Thel Augusto Monteiro
E-mail: thel.monteiro@puc-campinas.edu.br
Assoc. Prof. PhD, Pontifical Catholic University of Campinas
Piracicaba, Brazil
orcid.org/0000-0002-0290-1676

Fabiola Cristina Ribeiro de Oliveira
E-mail: fabiola.oliveira@puc-campinas.edu.br
Assoc. Prof. PhD, Pontifical Catholic University of Campinas
Campinas, Brazil
orcid.org/0009-0007-3294-6887

Marcos Ricardo Rosa Georges
E-mail: marcos.georges@puc-campinas.edu.br
Assoc. Prof. PhD, Pontifical Catholic University of Campinas
Campinas, Brazil
orcid.org/0000-0003-2828-6680

CONNECTIVITY AND CONSUMPTION: EXPLORING CHANGES IN CONSUMER BEHAVIOR IN THE DIGITAL ERA

Abstract: *The study examines the transformative effects of digital economic development on consumer behavior, emphasizing personalization, ethics, and digital marketing's role in reshaping interactions between consumers and businesses. By leveraging secondary data from reputable sources like the OECD and McKinsey, the research highlights how digital technologies, including artificial intelligence (AI), have enabled companies to provide tailored experiences, significantly enhancing customer engagement and loyalty. Case studies, such as Amazon, Netflix, and Tesla, illustrate how personalization and digital innovations have revolutionized industries, setting new benchmarks for convenience and consumer expectations. While the benefits of digital transformation include increased accessibility, operational efficiency, and global reach, significant challenges remain. Issues of privacy, data security, and ethical concerns dominate consumer and corporate discourse, as seen in cases like the Cambridge Analytica scandal. The study also notes the risks of information overload and the exclusion of digitally marginalized populations. Despite these challenges, the research underscores the potential of AI and big data to foster deeper brand-consumer connections and drive long-term business success, provided ethical and transparent practices are adopted. The study offers practical insights for businesses aiming to thrive in the digital era, emphasizing the need for strategies that balance technological innovation with consumer rights. By advancing academic and market-oriented understandings, this work contributes to a holistic view of digital transformations, paving the way for future research on the cultural and demographic dimensions of these changes.*

Keywords: *Digital Transformation, Consumer Behavior, Artificial Intelligence, Personalization, Privacy Ethics.*
JEL classification: *M16*

თჰელ აუგუსტო მონტეირო
E-mail: thel.monteiro@puc-campinas.edu.br
კამპინასის პონტიფიკური კათოლიკური უნივერსიტეტის პროფესორი
პირაციკაბა, ბრაზილია
orcid.org/0000-0002-0290-1676

ფაბიოლა კრისტინა რიბეირო დე ოლივეირა
E-mail: fabiola.oliveira@puc-campinas.edu.br
კამპინასის პონტიფიკური კათოლიკური უნივერსიტეტის პროფესორი
პირაციკაბა, ბრაზილია
orcid.org/0009-0007-3294-6887

მარკოს რიკარდო როზა გეორგეს
E-mail: marcos.georges@puc-campinas.edu.br
კამპინასის პონტიფიკური კათოლიკური უნივერსიტეტის პროფესორი
პირაციკაბა, ბრაზილია
orcid.org/0000-0003-2828-6680

კავშირი და მოხმარება: მიმხმარებელთა ქცევის ცვლილებების შესწავლა ციფრულ ეპოქაში

აბსტრაქტი: *ნაშრომში განხილულია ციფრული ეკონომიკური განვითარების ტრანსფორმაციულ ეფექტების გავლენა მომხმარებელთა ქცევაზე, ხაზს უსვამს პერსონალიზაციას, ეთიკას და ციფრული მარკეტინგის როლს მომხმარებლებსა და ბიზნესს შორის ურთიერთქმედების ხელახლა ჩამოყალიბებაში. მეორადი მონაცემების გამოყენებით ცნობილი წყაროებიდან, როგორიცაა OECD და McKinsey, კვლევა ხაზს უსვამს იმას, თუ როგორ მისცა ციფრულმა ტექნოლოგიებმა, მათ შორის ხელოვნური ინტელექტის (AI), კომპანიებს მორგებული გამოცდილების მიწოდება, რაც მნიშვნელოვნად გაზრდის მომხმარებელთა ჩართულობას და ლოიალობას. შემთხვევის კვლევები, როგორიცაა Amazon, Netflix და Tesla, ასახავს, თუ როგორ მოახდინა პერსონალიზაციამ და ციფრულმა ინოვაციებმა რევოლუცია ინდუსტრიაში, დაადგინა ახალი კრიტერიუმები მოხერხებულობისთვის და მომხმარებლის მოლოდინებისთვის. მიუხედავად იმისა, რომ ციფრული ტრანსფორმაციის სარგებელი მოიცავს ხელმისაწვდომობის გაზრდას, ოპერაციულ ეფექტურობას და გლობალურ მიღწევებს, მნიშვნელოვანი გამოწვევები რჩება. კონფიდენციალურობის, მონაცემთა უსაფრთხოებისა და ეთიკური საზრუნავი დომინირებს მომხმარებელთა და კორპორატიულ დისკურსებზე, როგორც ეს ჩანს ისეთ შემთხვევებში, როგორიცაა Cambridge Analytica-ს სკანდალი.მკვლევა ასევე აღნიშნავს ინფორმაციის გადატვირთვის რისკებს და ციფრულად მარგინალიზებული მოსახლეობის გამორიცხვას. მიუხედავად ამ გამოწვევებისა, კვლევა ხაზს უსვამს ხელოვნური ინტელექტისა და დიდი მონაცემების პოტენციალს, რათა ხელი შეუწყოს ბრენდ-მომხმარებლის უფრო ღრმა კავშირებს და წარმართოს გრძელვადიანი ბიზნეს წარმატება, იმ პირობით, რომ მიღებული იქნება ეთიკური და გამჭვირვალე პრაქტიკა. კვლევა გვთავაზობს*

პრაქტიკულ შეხედულებებს ბიზნესისთვის, რომელიც მიზნად ისახავს ციფრულ ეპოქაში აყვავებას, ხაზს უსვამს სტრატეგიების საჭიროებას, რომელიც დააბალანსებს ტექნოლოგიურ ინოვაციებს მომხმარებელთა უფლებებთან. აკადემიური და გაზარზე ორიენტირებული გაგების წინსვლით, ეს ნაშრომი ხელს უწყობს ციფრული ტრანსფორმაციების ჰოლისტიკური ხედვას, გზას უხსნის ამ ცვლილებების კულტურული და დემოგრაფიული განზომილებების სამომავლო კვლევებს.

საკვანძო სიტყვები: *ციფრული ტრანსფორმაცია, მომხმარებელთა ქცევა, ხელოვნური ინტელექტი, პერსონალიზაცია, კონფიდენციალურობის ეთიკა.*

JEL კლასიფიკაცია: *M16*

INTRODUCTION

The advancement of digital technologies (DTs) has played a crucial role in transforming consumer behavior on a global scale. The exponential increase in internet and social media usage is directly related to changes in interactions between consumers and companies. In January 2020, data showed that, in the United States, the average time spent online was 10 hours per day per person, while in Russia, this figure reached 7 hours per day, accounting for more than half of the time people are awake (GARTNER, 2019).

Morgan (2019) demonstrates that this digital revolution is driven by the growing use of mobile devices, such as smartphones and voice assistants, which facilitate access to information and the purchase of products and services. It is estimated that over 50% of searches for products and services are conducted online. Additionally, approximately 70% of users use their phones to send messages, and more than 2.5 billion people use specialized messaging platforms for real-time communication. The growing popularity of messaging apps is closely tied to a shift in preferred communication methods, transitioning from phone calls to written messages (MORGAN, 2019).

Consumer behavior in the digital era has also been shaped by the creation of omnichannel communication channels, where consumers can interact with brands seamlessly across digital and physical platforms. The rise of e-commerce and the increasing demand for convenience have compelled companies to adopt practices such as the use of digital assistants and conversational interfaces (Wood, 2020). Today, consumers expect providers of goods and services to offer digital options for information inquiries, purchases, and support, including delivery and online payment methods. This digital preference is evident in the decline of phone calls and the rise of messaging platforms as the primary means of communication with companies (STATISTA, 2020).

According to Zachariadis & Ozcan (2017), despite the massive growth of online commerce and the popularity of social media, many consumers still report dissatisfaction with the digital experiences offered by companies. This dissatisfaction is particularly prevalent among younger generations. Thus, digital economic development has significantly influenced consumer behavior, altering both their expectations and interactions with the market.

This study is based on secondary data analysis, aiming to explore digital transformations and their impacts on consumer behavior. According to Johnston (2017) and Smith (2008), the use of secondary data is widely justified in academic literature as an efficient and rigorous strategy

for obtaining robust and comprehensive insights into social and economic phenomena. This approach was chosen for its ability to access a broad spectrum of already analyzed and consolidated information, providing a holistic view of the subject.

For data collection, highly relevant and credible sources were selected, including reports from international organizations such as the Organisation for Economic Co-operation and Development (OECD), McKinsey & Company, and the World Economic Forum. These sources offer a global and strategic perspective on digitalization, innovation, and consumer behavior trends. Additionally, scientific articles available in recognized databases such as Scopus and Web of Science were consulted, ensuring the inclusion of peer-reviewed studies with a solid theoretical foundation.

As suggested by Saunders, Lewis, and Thornhill (2016), secondary data research allows for an in-depth analysis of well-documented phenomena, saving time and resources. These authors emphasize that the use of secondary data enables the triangulation of information from multiple sources, increasing the validity and reliability of the findings.

The literature review focused on identifying studies on digital transformation, personalization through artificial intelligence, new forms of digital marketing, and ethical issues related to consumer privacy in the digital environment. The inclusion criteria were based on the recency of studies, prioritizing articles published in the last five years and globally relevant reports, ensuring that the information discussed was contemporary and reflected the latest dynamics of digital transformations.

Therefore, the study combines established theories and empirical data to provide a critical and informed analysis of the challenges and opportunities in the context of digital transformation and consumer behavior. As such, its contribution lies both in advancing academia through the systematization of previous studies and in offering practical insights for companies facing the demands of digitalization.

Given this context, the objective of this study is to explore how digital economic development influences consumer behavior.

LITERATURE REVIEW

DIGITAL ECONOMIC DEVELOPMENT: CURRENT CONCEPTS AND DIRECTIONS

Digital economic development is a comprehensive process that impacts not only the economy but also other fundamental areas of social development. According to the World Economic Forum (2015), digitalization has transformed industries and societies on a global scale, influencing various sectors such as cybersecurity, digital integration, and the labor market. Additionally, digitalization has expanded access to digital platforms and content, significantly shaping human behavior and social relationships in the digital era.

One of the main challenges of this transformation is creating a workforce adapted to the digital age. It is estimated that, by 2030, over 2 billion jobs could be lost due to digitalization and automation (McKinsey, 2018). However, predictions about these impacts vary significantly. McKinsey (2018) highlights that while many fear the replacement of workers by robots, few activities will be fully automated in the short to medium term. This underscores the need to adapt the workforce by not only replacing jobs but also reskilling workers to operate in new digital fields.

Another crucial aspect of digital economic development is the transition to a sustainable world. The global economy remains largely dependent on non-renewable resources such as

coal, oil, and natural gas, which account for 75% of the world's energy (IEA, 2017). Growing pressure on natural resources demands a reduction in carbon emissions, and digitalization plays a key role in this transition. However, the digital transformation process itself generates significant environmental costs. The increase in electronic waste (e-waste) is a major concern, with approximately 40 million tons discarded in 2014 (Baldé et al., 2015). Furthermore, energy consumption by data centers is growing at a rate of 12% per year, contributing to pollution and greenhouse gas emissions (IEA, 2017).

Building trust in the digital economy is also an ongoing challenge. The digital economic model, which relies on the use of personal data, raises critical issues regarding privacy and security (World Economic Forum, 2015b). Examples such as Facebook's market value, which reached $245 billion in 2015, illustrate the magnitude of the personal data economy (CNN Money, 2015). While these business models are not inherently problematic, growing public concern over data sharing indicates a decline in consumer trust. Additionally, cybercrime remains a growing threat, with estimates suggesting it cost the global economy $575 billion in 2014 (McAfee, 2014). These factors, combined with the rapid pace of technological change, have fostered a widespread sense of distrust regarding the impact of digitalization on both the business environment and society (EDELMANN TRUST BAROMETER, 2015).

Thus, digital economic development encompasses a range of transformations that extend beyond the economic dimension, affecting labor, the environment, and institutional trust. These transformations have profound implications for the future of society, requiring a balanced approach that maximizes the benefits of digitalization while mitigating its negative impacts.

According to the study by Kalashnikova et al. (2023), consumer behavior has been profoundly impacted by the evolution of digital technologies, becoming a central topic in the study of the digital economy. The introduction of digital marketing has significantly influenced consumer purchasing decisions, as pointed out by Efendioglu (2024), expanding options for research, comparison, and acquisition of products and services through digital platforms. Moreover, the COVID-19 pandemic accelerated changes in consumer behavior, prompting necessary adaptations in the digital environment (Rahmanov et al., 2021).

Understanding the reasons behind these changes has emerged as an essential field of study, with the analysis of new consumer segments, such as Generation Zoomers, gaining relevance in the digital context (Zhou, 2021; Seleznova, 2022). Research on digital consumer behavior explores topics such as the Internet of Things, the sharing economy, and sensory digital marketing (Santos et al., 2020). These topics have contributed to a better understanding of the relationship between technological advancements and consumption choices.

Stephen (2016) points out that digital consumer behavior is also influenced by factors such as digital culture, reactions to digital advertisements, and behavior patterns in mobile environments. Hamdani et al. (2022) emphasize that understanding this behavior is vital for businesses as it directly impacts the consumer decision-making process. Furthermore, the use of digital devices and platforms has generated data that drives progress in areas such as big data and neuromarketing, enabling companies to better understand consumption trends (Kuś & Šević, 2021).

Another relevant point is the digitalization of retail, which has directly impacted consumer behavior by altering how digital technologies are used in shopping practices, according to Hagberg et al. (2016). Interactive technologies, such as augmented reality (AR) and virtual reality (VR), have transformed shopping journeys by offering new consumer experiences, while the uncertainty brought by the pandemic led to significant changes in digital consumption habits

(Sağkaya Güngör & Ozansoy Çadırcı, 2022).

Additionally, digital consumer behavior is also linked to sustainable and collaborative consumption as environmental and sustainability issues gain prominence in purchase decisions (Fuentes, 2019). Finally, digital consumer behavior involves using sophisticated technological tools, ranging from market analysis to interacting with other consumers and managing the entire purchasing process, from product design to post-sales support (Musavi, 2021).

Personalization and Customization: The Impact of Data and Artificial Intelligence

Alamsyah & Syahrir (2024) highlight that personalization in marketing has greatly benefited from using Artificial Intelligence (AI), which allows for analyzing large volumes of consumer data and tailoring marketing messages to individual needs. Using AI in marketing not only increases consumer engagement but also fosters deeper brand loyalty, resulting in greater sales success. This transformative power of AI is supported by consumer engagement theories, such as the Elaboration Likelihood Model (ELM), which suggests that personalized messages resonating with individual interests generate greater involvement and persuasion by stimulating deeper reflection on the messages (Alirezaie et al., 2024).

Additionally, the Uses and Gratifications Theory asserts that consumers actively seek information and experiences that meet their specific needs. AI meets these demands by providing relevant content and recommendations, creating a more engaging user experience, as noted by Alamsyah & Syahrir (2024). This is possible because AI analyzes consumer behavior, offering products and services aligned with their preferences, which, in turn, enhances brand perception (Anyanwu et al., 2024).

The Social Cognitive Theory (SCT) is also relevant in this context, highlighting the importance of observational learning and self-efficacy in consumer behavior. AI can utilize social proof, showing, for instance, what similar customers are buying or liking. Additionally, personalized ads aligned with consumers' goals and self-image—such as fitness clothing ads targeting individuals with fitness aspirations—reinforce their self-perception and increase engagement with the message (Amoo et al., 2024).

Ayinla et al. (2024) emphasize that another benefit of AI-driven personalization is the ability to create a more enjoyable and engaging user experience. Instead of receiving irrelevant ads, consumers encounter products and services that match their preferences, promoting positive brand perception and generating trust and loyalty. Personalization that demonstrates a deep understanding of individual needs strengthens the consumer-brand relationship, encouraging repeat purchases and positive word-of-mouth marketing (Amoo et al., 2024).

However, despite the enormous potential of AI-driven personalization, it is crucial for brands to prioritize ethical practices in data usage and ensure transparency in the process. Consumers need to feel comfortable with the use of their data for personalization purposes (Aripin et al., 2024). Moreover, brands should be transparent about AI's role in personalization to avoid misleading consumers. As AI models evolve and incorporate new data sources, the possibilities for creating hyper-personalized experiences will continue to expand, further bridging marketing and genuine customer connections (Asaju, 2024).

Thus, AI-driven personalization represents a significant shift in digital marketing, enabling brands to leverage data and AI to establish deeper connections with consumers, driving engagement, loyalty, and long-term success (Bougrine et al., 2024).

Consumer Engagement with AI-Based Personalization

According to the study by Etukudoh et al. (2024), the competition for consumer attention in the digital marketing landscape is relentless. Generic messages often get lost in a sea of information, resulting in "banner blindness" and low brand recall. By leveraging the analytical power of Artificial Intelligence (AI), brands can craft marketing strategies that directly address individual preferences, purchase histories, and online behaviors. This shift empowers brands to establish deeper connections with consumers, fostering engagement, loyalty, and ensuring a significant competitive advantage (Jiang & Wang, 2024).

Hassan et al. (2024) highlight that the key differentiator of personalization lies in AI's ability to analyze large volumes of customer data. Traditional marketing often relies on limited datasets, leading to generic and ineffective campaigns. In contrast, AI algorithms can explore a multitude of sources, such as customer relationship management (CRM) systems, purchase histories, demographic data, and past interactions, revealing valuable insights into consumer preferences. Additionally, website behavior, browsing patterns, viewed content, and time spent on specific pages provide clues about customer interests (Hassija et al., 2024).

By analyzing this data, AI algorithms uncover hidden patterns and identify distinct customer segments. For example, AI can detect a group of consumers who frequently purchase running shoes and have recently downloaded a fitness app. This insight enables brands to personalize their marketing messages, offering targeted discounts on running gear or presenting training tips aligned with the customers' fitness goals (Matcov, 2024).

Lai (2024) emphasizes that personalization also facilitates segmentation and targeted messaging tailored to different audiences. While traditional marketing segments based on demographic data, such as age or location, AI creates more sophisticated segments based on a broader range of data points, including purchase histories, online behaviors, and social media engagements. For instance, an e-commerce store might send targeted emails to customers who abandoned shopping carts, offering incentives to complete the purchase. Similarly, social media ads can be personalized for specific segments, showcasing products or services that resonate with each audience's unique needs and interests.

AI goes beyond static segmentation, enabling real-time personalization. Imagine a customer browsing a travel website and exploring multiple destinations. AI can analyze this behavior in real-time and display personalized pop-up ads with special offers for hotels or flights to the viewed destinations. Additionally, AI-powered chatbots on websites can personalize customer service interactions by offering product recommendations or answering questions based on the customer's browsing history (Mayo et al., 2024).

This real-time personalization significantly enhances the user experience. Consumers no longer feel bombarded by generic messages; instead, they encounter marketing that appears relevant and responsive to their immediate needs and interests, fostering a deeper connection with the brand (Ochuba et al., 2024).

McGurk & Reichenbach (2024) underline that while AI-based personalization offers immense potential, it is crucial for brands to prioritize responsible data practices and ensure transparency. Consumers should feel comfortable with how their data is used to personalize their experiences. Moreover, brands must be transparent about AI's role in personalization, avoiding deceptive tactics. As AI technology continues to evolve, the possibilities for personalized marketing are limitless, enabling brands to design targeted campaigns that deeply resonate with individual customers. This approach fosters a more engaged and loyal audience, driving long-term business success (McLaughlin, 2024).

However, ethical considerations and responsible data practices will be essential to ensuring that these future benefits both consumers and brands (Okafor et al., 2024).

Digital Marketing: New Forms of Communication and Consumer Influence

According to the study by Clow & Baack (2007), the digital environment has significantly transformed communication methods and how companies influence consumers. Integrated Marketing Communication (IMC) has emerged as a strategic approach that seeks to coordinate and integrate all tools, channels, and sources of communication into a continuous program to optimize impact on customers and other end-users. In this sense, digital marketing offers a unique opportunity for brands to disseminate consistent messages across various platforms, building a strong and coherent image in consumers' minds.

IMC involves several stages, beginning with the tactical analysis of marketing tools, redefining the purpose of communications, implementing technologies to manage customer data, and finally integrating these activities strategically and financially (Schultz & Kitchen, 2000). This coordination process enables companies to align promotional messages efficiently, creating consumer-focused communication and establishing long-term relationships that can lead to loyalty (Littlefield, Sellnow D., & Sellnow L., 2021).

In the digital environment, where consumers are constantly bombarded with information, the ability to tailor specific messages to different channels is essential for maintaining relevance. According to Kotler (2005), integrating marketing messages across all digital platforms helps companies build strong and lasting connections with their customers, reinforcing the brand's image and messaging. This aspect is particularly relevant in digital marketing, where consumers have access to a vast amount of information, making it harder for generic messages to stand out.

Ang (2021) notes that digital marketing also offers unique advantages, such as real-time campaign monitoring. More precise audience segmentation, based on behavioral and demographic data, allows companies to personalize their messages according to the specific needs of consumers. This personalization increases the credibility of messages, making them more persuasive and relevant to consumers. As a result, brands can exercise greater control over the campaign lifecycle, adjusting communication according to the stage of consumer interaction with the product or service.

One of the most significant advantages of IMC in digital marketing is its ability to optimize costs and time. By adapting messages to different channels in a coordinated and efficient manner, companies can maximize return on investment. According to data from Statista (2024), every dollar invested in advertising globally generated an average return of $1.06, with the Asia-Pacific region recording the highest efficiency index. This demonstrates how implementing an integrated communication system can enhance campaign financial performance (Ang, 2021).

On the other hand, poorly integrated communication can lead to message saturation, generating negative reactions from consumers. About 46% of consumers reported feeling overwhelmed by excessive messages when marketing tools were insufficiently integrated and adapted to the communication channels used (Ang, 2021). This phenomenon highlights the importance of companies adopting well-coordinated strategies to avoid information overload and focus on clear and segmented communication.

The rise of social media and the internet as primary receivers of promotional messages has also brought new opportunities for brands. Direct interaction with consumers on digital

platforms allows companies to develop closer and more personalized relationships, significantly increasing audience engagement. However, this approach also requires careful balancing to avoid information overload, maintaining the relevance and impact of the messages.

In the context of digital marketing, integrated communication not only facilitates the dissemination of consistent and coordinated messages but also helps brands adapt more effectively to the demands of modern consumers, who seek personalized and value-added interactions.

Privacy and Ethics: Consumer Concerns in the Digital Era

According to the study by Sklavos (2017), with the advancement of information technologies, online interactions between individuals and e-commerce organizations have generated both positive and negative implications. One of the main challenges in today's digital environment is the mass collection of personal data, often without the consent of its owners. Companies use this data for marketing decisions and organizational improvement, but the lack of transparency and the absence of a clear ethical framework for digital technologies raise growing concerns about privacy and security.

Privacy invasion has become a significant issue with the use of big data analytics technologies. These technologies are widely employed by companies to improve decision-making based on users' behavioral, financial, biometric, and biographical data (Custers et al., 2018). However, the collection and use of data without consumers' informed consent raise serious ethical questions. While companies argue that the personalization of services and products depends on the analysis of this data, privacy violations occur when such practices are carried out without individuals being aware of or authorizing the use of their personal information (Bouguettaya & Eltoweissy, 2003).

Schneble, Elger, & Shaw (2018) highlight that, indeed, in many cases, data collection is deemed acceptable when companies seek user consent. Organizations like Google and Facebook, for instance, have adopted a consent-based data collection model to personalize consumer experiences. However, the Facebook scandal involving the sharing of data with Cambridge Analytica underscored the risks of improper data use, as the data was employed for political manipulation and geopolitical mapping without adequate user awareness. Such events undermine the morality of informed consent and highlight the vulnerability of personal data in the digital environment.

Beyond privacy, data security is a critical concern. The rapid evolution of information technologies, combined with the lack of adequate regulations, leaves consumers exposed to risks such as data breaches and cyberbullying. The need for binding international legislation to protect digital users is evident, particularly concerning the growing issue of cyber insecurity (Sklavos, 2017). However, current legislation has struggled to keep pace with the speed of technological innovations, exacerbating the challenges of ensuring a safe and ethical digital environment for all stakeholders.

Privacy and ethics concerns regarding the use of digital data reflect the complexity of the digital era, where the collection of personal information, although essential for the development of technologies and personalized services, can also be easily abused. Richards and King (2014) point out that while many organizations have adopted consent models for data use, companies' responsibility extends beyond collection. They must ensure that this data is not shared or used in ways that compromise consumer trust.

Given this context, the debate around privacy and ethics in the digital environment is central to the future of the digital economy. Companies must balance the need for personalization and

innovation with the obligation to protect consumer rights. The creation of ethical guidelines and the implementation of robust regulations are fundamental steps toward promoting a safer and more trustworthy digital environment for all involved.

CASE STUDIES: SECTORS AND COMPANIES ILLUSTRATING CHANGES IN CONSUMER BEHAVIOR THROUGH DIGITALIZATION

Digitalization has radically transformed how consumers interact with companies and make purchasing decisions. From online retail to financial services, adopting digital technologies is reshaping various industries. Below are case studies exemplifying these changes in consumer behavior.

1. Retail and E-commerce: Amazon and Mass Personalization

Amazon is one of the most notable examples of how digitalization can transform consumer behavior. The company pioneered the adoption of Artificial Intelligence (AI)-based technologies to personalize the shopping experience for its customers. Using recommendation algorithms that analyze browsing history, past purchases, and demographic data, Amazon offers highly personalized product suggestions (Hassan et al., 2024).

This mass personalization has led to increased engagement and conversion rates, as consumers receive suggestions aligned directly with their interests and needs. Additionally, Amazon has benefited from real-time data collection, tailoring its offers based on current consumer behavior, such as product views or abandoned shopping carts. This approach aligns with the AI-driven personalization and customization strategies previously discussed (Bougrine et al., 2024).

2. Streaming Industry: Netflix and Content Personalization

Another sector exemplifying changes in consumer behavior is the streaming industry, particularly Netflix. The company revolutionized how consumers access and consume audiovisual content. Before Netflix, media consumption was primarily passive, with consumers watching what was available on TV. With the introduction of on-demand streaming, the company began offering a vast array of content that can be consumed anytime and anywhere.

Moreover, Netflix uses AI to analyze users' viewing habits and provide personalized recommendations for series and movies. This personalization not only increases user retention time on the platform but also directly influences consumption behavior by guiding users to new content based on their previous interests (Amoo et al., 2024). Netflix's success demonstrates how personalization in digital marketing can enhance engagement and strengthen consumer loyalty.

3. Banking Sector: Fintechs and the Transformation of Financial Services

The financial sector has also undergone a significant transformation through digitalization. Fintechs such as Nubank, Revolut, and other financial startups have challenged traditional banks by offering fully digital services focused on user experience. These companies leverage customer data and AI to provide more agile financial services, such as real-time credit approval and personalized financial products based on users' spending behavior (McLaughlin, 2024).

Unlike traditional banks, which often require customers to visit physical branches, fintechs deliver services through mobile apps, fundamentally changing consumer behavior in the banking sector. Consumers now expect fast, accessible, and personalized services and are willing to switch providers if these expectations are not met (Matcov, 2024). This highlights how digitalization has shaped consumer expectations for convenience and personalization, directly impacting consumption behavior.

4. Food Sector: The Rise of Delivery Apps

Digitalization has also transformed the food sector with the rise of delivery apps like Uber Eats, iFood, and Rappi. These apps have changed how consumers order food, offering convenience and a vast range of personalized options. Consumer behavior in this sector has shifted dramatically, with more people opting to order food online rather than dining at physical restaurants.

Additionally, these apps use consumption data to personalize offers and recommendations, increasing engagement and sales. They also implement digital marketing strategies, such as promotions based on users' order history, enhancing loyalty and encouraging repeat purchases (Lai, 2024). The success of these apps demonstrates how digitalization can transform even traditional sectors like food, profoundly altering consumer behavior.

5. Automotive Industry: Tesla and the Digitalization of the Purchase Experience

The automotive industry, traditionally centered around physical dealerships, has also been impacted by digitalization, especially through Tesla. The company eliminated the traditional dealership model, allowing consumers to purchase their vehicles directly online. Additionally, Tesla uses real-time data to provide personalized software updates for its vehicles, ensuring a continuous consumer experience even post-purchase.

Tesla also employs AI to enhance the driving experience with features such as autopilot and over-the-air updates, keeping vehicles current with the latest technological innovations. This disruptive business model has changed consumer expectations regarding vehicle purchases, making convenience and personalization essential parts of the buying experience (Bouguettaya & Eltoweissy, 2003).

These examples illustrate how digitalization has transformed entire sectors, altering consumer expectations and behavior. From e-commerce giants like Amazon to Netflix in the entertainment sector, fintechs, and the food industry, digitalization enables companies to deliver mass personalization, convenience, and an optimized user experience. These changes not only strengthen relationships between brands and consumers but also redefine how consumers interact with markets and make purchasing decisions.

DISCUSSION: A CRITICAL ANALYSIS OF THE POSITIVE AND NEGATIVE IMPACTS OF DIGITAL TRANSFORMATIONS

Digitization has been one of the most disruptive and transformative factors in the global economy in recent decades. While it has brought numerous advantages, it also presents significant challenges. Below is a critical analysis of the positive and negative impacts of these transformations, based on the theoretical framework and practical examples explored earlier.

Positive Impacts

1. *Personalization and Improvement of Consumer Experience:* One of the greatest benefits of digitization is the ability for companies to offer highly personalized experiences to consumers. Technologies such as Artificial Intelligence (AI) and big data enable businesses to analyze large volumes of data, customizing their product and service offerings to meet the specific needs of customers. Examples such as Amazon and Netflix demonstrate how personalization drives consumer engagement and loyalty by offering product recommendations and content based on individual behaviors and preferences (HASSAN et al., 2024; AMOO et al., 2024). Bougrine et al. (2024) emphasize that, in the case of e-commerce platforms like Amazon, mass personalization creates a shopping experience that simplifies decision-making and increases customer satisfaction. Similarly, at Netflix, the ability to offer personalized content based on consumption

habits leads to higher user retention, enhancing brand loyalty.

2. *Accessibility and Convenience:* Digitization has also democratized access to a variety of services and products. Apps like Uber Eats and Rappi, for example, have made the food delivery sector more accessible, allowing consumers to order from their favorite restaurants with just a few clicks, without needing to leave their homes (Lai, 2024). This has profoundly altered consumer behavior by offering convenience and speed in transactions. In the banking sector, fintechs have revolutionized the customer experience by offering 100% digital services, such as real-time account opening and credit approval, eliminating the need for physical visits to bank branches (MATCOV, 2024). These advances represent a significant gain in convenience for consumers, who can now access products and services more quickly and personalized.
3. *Operational Efficiency and Cost Optimization:* According to Clow & Baack (2007) and Ang (2021), from a business perspective, digitization has allowed companies to optimize operations and reduce costs. The integration of digital communication tools, such as Integrated Marketing Communication (IMC), enables businesses to better coordinate their marketing strategies across different channels, improving the impact of campaigns and maximizing return on investment. Additionally, real-time data collection helps businesses make more informed decisions and quickly adjust marketing strategies based on consumer feedback. In the automotive sector, Tesla illustrates how digitization can extend beyond sales. The company uses over-the-air updates and AI to continually enhance the consumer experience with its vehicles, representing a significant innovation in the sector (BOUGUETTAYA & ELTOWEISSY, 2003).

Negative Impacts

1. *Privacy and Ethical Issues:* Sklavos (2017) shows that despite the benefits, digital transformations raise serious ethical concerns, especially regarding privacy. The large-scale data collection by companies like Google, Facebook, and Amazon, without proper informed consent from consumers, represents an invasion of privacy. Cases like the Facebook and Cambridge Analytica scandal highlight how the misuse of personal data can undermine consumer trust and even impact political processes (SCHNEBLE, ELGER & SHAW, 2018). The lack of clear and robust legislation regulating the use of personal data in the digital space exacerbates this issue. The absence of transparency and a proper ethical framework makes consumers vulnerable to the misuse of their information, undermining the credibility of companies and raising questions about the morality of data collection practices (CUSTERS et al., 2018).
2. *Information Saturation and Message Overload:* Another negative effect of digitization is information saturation. Consumers are constantly bombarded with advertisements and marketing messages across various platforms, which can lead to "banner blindness" and reduced effectiveness of marketing campaigns (ETUKUDOH et al., 2024). This informational overload may cause consumers to develop a negative attitude toward brands that over-communicate. The lack of proper integration between communication strategies can result in an excessive flood of messages, which, instead of improving the consumer experience, leads to rejection (ANG, 2021). The challenge for businesses is to find the right balance between message frequency and relevance to avoid consumer fatigue.
3. *Dependency on Technology and Digital Exclusion:* While digitization has democratized access to products and services, it has also created a barrier for those without access to

technology or digital skills. The increasing reliance on technological solutions for essential services, such as digital banking, can exclude significant segments of the population, especially older individuals or those with limited access to technological resources (MATCOV, 2024). This digital exclusion presents a major ethical challenge for companies and governments, which must ensure that digitization is inclusive and accessible to everyone. Moreover, excessive dependence on digital technologies can make consumers vulnerable to technological disruptions or cybersecurity failures, such as hacker attacks or data breaches. This constant risk affects consumer trust in digital platforms and raises the question of how companies are managing the risks associated with technology use.

Challenges and Opportunities for Businesses and Consumers in the Digital Age

Digital transformation presents both challenges and opportunities for businesses and consumers. Below, we analyze the key points that illustrate the complexities and advantages of this new landscape.

Challenges for Businesses

1. *Data Management and Privacy:* One of the greatest challenges businesses face is the collection, storage, and ethical use of consumer data. As personalization becomes an essential aspect of digital marketing success, companies must ensure they comply with privacy regulations, such as the General Data Protection Regulation (GDPR) in Europe (SKLAVOS, 2017). Any violation of privacy can lead to a loss of trust and irreparable damage to brand reputation, as seen in the case of Facebook and Cambridge Analytica (SCHNEBLE, ELGER & SHAW, 2018). Furthermore, companies must invest in cybersecurity infrastructure to protect consumer data from hackers and data breaches.
2. *Increased Competition and the Need for Constant Innovation:* With digitization, the competitive environment has become even more dynamic. Companies across various sectors are under pressure to innovate continuously to maintain relevance. The speed at which technologies evolve means that businesses must always stay up-to-date, offering innovative solutions to meet the ever-changing demands of consumers. This is particularly evident in the financial sector with fintechs, which challenge traditional banks to improve their digital services (MATCOV, 2024). The ability to adapt quickly and maintain continuous innovation is essential for surviving and thriving in the digital economy.
3. *Reputation Management and Transparency:* Transparency is one of the pillars of trust in the digital age. Companies that fail to be transparent about how they use consumer data, or that are seen as unfair or exploitative, risk facing severe negative reactions, especially with the rapid spread of information on social media. Companies must carefully manage their reputation and ensure they are clear and honest in their communications, both with consumers and other stakeholders (MCGURK & REICHENBACH, 2024).

Opportunities for Businesses

1. *Personalization and Deeper Engagement:* Digitization offers businesses the opportunity to create hyper-personalized shopping experiences, as seen with Amazon and Netflix. The use of AI and big data allows companies to better understand their consumers and offer tailored products and services to meet their needs, increasing customer engagement and loyalty (HASSAN et al., 2024). This type of personalization would not be possible without massive data collection and the use of advanced

technologies, enabling companies to differentiate themselves in an increasingly competitive market.

2. *Market Expansion and Global Reach:* Digitization also allows companies to reach new markets more efficiently. E-commerce and digital services enable businesses to expand their operations internationally without the need for physical presence, as is the case with Tesla in the automotive sector and fintechs in the financial sector (BOUGUETTAYA & ELTOWEISSY, 2003). This offers a significant opportunity for growth, especially for small and medium-sized enterprises that would otherwise struggle to compete with large corporations.
3. *Operational Efficiency and Cost Reduction:* The implementation of digital tools not only enhances the consumer experience but also helps optimize internal operations for businesses. Tools like automation, AI, and data analytics allow companies to reduce operational costs, increase productivity, and improve decision-making, as seen in Tesla's optimized operations and integrated communication practices in digital marketing (SCHULTZ & KITCHEN, 2000).

Challenges for Consumers

1. *Privacy and Data Security:* Consumers face growing challenges regarding privacy and the security of their data. While personalization offers benefits, many consumers are concerned about the use of their personal data without consent or in non-transparent practices. The lack of control over how personal information is used and shared, especially with third parties, remains one of the biggest concerns for consumers in the digital age (RICHARDS & KING, 2014).
2. *Information Overload and Message Saturation:* With the exponential growth of digital platforms, consumers are increasingly exposed to information overload and an excessive volume of marketing messages. This can lead to consumer fatigue and "banner blindness," where users ignore promotional messages due to saturation (ETUKUDOH et al., 2024). This challenge highlights the need for more focused and personalized marketing strategies that balance message volume with relevance.

Opportunities for Consumers

1. *Greater Accessibility and Convenience:* Digitization offers consumers easier access to a variety of products and services at any time and from anywhere. The convenience of e-commerce platforms and on-demand services, such as delivery apps, has transformed how consumers shop and interact with brands (LAI, 2024). It also enables consumers to make instant comparisons of prices and product features, allowing them to make more informed purchasing decisions.
2. *Personalized Experiences and Better Relationships with Brands:* Consumers have benefited from increasingly personalized experiences that make their interactions with companies more relevant and enjoyable. AI-driven recommendations allow consumers to discover new products and services that directly meet their preferences and needs, as seen with Netflix and Amazon. Furthermore, the closer and more direct relationship with brands makes consumers feel more valued and understood, strengthening their loyalty (AMOO et al., 2024).

CONCLUSIONS

This study addressed the transformations in consumer behavior resulting from digitization, highlighting the importance of personalization, ethics, and privacy in the digital environment.

The analyses conducted reveal that the changes in how consumers interact with brands and products are profound and multifaceted, reflecting the need for businesses to adapt to the new market dynamics.

The main contributions of this study to academia lie in the construction of a robust theoretical framework that integrates concepts of personalization, ethics, and digital marketing, offering a holistic view of consumer behavior in the digital age. This work serves as a starting point for future research that could further explore the implications of these transformations across different sectors and geographic regions.

For the market, the implications are equally significant. The study provides valuable insights into the importance of adopting personalized and ethical marketing strategies that not only respect consumer privacy but also promote transparent and effective communication. Companies that succeed in aligning their marketing strategies with consumer expectations and needs will be better positioned to cultivate brand loyalty and succeed in a competitive environment.

It is suggested that future studies explore the relationship between digital marketing practices and consumer privacy perceptions in different cultural contexts, as well as investigate how emerging technologies, such as artificial intelligence and big data, can further influence the dynamics of consumer behavior. It would also be valuable to examine differences in consumer behavior across various demographic segments to better understand how businesses can meet the diverse needs of their target audiences.

Digitization has not only changed how companies communicate with consumers but has also required a reassessment of marketing paradigms and ethical practices. This study emphasizes the need for a balance between technological innovation and social responsibility, highlighting the importance of ethical and transparent practices that respect consumer privacy, promoting a more sustainable and trustworthy digital environment.

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