 strategy in e-commerce is the use of artificial intelligence for high-level personalization. Smart algorithms are used to analyze consumer data and provide highly relevant product recommendations [4]. With this personalization, e-commerce sites can present tailored content, individually curated product recommendations, and more relevant user experiences, increasing the likelihood of conversions.

To implement e-commerce marketing strategies based on Marketing 4.0 concretely, here are some strategies that can be implemented by companies:

1. Consumer Data Analysis:

Consumer Data Analysis is a fundamental marketing strategy for success in the evolving e-commerce era. This strategy involves collecting, processing, and interpreting consumer data to understand their behaviors, preferences, and needs more deeply. By using advanced analytics tools and artificial intelligence, companies can identify purchasing trends, interaction patterns, and product preferences that form the basis for designing more targeted and relevant marketing strategies. Consumer Data Analysis provides a more comprehensive understanding of the target audience, enabling higher levels of personalization in presenting products and content tailored to individual needs. By understanding how consumers interact with e-commerce platforms, companies can optimize the user experience, increase conversions, and build long-term relationships.

2. Product and Content Personalization:

Product and Content Personalization is a marketing strategy that creates more relevant and satisfying shopping experiences for consumers in the e-commerce environment. By leveraging consumer data collected through Consumer Data Analysis, companies can provide high levels of personalization in displaying

products and presenting content. This includes presenting customized product recommendations based on individual consumer preferences, ensuring that each visit to the e-commerce platform is a unique experience. Product and Content Personalization is not just about customizing the list of displayed products but also includes informational content, special offers, and marketing messages. By understanding consumer preferences, companies can present more relevant and engaging content, build consumer engagement, and increase the likelihood of conversions.

3. Omnichannel Strategy:

The Omnichannel strategy in e-commerce marketing represents an integrated approach that combines various sales channels and consumer interactions to create a consistent and cohesive shopping experience. In this scope, companies not only understand consumer needs through one channel but also combine data from various channels such as e-commerce websites, mobile applications, social media, and physical stores. This allows consumers to seamlessly switch between channels without losing information consistency or user experience. The Omnichannel strategy creates a holistic and coordinated shopping experience, allowing consumers to navigate their purchasing journey smoothly across channels.

4. Interactive Content Marketing:

Interactive Content Marketing is a strategy that emphasizes consumer engagement through dynamic and responsive content. Unlike static content, interactive content marketing creates participatory experiences that allow consumers to actively engage with the brand. This can include the use of interactive videos, online quizzes, dynamic infographics, or content that responds to user input. This strategy not only builds consumer engagement but also strengthens the brand's relationship with its audience.

5. Use of Influencer Marketing:

The use of Influencer Marketing is a marketing strategy that emphasizes collaboration with influential individuals or influencers on social media to promote products or brands. Influencer Marketing leverages the power of influence and trust held by influencers in their communities. By collaborating with influencers who have relevant audiences, companies can reach target markets more effectively and build more authentic connections with consumers.

6. Use of Big Data for Trend Prediction:

The use of Big Data for Trend Prediction is a marketing strategy that leverages large-scale data analysis to identify patterns, trends, and changes in consumer behavior. By collecting and analyzing large and varied volumes of data, companies can make accurate predictions about market trends, consumer preferences, and industry dynamics. Big Data allows companies to detail trends that may be difficult to identify with traditional methods, opening up opportunities to respond to market changes more quickly and effectively.

The above strategies reflect a holistic approach to implementing Marketing 4.0 in the e-commerce context. Companies must adapt to constant changes in consumer behavior and technology to ensure their marketing strategies remain effective in this evolving digital era.

CONCLUSION

From the analysis conducted on various information presented throughout this conversation, it can be concluded that e-commerce and Marketing 4.0 play a crucial role in the business transformation in the current digital era. E-commerce has reshaped the conventional paradigm of how consumers interact with products and services, providing unprecedented convenience and flexibility. With its ability to collect consumer data and offer personalized product recommendations, e-commerce enhances the shopping experience and fosters long-term relationships between brands and customers. On the other hand, Marketing 4.0 brings about fundamental changes in marketing approach, leveraging technology and data to understand consumer behavior and deliver more personalized and targeted experiences. E-commerce marketing strategies based on Marketing 4.0 encompass consumer data analysis, product and content personalization, omnichannel strategies, interactive content marketing, influencer marketing, and the use of big data for trend prediction.

Suggestions for further research include delving deeper into the impact of artificial intelligence integration in Marketing 4.0-based e-commerce marketing strategies. Further studies can explore how artificial intelligence algorithms can be effectively applied for high-level personalization and more accurate decision-making in the context of e-commerce. Additionally, further research can focus on the development of more sophisticated data analysis methods to identify market trends and consumer behaviors that can provide deeper insights for e-commerce companies. With a better understanding of how technology and data can be optimally applied in e-commerce marketing strategies, companies can enhance their competitiveness and provide more satisfying experiences for their customers.

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