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Digital Consumer Behaviour across European Countries

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Abstract

With technological evolution, the economic environment has also made progress in this direction, becoming increasingly digitalised. Thus, understanding consumer behaviour is essential both for state institutions and for the business environment. This paper investigates variations in consumer trust, experiences, and perceptions in the digital environment. Thus, using the data published by the European Commission and Eurostat. A bibliometric analysis was carried out in order to see the importance of researching aspects related to digitalisation and consumer behaviour. The results of the research suggest that there are variations and discrepancies in consumer experiences in the digital environment from country to country. It is also necessary to adopt laws to help consumers in the online environment, so that they feel protected and can carry out transactions with confidence. The role of this study is to better understand the challenges, but also the opportunities to which consumers are exposed in the digital environment.

Keywords: consumer behaviour, digitalisation, consumer trust, digital market.

1. Introduction

Over the last decade, technology has undergone continuous development, which has led to the emergence of several tools in the IT field, such as artificial intelligence (Turlacu, 2025). Companies had to adapt to this technological evolution because it was a good way to stay competitive. On the other hand, not only companies have embraced these transformations, but also consumers, who have become very attracted to the digital environment (Singh et al., 2024).

It was observed that the IT field, through the improvements brought to the digital environment and the quality of services offered to consumers, a much higher transparency of the online environment was obtained, compared to the physical, traditional one (Singh et al., 2024).

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Moreover, platforms in the digital environment have also focused on facilitating interpersonal connections, making them much easier to achieve compared to those in the traditional environment (Sokolova, 2025). Companies have also invested in creating various avatars, so that consumers benefit from an experience that brings as much as possible to the real environment. Thus, these avatars give individuals the chance to transpose themselves into the online environment as a version of themselves that they especially want. This aspect can have both advantages and disadvantages, because in the case of a company that sells fashion products, such an avatar can make the consumer motivated to strive for a better version of himself, but on the other hand, it can also have the opposite effect, namely to demoralise him, make him insecure about his appearance and become dependent on an image that exists only in the virtual space (Ki et al., 2024).

Thus, this research aims to study the technological evolution in the digital environment, but also what impact it has had over time from a social and economic point of view. Moreover, the case study aims to investigate aspects related to consumer behaviour in the digital environment starting from the importance of the appearance of keywords in the field in the research of the last 10 years, but also how consumers from various countries manifest themselves in the digital environment.

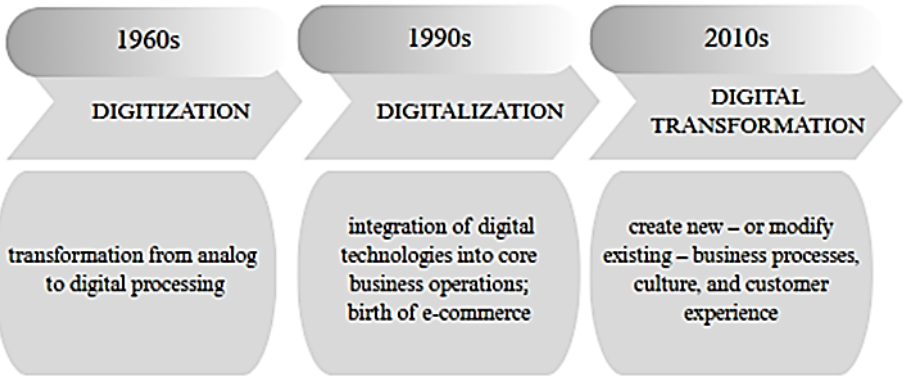
2. Literature Review

2.1 Digitalisation

The digital revolution has transformed both European and global societies and economies. The modern face of all spheres of life is shaped by two key forces – the development of information and telecommunications technologies and the processes of globalisation. These intertwining factors are the basis for emergence of the information society and the "new economy", also known as the Internet, virtual or digital economy (Gregor & Stawiszyński, 2002). Digitalisation has profoundly reshaped consumer behaviour over the past three decades. From the early days of basic internet commerce to today's highly personalised, omnichannel experiences, consumers' interactions with brands, products, and services have evolved dramatically. This transformation has been driven by technological advances such as the Internet, mobile devices, social media, big data analytics, and artificial intelligence (AI).

The evolution of digitalisation can be defined as three streams of development: early information systems - digitisation, the e-business applications – digitalisation and holistic reimagining of business models, processes, and customer interactions – digital transformation (Omol, 2023) as shown in Figure 1.

Figure 1. Evolution of digitalisation



Source: own report based on Enaifoghe, 2021; Van Veldhoven & Vanthienen, 2023.

The first stream of digitalisation development began with the early 1960s, when analogue processes – such as accounting or data storage, started to be replaced by digital systems. This was a time dominated by digitisation –facilitating more efficient data storage, access, and processing of data (Terras, 2011; Walter, 2023). This early stage established the foundation for digitising operational processes and automating basic tasks with the added value of reducing paper processes.

The widespread adoption of the Internet and the advent of connected technologies marked a significant acceleration in the digitalisation stage in 1990, initiating a new era characterised by advanced connectivity and real-time communication. During this stage, digital tools became increasingly embedded within core business functions, resulting in greater operational efficiency, the automation of workflows, and the emergence of e-commerce (Gong, 2023). Organisations began to realise the transformative potential of digital technologies not only to enhance internal processes but also to deliver more responsive and personalised customer experiences. The pioneers of e-commerce like Amazon and eBay revolutionised retail by offering consumers access to a wide range of products online (Ntumba et al., 2023).

The transition from basic digitisation to digital optimisation required a reconfiguration of traditional managerial frameworks and tools. Further advancing digital transformation meant a profound paradigm shift in organisational management practices.

This period signified more than a technological shift – it represented a fundamental reconfiguration of business models, organisational structures, and ways of engaging consumers (Bokolo, 2020).

Over the past two decades numerous national and international digital strategies – Digital Single Market Strategy for Europe, Digital Agenda 2030 – have exemplified a broader global trend enhancing digital connectivity, advancing e-government and e-commerce services, and establishing coherent regulatory frameworks to support cross-border digital integration and innovation.

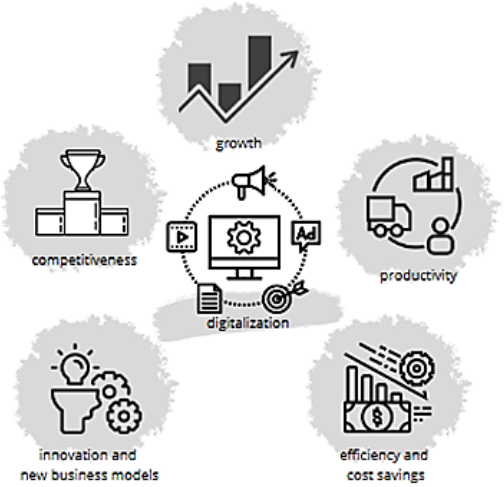
The continuous development of e-commerce is a direct response to the needs of modern consumers, who value above all time savings, convenience, quick access to information, and the ability to efficiently meet their needs (Ovodenko et al., 2020). A wide range of products and services available online means that even the most demanding customers can find something suitable for themselves. Today, consumers buy virtually everything on the Internet — from groceries, books, music, clothing, and cosmetics to household appliances and electronics — both within their home country and abroad (Consumer Conditions Scoreboard, 2025). However, consumers' willingness to engage in online shopping depends on factors such as their experience with e-commerce, personal attitudes toward this form of commerce, motivations for buying online, as well as barriers that may discourage them from using e-stores. Understanding this ongoing evolution is critical for businesses and marketers who want to meet the expectations of today's digital consumers while effectively navigating the associated challenges.

2.2 Benefits of Digitalisation

Digital technologies can make economies more productive, innovative and competitive. By enabling automation, real-time data and new business models, digitisation tends to increase production and productivity. Empirical studies confirm strong growth in the digital sector: for example, the OECD reports that the information and communications technology (ICT) sector grew about three times faster than the overall economy between 2013 and 2023 (OECD, 2024).

More broadly, digitisation allows industries to remain competitive: as the reports highlight, improved digital infrastructure and skills are seen as key to long-term growth and restoring global competitiveness. Figure 2 presents the economic and business benefits of digitalisation.

Figure 2. Economic and business benefits of digitalisation



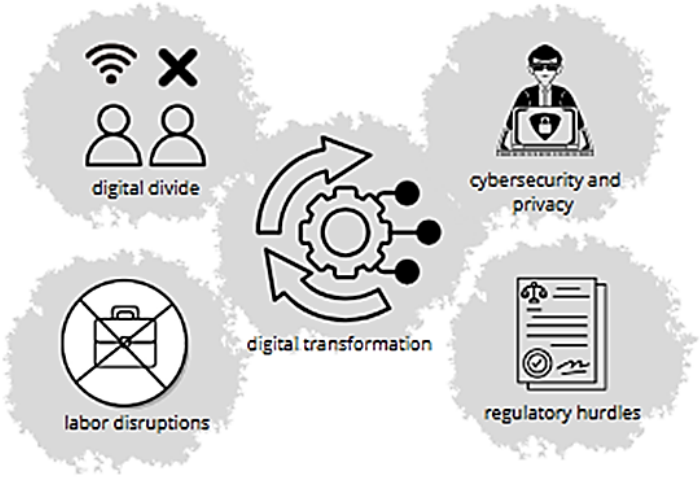
Source: own report based on Eurostat, Digitalisation in Europe 2024.

Digital industries and tools raise output and show many companies which adopt advanced technologies do realise productivity improvements, even if unevenly. The so-called "digital productivity puzzle" suggests benefits accrue mainly once complementary skills and processes are in place (European Central Bank, 2024). The Internet and digital platforms have enabled new products and services, such as digital banking, e-commerce marketplaces, online education, etc.). Europe has witnessed a proliferation of technology startups and scale-ups. For example, cloud and mobile technologies allowed many small companies to sell internationally without traditional retail networks, increasing exports and consumer choice. Automation in factories, logistics, back-office reduces labour and error costs. E-government and digital public service, e.g. online tax filing, e-health, and e-documentation, also streamline administrative processes, saving companies and citizens time and money, as well as help companies to compete globally.

2.3 Drawback of Digitalisation

The digital transformation also presents serious challenges and some drawbacks, which are presented in Figure 3. The main problem is the digital divide, differences in access, skills, and adoption both between and within countries. Eurostat data shows that in 2023, only 56% of adults in European countries will have basic or secondary digital skills. Many citizens, especially in rural areas or in older age groups, lack even basic ICT skills, limiting inclusive participation in the economy. The differences are stark: in countries such as the Netherlands and Finland, more than 80% of adults have digital skills, while in Romania and Bulgaria, the percentage is below 30% (Eurostat, 2024).

Figure 3. Digitalisation's challenges and drawbacks



Source: own study.

Another disadvantage is cybersecurity and privacy. More connected systems mean more opportunities for cyber-attacks. Some incidents, such as data security breaches, have demonstrated the vulnerability of both private companies and government agencies. As a result, robust cyber resilience would need to be pursued – through regulation, e.g., the Cyber Security Law, investment in secure infrastructure and public-private cooperation – which is necessary but also costly.

Regulatory burdens can also slow innovation. The General Data Protection Regulation and recent laws on digital services and digital marketplaces protect citizens, impose compliance costs on businesses (especially SMEs), and can discourage the rapid introduction of new data-driven services. Companies need to navigate EU and national rules for data use, digital contracts, and artificial intelligence. For example, anticipated EU-wide regulations on artificial intelligence aim to ensure ethical use, but also create uncertainty for businesses testing advanced AI tools. Smaller companies may lack the resources to fully comply with the regulations, potentially hindering competitiveness.

The labour market disruptions are another problem, where digitalisation tends to create new skilled jobs, even as it automates routine tasks. However, many low-skilled or routine occupations face potential displacement by automation or artificial intelligence. Estimates suggest that around two-third of current jobs are exposed to some degree of automation (Elliott, 2024).

Digital transformation is deepening, reshaping its world economic landscape. On one hand, digital technologies have become engines of growth: they enable efficiency, innovation, and new markets for European businesses, and they underpin the competitiveness of leading economies. On the other hand, the transition brings significant challenges – technological, social, and regulatory.

3. Methodology

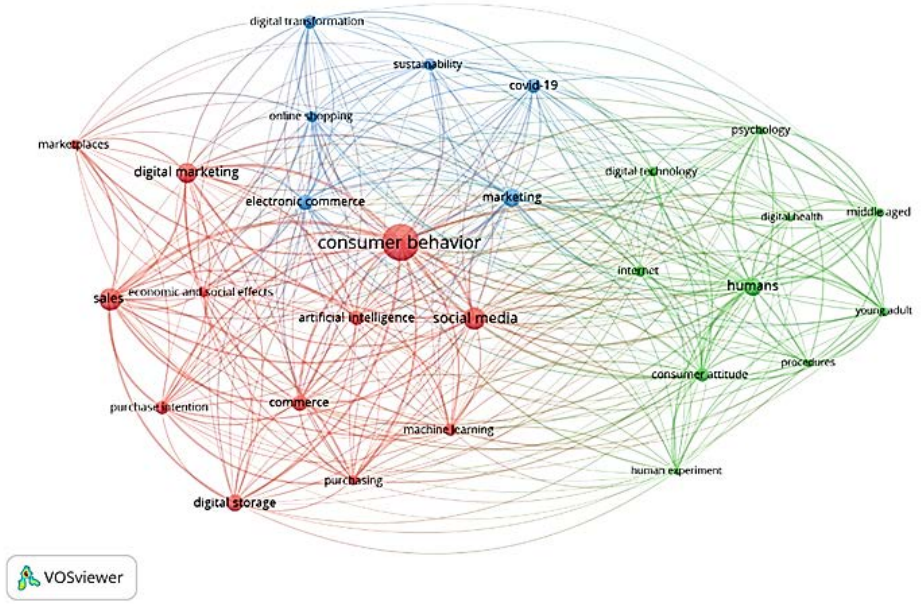
The research carried out has the role of studying aspects related to consumer behaviour in the digital environment, in the case of European Union member states. For this, a correlation was made between a bibliometric analysis and data extracted from sources such as Eurostat and the European Commission.

In order to carry out the bibliometric analysis, 5000 documents were downloaded for the period 2015-2025. Also, the keywords used in the search for these documents were "digital consumer behaviour", using the Scopus database.

These documents were processed in the VOSviewer software in order to perform a bibliometric analysis. Out of the 20382 keywords found, 1696 met the criteria. In order to narrow the research area and obtain a clearer picture of the researched aspects, 50 keywords were selected from those that met the criteria. Subsequently, following the elimination of duplicates and words such as "article", "questionnaire", 28 representative keywords were kept. Also, the bibliometric analysis consists of 3 clusters, 343 links, and a total link strength of 6295.

4. Results Interpretation

Figure 4. Keywords co-occurrence map



Source: data collected from Scopus and processed in VOSviewer software.

In Figure 4, the keywords network formed as a result of the bibliometric analysis can be observed. It comprises 3 clusters, each composed of keywords as follows:

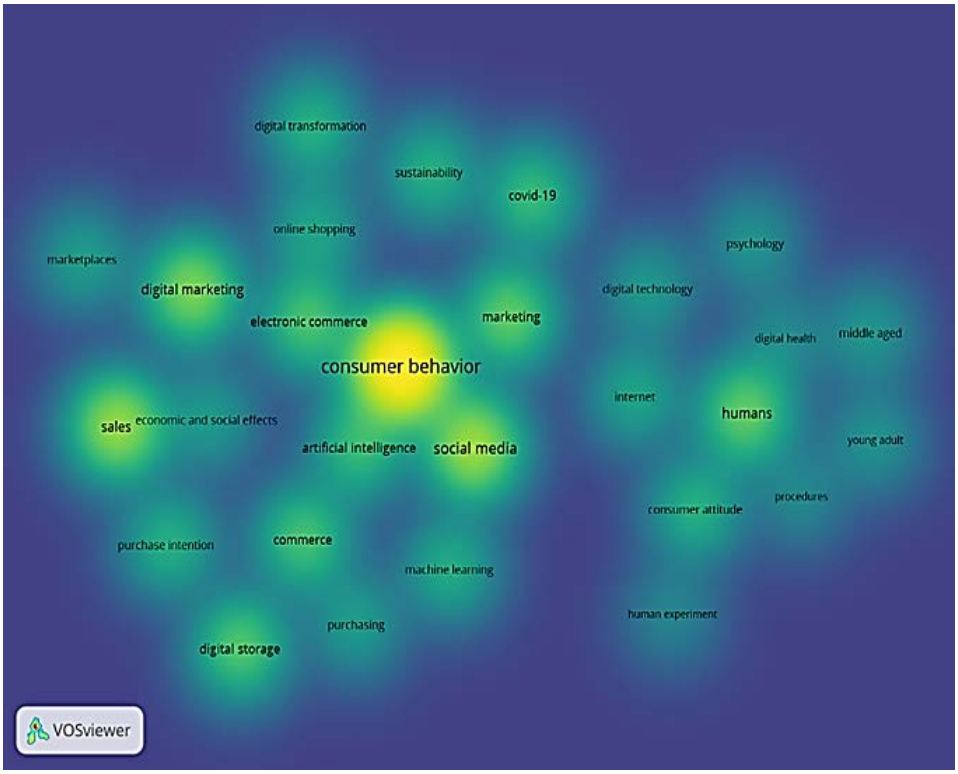
Cluster 1, red one (12 items): artificial intelligence, commerce, consumer behaviour, digital marketing, digital storage, economic and social effects, machine learning, market places, purchase intention, purchasing, sales, social media. The main node of this cluster is "consumer behaviour" with 27 links, total link strength 1972 and occurrences 1115.

Cluster 2, green one (10 items): consumer attitude, digital health, digital technology, human experiment, humans, internet, middle aged, procedures, psychology, young adult. The main node of this cluster is the keyword "humans", with 26 links, total link strength 836, and occurrences 292. The next two important nodes in this cluster are "internet" with 26 links, 309 total link strength, occurrences 125 and "consumer attitude" with 26 links, 629 total link strength, and occurrences 162.

Cluster 3, blue one (6 items): COVID-19, digital transformation, electronic commerce, marketing, online shopping, sustainability. In this cluster, there are two main nodes, namely "electronic commerce" with 27 links, 507 total links strength,

occurrences 239 and "marketing" with 26 links, total link strength 543 and occurrences 288.

Figure 5. Density visualisation map

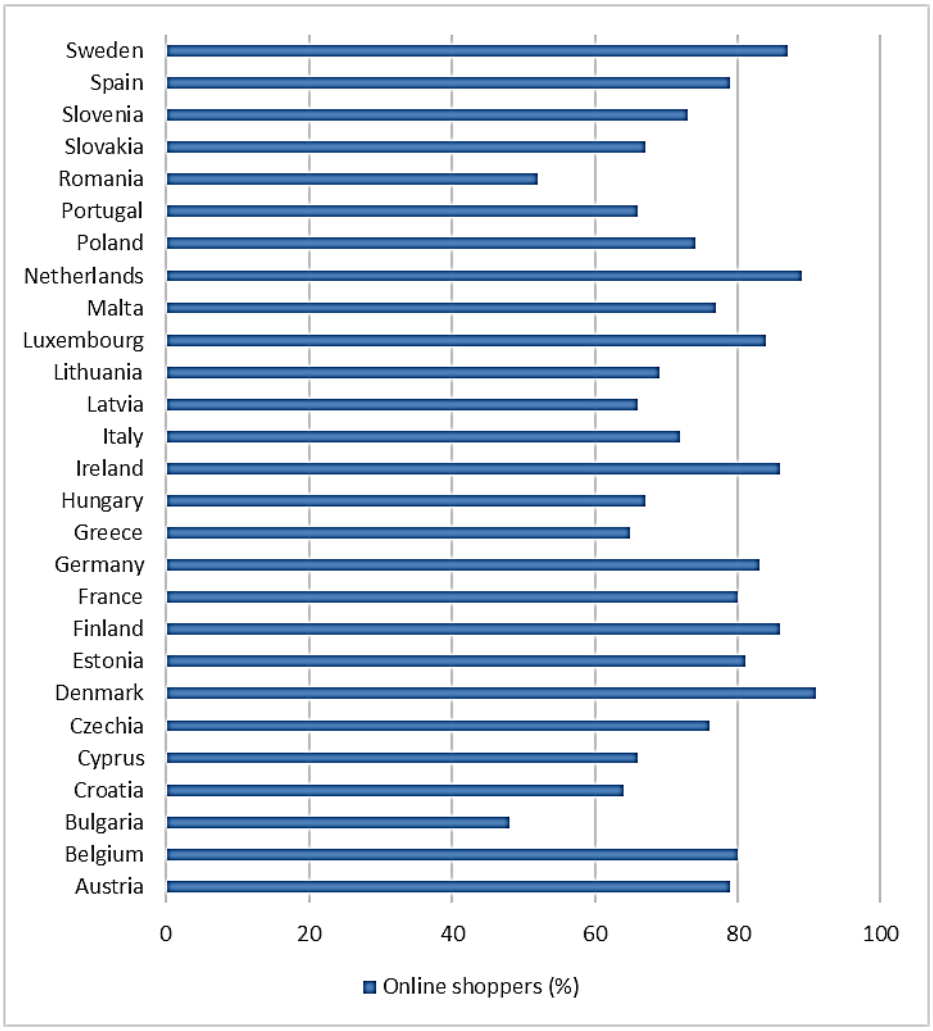


Source: data collected from Scopus and processed in VOSviewer software.

Figure 5 shows the density of the keywords used. Thus, words such as "consumer behaviour", "sales", "social media", "digital marketing" have appeared most frequently in research in the last 10 years. This is due both to the recent technological development and to the fact that human actions, more precisely consumer behaviour, have had to adapt to new digital technologies.

Understanding consumer behaviour has become essential, as more and more companies operating online need statistics and concrete data about the types of consumers. This is essential because companies can end up maximising their profit if they can track certain behavioural patterns. Often, there are also certain psychological implications in consumer behaviour, such as herd behaviour, whereby individuals imitate the behaviour of other people without having rational arguments (Figueiredo et al., 2025).

Figure 6. Percentage of online purchases made by individuals in 2023 at the level of European Union countries



Source: Eurostat https://ec.europa.eu/eurostat/web/digital-economy-and-society/publications.

Figure 6 shows the evolution of online shopping in the EU member states for 2023. Among the countries that recorded the highest levels were Denmark (91%), the Netherlands (89%), Sweden (87%), and Ireland (86%). The first three countries listed are part of the Nordic countries where the standard of living is high; this being due to the fact that the government of these states has invested a lot in recent years in technology, digitalisation, infrastructure, so the business environment has been able to develop in a harmonious and profitable manner. All these things have made consumers spend more in the online environment.

At the opposite pole are countries such as Romania (52%) and Bulgaria (48%), where the purchasing power of consumers is considerably lower, compared to the Nordic countries. This may be due to the fact that these two countries are in the process of technological development, and the digital environment is not generally accepted by all buyers. In addition to this aspect, it is also necessary to take into account the incomes of people in these countries, which are much lower than in the case of leading countries.

Thus, in order for more and more individuals who choose to buy online, companies must respect their rights, because there may be cases when a product became the property of a person and had defects or was of a much lower quality than what was initially presented in the description or in the photos. At the same time, the double standard must be taken into account in terms of the quality of the products delivered. It has been observed that among Western European countries products are of higher quality compared to those in Eastern Europe. This can affect consumers' trust in certain companies and will make them more reluctant to buy the product. There are many individuals who, although they can buy a certain product from the company's website in their own country, choose to do so from a country such as Germany or France, because they believe that the quality of the product is much better (Karimova et al., 2023).

5. Conclusions

In conclusion, it has been observed that technological evolution over the last century has brought both advantages and disadvantages. First of all, from a social perspective, people now have the opportunity to communicate with family and friends through social networks even if they are not in the same country as them. This brings a huge benefit among individuals, as it helps combat episodes of anxiety, and in the case of the elderly who live alone, it gives them the chance to feel integrated into today's society. On the other hand, all this digital connection can lead to addiction among young people, which will make them more anchored in a virtual environment than in reality.

From a technological and economic perspective, the digital environment has contributed a lot to the evolution of many companies today. A good example is the COVID-19 pandemic, which made many entrepreneurs move their businesses online in order to continue. However, in all this evolution, consumers are not yet fully protected from possible online fraud or scams. Both the European Commission and each EU member country are constantly working to combat these issues, but in the end, the consumers must also be aware of the risks to which they can expose themselves online.

Also, many consumers have come to prefer to shop online, as it is a good way to save time, and as we well know, time is an extremely precious resource that cannot be recovered. On the other hand, other individuals believe that they would spend less online than if they shopped in person.

The study highlighted the importance of researching the link between digitisation and consumer behaviour through bibliometric analysis and also highlighted the differences in online shopping within each EU member country.

References

[1] Anghel, B., Bunel, S. (2024). Digitalisation and productivity: A report by the ESCB expert group on productivity, innovation and technological change (Occasional Paper No. 339, 15-23). European Central Bank. https://www.ecb.europa.eu.

[2] Bokolo, A. J. (2020). Managing digital transformation of smart cities through enterprise architecture: A review and research agenda. Enterprise Information Systems, 1-9. https://doi.org/10.1080/17517575.2020.1812006.

[3] Elliott, D. (2025). EU falling short of digital transformation goals, new report finds. World Economic Forum. https://www.weforum.org/stories.

[4] Enaifoghe, A. (2021). Digitalisation of African economies in the fourth industrial revolution: Opportunities for growth and industrialisation. African Journal of Development Studies, 11(2), 31. https://hdl.handle.net/10520/ejc-aa_affrika1_v11_n2_a2.

[5] European Central Bank (2024). Annual report 2024. European Central Bank.

[6] European Commission (2025). Consumer conditions scoreboard 2025 edition. https://commission.europa.eu/document/download/2816337b-4fd1-4db2-a71c-d14a206a5a93_en?filename=consumer_conditions_scoreboard_2025_final.pdf.

[7] Eurostat (2024). Digitalisation in Europe – 2024 edition. https://ec.europa.eu/eurostat/en/web/interactive-publications/digitalisation-2024.

[8] Figueiredo, N., Ferreira, B. M., Abrantes, J. L., Martinez, F. L. (2025). The role of digital marketing in online shopping: A bibliometric analysis for decoding consumer behavior. Journal of Theoretical and Applied Electronic Commerce Research, 20(1), 25. https://doi.org/10.3390/jtaer20010025.

[9] Gong, S. (2023). Digital transformation of supply chain management in retail and e-commerce. International Journal of Retail & Distribution Management. https://doi.org/10.1108/IJRDM-02-2023-0076.

[10] Gregor, B., Stawiszyński, M. (2002). E-commerce. Oficyna Wydawnicza Branta.

[11] Karimova, G.-S., Heidbrink, L., Brinkmann, J., LeMay, S. A. (2024). Global standards and the philosophy of consumption: Toward a consumer-driven governance of global value chains. Business Ethics, the Environment & Responsibility, 34, 280-294. https://doi.org/10.1111/beer.12648.

[12] Ki, C.-W., Chong, S.-M., Aw, C.-X. E., Lam, L.-M. M., Wong, Y. W. C. (2025). Metaverse consumer behavior: Investigating factors driving consumer participation in the transitory metaverse, avatar personalization, and digital fashion adoption. Journal of Retailing and Consumer Services, 82, 104094. https://doi.org/10.1016/j.jretconser.2024.104094.

[13] Ntumba, C., Aguayo, S., Maina, J. K. (2023). Revolutionizing retail: A mini review of e-commerce evolution. Journal of Digital Marketing and Communication, 3(2), 100-110. https://doi.org/10.53623/jdmc.v3i2.365.

[14] OECD (2024). OECD digital economy outlook 2024 (Vol. 1). OECD Publishing.

[15] Omol, E. J. (2024). Organizational digital transformation: From evolution to future trends. Digital Transformation and Society, 3(3), 240-256. https://doi.org/10.1108/DTS-08-2023-0061.

[16] Ovodenko, A. A., Peshkova, G. Y., Zlobina, O. V. (2020). Digital evolution of consumer behavior and its impact on digital transformation of small and medium business sustained development strategy. In Advances in Economics, Business and Management Research (Vol. 156, p. 424).

[17] Singh, P., Khoshaim, L., Nuwisser, B., Alhassan, I. (2024). How information technology (IT) is shaping consumer behavior in the digital age: A systematic review and future research directions. Sustainability, 16, 1556. https://doi.org/10.3390/su16041556

[18] Sokolova, H. (2025). Cultural intelligence versus artificial intelligence: Which works better for organisational leadership in multinational companies (MNCs)? In A. M. Dima & C. Badarinza (Eds.), Innovative approaches in economics, leadership, and technology: ICESS 2024 (143-164). Springer. https://doi.org/10.1007/978-3-031-86989-1_11.

[19] Terras, M. M. (2011). The rise of digitization: An overview. Digitisation Perspectives, 46, 1-20. https://doi.org/10.1007/978-94-6091-299-3_1.

[20] Turlacu, L., Goga, E., Dinu, D., Orzan, G. (2025). AI and branding: Navigating the future. In A. M. Dima & C. Badarinza (Eds.), Innovative approaches in economics, leadership, and technology: ICESS 2024 (165-174). Springer. https://doi.org/10.1007/978-3-031-86989-1_12.

[21] Van Veldhoven, Z., Vanthienen, J. (2023). Best practices for digital transformation based on a systematic literature review. Digital Transformation and Society. https://doi.org/ 10.1108/DTS-11-2022-0057.

[22] VOSviewer software.

[23] Walter, Y. (2023). The digital transformation in the psychology of workplace spirituality. Digital Transformation and Society (ahead of print). https://doi.org/10.1108/DTS-01-2023-0008.