

THE IMPACT OF DIGITAL STRATEGY ON E-COMMERCE SERVICES: ANALYSIS AND PERSPECTIVES IN ONLINE SMALL AND MEDIUM ENTERPRISES (SMES)

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Abstract: This article focuses on analyzing the impact of digital strategy on e-commerce services, with an emphasis on online small and medium enterprises (SMEs), through expert systematic literature review. In the context of the growing e-commerce environment, the study aims to explore how digital strategy shapes service provision and transforms customer experiences. The main focus is on the analysis of specific aspects, including the use of artificial intelligence (AI) for personalizing customer experiences, the effectiveness of these personalization strategies, and their impact on purchasing behavior. Finally, the article looks towards the future, predicting possible trends in the field of service personalization using digital strategy. This scientific article provides a fresh perspective on the digital transformation of e-commerce and offers valuable insights for future innovations in online small and medium enterprises.

Keywords: Digital strategy, e-commerce, online SMEs, artificial intelligence, personalization, sustainability, shopping behavior.

1 Introduction

Digital technologies are rapidly transforming both businesses and society as a whole. The way companies harness these technologies significantly influences their ability to innovate and grow. Over the past decade, there has been significant progress in the field of digital technologies and infrastructure, leading to substantial changes in business processes, organizational structure, and corporate culture. This transformation has brought about innovative processes, new marketing models, and diverse types of products and services. The ongoing Covid-19 pandemic itself has had a significant impact on this development (Dallocchio et al., 2024; Tekic et al., 2019).

The effective use of information and communication technology (ICT) has long been recognized as a key factor for corporate performance, especially for small and medium-sized enterprises (SMEs) (Ivanova & Castellano, 2012; Santoro et al., 2019). The integration of these technologies can bring many benefits to small businesses, including increased efficiency, enhanced competitiveness, and expanded market reach (Rahayu & Day, 2015). Digital technologies have the potential to optimize process management, increase market orientation through advanced market knowledge, and thereby improve the operational efficiency of SMEs (Cenamor et al., 2019; Dallocchio et al., 2024; Matt et al., 2015).

These technologies can also enhance the efficiency of various business operations, strengthen an organization's ability to adapt to dynamic market conditions, and transform fundamental aspects such as value proposition, value creation and value capture. Companies are empowered to define the scope and nature of the digital transformation they want to achieve. The advent of digitalisation has also changed the way consumers and firms interact (Taiminen & Karjaluoto, 2015).

Electronic commerce (e-commerce) represents the most prominent example of how information and communication technologies (ICT) are transforming business and contributing to economic growth. E-commerce involves trading products and services over the Internet, enabling online transactions including payments and eliminating the need for face-to-face meetings between buyer and seller. In a broader context, e-commerce can be defined as any business activity where electronic communication replaces direct physical contact and there is no need for physical exchange (Caputo et al., 2021; Liu et al., 2021; Santos-jaén et al., 2023).

The global emergence of the COVID-19 pandemic has led to an exponential growth of e-commerce as an alternative to traditional commerce (Nanda et al., 2021). Despite an expected 3% decline in global retail sales in 2020, retail e-commerce sales are projected to grow by 28%. The reduction in social interactions during this time has highlighted the importance of e-commerce transactions, becoming essential for a wide range of businesses (Radosavljevic, 2023; Santos-jaén et al., 2023).

The development of a company's capabilities, including the implementation of e-commerce, contributes significantly to increasing the efficiency of a company's distribution and communication, as well as to increasing the level of digitalization of the entire enterprise. In this context, operational efficiency is defined as "operating cost efficiency", which is closely related to the operational expenses of a company, such as wages, rent, advertising and other costs. In general, the lower the operating expenses compared to sales volume, the better the operational cost efficiency (Alazzam et al., 2023; Santos-jaén et al., 2023).

In general, there is a growing emphasis on personalisation of services, where there is scope for deeper analysis of specific strategies implemented online by SMEs, with a focus on the use of artificial intelligence (AI).

2 Methodology

The methodology was developed to achieve objectivity and reliability in scientific research. The approach to research is based on a combination of in-house professional practice and systematic analysis of relevant professional sources, which include peer-reviewed articles, professional websites and thoroughly developed case studies. The research findings are based on a systematic review of the professional literature.

The primary dimension of the methodology lies in the researcher's own experience in the industry, which provides context and a deeper understanding of the phenomena under investigation. At the same time, relevant scholarly articles and web sources were carefully researched and used to provide a solid theoretical basis for the analysis.

Secondary sources, such as scholarly articles and websites, provided the necessary framework to compare and validate our own observations. In addition, a systematic analysis of selected case studies was conducted, which provided deeper insights into specific situations and contexts related to the research topic.

This integrated approach to primary research based on secondary sources aimed to achieve scientific rigor and contribute to the development of knowledge in the field.

Based on the literature review, the following **main research question** emerges:

How do digital strategies and service personalisation affect the delivery of e-commerce services in online SMEs, and what are their implications for customer experience and purchase behaviour?

The sub-research questions (SRQs) are:

- (SRQ1) What specific service personalisation strategies are being implemented by online SMEs, especially using AI, and what is the outlook for their future development?
- (SRQ2) What is the impact of implemented personalization strategies on the current customer experience in online SMEs?
- (SRQ3) How does service personalisation affect customer purchase behaviour in online SMEs, especially in terms of purchase frequency, average purchase value and repeat business, with respect to future trends?

3 Results

The research results are divided into three main areas:

- Personalisation strategies for online SME services using artificial intelligence (AI),
- The impact of implemented strategies on the current customer experience,
- The impact of service personalisation on customer purchasing behaviour with respect to future trends.

3.1 Personalisation strategies for online SME services using artificial intelligence (AI)

In today's digital environment, artificial intelligence (AI) is becoming a key tool for personalizing services and streamlining business processes for online small and medium-sized enterprises (SMEs). It helps in several key areas, including:

- **Predicting behavior and buying tendencies:**
Artificial intelligence uses data about customers' past behavior to predict their future actions and preferences. This helps MSPs tailor their offers and strategies to better match customer expectations. One of the main tools are Chatbots and virtual assistants. These apps are revolutionizing the way users interact with their customers, making customer support easier and creating room for more efficient shopping transactions (Generali Ceska Profi, 2023; Chatify, 2024).
- **Marketing automation:**
AI makes it easy to automate marketing processes, including segmenting target audiences, creating personalized campaigns and analyzing their success. This allows SMEs to use their marketing resources efficiently (Jiri Franek, 2023; Chatify, 2024).
- **Personalizing the customer experience:**
Personalizing services using AI allows SMEs to dynamically tailor content and recommendations for each customer based on their past behavior, preferences, and predictions of future behavior. This creates unique and personalized customer experiences (Jiri Franek, 2023; Chatify, 2024).

In this context, the integration of personalisation and artificial intelligence is a key element of success. SMEs that effectively combine these strategies are better able to respond to market dynamics and provide a competitive advantage. The following aspects of this integration are important:

- **Audience segmentation and targeting:**
AI identifies specific customer segments, allowing SMEs to target their audiences with more personalized content. This effectively optimises marketing spend and increases ROI.
- **Monitoring and responding to feedback:**
Monitoring online reputation and responding quickly to customer feedback are key to improving an SME's overall brand image. AI analyzes sentiment analysis of feedback, allowing businesses to respond immediately to criticism and provide personalized responses.
- **Integrating offline and online experiences:**
AI connects offline and online customer experiences, providing SMEs with valuable insights to create a seamless customer experience across all channels (Chatify, 2024; Jiri Franek, 2023; Generali Ceska Profi, 2023).

With the growing importance of digital strategy and personalisation of services, this integration is becoming not only a trend but also a key element for the future success of SMEs in the digital e-commerce environment (Generali Ceska Profi, 2023).

3.2 The impact of implemented strategies on the current customer experience

The impact of implemented strategies on the actual customer experience is a key aspect for evaluating the effectiveness of digital transformation in the e-commerce environment of small and medium-sized enterprises (SMEs). Here, it is important to focus on the specific strategies that SMEs implement using artificial intelligence and service personalisation, and then examine how these strategies shape the overall nature and perception of the customer experience (Targito, 2024). Key aspects include:

1. Content personalization.
2. Dynamic price optimization.
3. Integration of online and offline experiences (Targito, 2024).

Ad 1) Content personalisation

In the digital environment of small and medium-sized enterprises (SMEs), content personalisation strategies are evolving to create individually tailored customer experiences. The implementation of these strategies involves analysing customer behaviour, creating personalised product offers, segmenting customers and using artificial intelligence. The key objective is to create relevant and engaging content based on individual customer preferences and behaviour (Abrokwah-larbi, 2024, Targito, 2024).

Content personalisation, especially in SME online stores, is a crucial factor in increasing conversions. Traditional methods such as product recommendations are important, but only one element of a comprehensive strategy to optimise conversions (Abrokwah-larbi, 2024, Targito, 2024).

This concept of content personalisation transforms the customer experience by personalising offers, products, notifications and other communication tools to respond to unique customer preferences and behaviours. SMEs' content personalization implementation includes dynamic content, pop-ups, banners, discount apps, web push notifications and more. These elements are applicable across different stages of the customer journey, from homepage to product pages to emails. By leveraging rules, triggers and intelligent algorithms, SMEs are able to effectively personalize content, respond to customer behavior and fully leverage the potential of digital transformation in e-commerce (Abrokwah-larbi, 2024, Targito, 2024).

Ad 2) Dynamic price optimization

Dynamic price optimization is an increasingly important tool for online SMEs, with an emphasis on maximizing profits. It has been found that tools for this optimization, such as Dealavo, Price2spy, Competera Pricing Platform, Feedvisor, etc., allow for rapid price adjustments in real time, which significantly increases competitiveness and attracts more customers. There is great effectiveness of dynamic pricing in building customer trust and increasing customer loyalty through machine learning algorithms (Targito, 2024; Huang & Liu, 2015).

Time-based pricing, peak pricing and penetration strategies are key approaches to increase revenue and maintain competitiveness. The analysis found benefits such as instant price updates, time savings, and profit increases through dynamic pricing. There are also opportunities to increase customer satisfaction and reduce costs through flexible price management (Targito, 2024; Huang & Liu, 2015).

However, the analysis also highlighted disadvantages of dynamic price optimization such as price discrimination, increase in competition and complex database management. Overall, the findings show that dynamic price optimization brings significant benefits but requires careful attention to the challenges faced by e-commerce retailers (Targito, 2024; Huang & Liu, 2015).

Ad 3) Integration of online and offline experiences

The integration of online and offline experiences represents a synergy between digital and physical environments to provide the most comprehensive and seamless experience for users. This integration has wide application across industries and opens up new opportunities for interaction between businesses and customers (Targito, 2024; Gao et al., 2022).

The basic tools of this integration include:

- Customer Relationship Management (CRM) systems - CRM systems integrate information from online and offline customer interactions. They allow tracking customer transaction history, preferences and communication.
- Unified Commerce Platforms - These platforms unify online and offline sales channels into a single entity. They provide a unified view of inventory, orders and customer data.
- Marketing Automation Tools - Automation tools enable personalization of marketing campaigns through the integration of online and offline data. They analyze customer behavior and automatically generate targeted offers.
- Beacon Technology - Beacons in offline spaces communicate with customers' mobile devices. This enables personalized offers, navigation and data collection on customer behavior in brick-and-mortar stores.
- Integrated Payment Gateways - Payment gateways that connect online and offline payments allow customers to shop conveniently across all channels and simplify transaction tracking for businesses (Targito, 2024; Gao et al., 2022).

The integration of online and offline experiences is a key element of modern commerce, responding to changes in customer behaviour and creating a harmonious environment for the shopping process, no matter where customers are located (Targito, 2024; Gao et al., 2022).

Integrating online and offline experiences brings a number of benefits to businesses and customers. One of the key benefits is a more comprehensive customer experience that relies on seamlessness and consistency in the shopping experience regardless of channel. This unification leads to higher customer satisfaction as businesses can better personalize offers based on customer behavior in both environments (Targito, 2024).

Within marketing strategies, integrating data from online and offline channels brings greater efficiency. Businesses can better target advertising campaigns and marketing activities, which contributes to increased customer loyalty. Providing a seamless and comprehensive experience can create stronger bonds and encourage repeat purchases, which is key in today's competitive era (Targito, 2024).

However, integrating online and offline experiences also has its drawbacks. More complex technology implementation, higher costs associated with financial investment in integrated systems, and staff training challenges present practical difficulties. Data privacy becomes a sensitive issue as sharing and linking data can raise concerns about customer privacy (Targito, 2024; Gao et al., 2022).

Some customers may experience queasiness or lack of trust when sharing personal information or changing established purchasing practices (Targito, 2024).

Overall, careful planning is required to implement a strategy for integrating online and offline experiences to effectively leverage all benefits while minimizing potential drawbacks (Targito, 2024; Gao et al., 2022).

3.3 The impact of service personalisation on customer purchasing behaviour with regard to future trends

The impact of personalisation of services on customer purchasing behaviour in the context of future trends is a key aspect in the business environment. Service personalisation, as a strategic approach to customer experience, has a significant impact on consumer decision-making processes and shapes future trends in purchasing behaviour (Dealavo, 2024).

In today's digital age, where the availability of information is vast and customers are increasingly engaged online, they expect unique and personalised experiences. Personalisation of services creates an environment where offers, advertising and communication are tailored to individual customer preferences and needs (Dealavo, 2024).

One important element of personalisation is customer behaviour analytics, which uses advanced technology and algorithms to collect and interpret data. This data provides marketers with deeper insights into individual preferences, purchase history and customer behavior. Based on this information, companies can offer targeted products and services, which greatly influences customer decision-making processes (Dealavo, 2024).

Given future trends, we can expect further development of service personalisation through the implementation of artificial intelligence and machine learning. These technologies will enable even more sophisticated data analysis and faster response to actual customer needs. In addition, personalised experiences are likely to be integrated across different channels, both online and offline, to achieve maximum consistency and seamlessness (Dealavo, 2024).

Overall, the impact of service personalisation on customer buying behaviour will continue to be a growing trend that will shape the dynamics of the current and future business environment. It is crucial for companies to not only monitor these trends, but also to proactively respond and adapt their strategies to the expectations and needs of increasingly demanding customers (Dealavo, 2024).

4 Conclusion

This research has shown that digital strategy and service personalisation have a significant impact on the delivery of e-commerce services in online small and medium-sized enterprises (SMEs). The use of artificial intelligence (AI) to personalise customer experiences, the effectiveness of these personalisation strategies and the impact on purchasing behaviour were key areas of analysis. At the same time, future perspectives and trends in service personalisation using digital strategies were explored.

The results showed that the implementation of artificial intelligence brings benefits in predicting customer behaviour, marketing automation and personalisation of customer experience. A key success factor is the integration of these strategies, particularly in audience segmentation and targeting, feedback monitoring and the linking of offline and online experiences.

Content personalisation strategies, dynamic price optimisation and integration of online and offline experiences have been identified as key factors influencing the current customer experience in online SMEs. These strategies have led to significant improvements in the fluidity of the purchase process, increased customer satisfaction and competitive advantage.

Based on the research questions, it was confirmed that personalisation of services has a significant impact on customer purchasing behaviour, including purchase frequency, average purchase value and repeat business. Trends show that further developments in service personalisation will be linked to the increasing use of artificial intelligence and the integration of experiences across different channels.

5 Discussion

The digital transformation of e-commerce is an inevitable trend affecting small and medium-sized businesses. The implementation of a digital strategy and the personalisation of services are key to the success of businesses in a competitive environment. At the same time, it is important to consider the challenges associated with these strategies, including data protection and the cost of implementing integrated systems.

Future prospects suggest further developments in artificial intelligence and machine learning, which will enable even more sophisticated personalisation of services. The integration of online and offline experiences will become a key element in delivering a consistent customer experience. At the same time, however, the implementation of these strategies needs to be carefully planned and the challenges met to achieve maximum benefits.

Overall, digital strategies and service personalisation are inextricably linked to the future of e-commerce and can provide online SMEs with a key competitive advantage in an increasingly digital environment.

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