Impact of Digital Technology on Consumer Buying Behaviour: A Review of Literature

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ABSTRACT

This review examines the profound impact of digital technology on consumer buying behaviour. It outlines the transition from traditional retail to digital platforms, emphasising their convenience and accessibility. The role of social media, online reviews, peer recommendations, and influencer marketing in shaping consumer preferences and purchase decisions was explored. This study also delves into the significance of data analytics and artificial intelligence in personalised marketing, addressing ethical concerns surrounding data privacy. It discusses how digital technology has reshaped impulse buying behaviour and the evolving concept of trust in the digital era, focusing on trustworthiness, security, and authenticity. This review provides a comprehensive overview of how digital technology has revolutionised consumer buying behaviour, offering insights vital to businesses and scholars navigating the ever-changing digital landscape. Understanding this impact is crucial for businesses aiming to thrive in a continually evolving digital marketplace.

Keywords: Marketing, Consumer Buying Behaviour, Digital Marketing

I. Introduction

The impact of digital technology fundamentally alters every aspect of its existence. Spanning communication, entertainment, healthcare, and finance, the digital revolution seamlessly woven itself into the fabric of contemporary society. Digital technology has not only revolutionised but has also entirely reconfigured how we engage in communication, pursue professional endeavours, acquire knowledge, and engage with the world at large (Roy et al., 2007).

A. Evolution of Digital Technology

The evolution of digital telecommunication systems and the establishment of protocols such as packet switching and ARPANET marked the commencement of the age of worldwide interconnectedness, a development pioneered by figures such as Kleinrock and Roberts during the 1960s. The advent of digital telephony and the Internet has triggered a profound transformation in our modes of communication, effectively dismantling geographical and temporal constraints. Furthermore, the inception of the World Wide Web, conceived by Tim Berners-Lee in 1989, broadened the reach of information and cultivated the digital landscape of knowledge exchange. The widespread adoption of smartphones and the ubiquity of Internet connectivity have effectively closed the digital gap, affording individuals the means to access online content and services. Educational paradigms have undergone a significant transformation owing to e-learning platforms, readily available educational resources, and digital utilities, rendering education more inclusive and tailored to individual needs. Concurrently, social media and digital platforms have magnified the voices of individuals, streamlining avenues for social and political advocacy (Stoica, 2014).

B. Traditional vs. Digital Era of Marketing

The transition from the traditional era of marketing to the digital age has brought about a profound transformation in the way businesses engage with their target audience. In the traditional era, marketing primarily relied on conventional media, such as print, television, and radio. While these methods are effective, they often lack precision and are relatively unidirectional in their communication. By contrast, the digital era of marketing leverages the power of the Internet, data analytics, and social media platforms to create highly targeted and interactive campaigns (Kumar et al., 2017). Businesses now have the ability to obtain specific demographics with personalised content, gather real-time feedback, and adjust strategies on the fly. The digital era has ushered in a new level of customer engagement and market responsiveness, which was previously unimaginable in the traditional marketing landscape (Melíán-González, 2019).

C. Consumer Buying Behaviour

Consumer buying behaviour is a complex and multifaceted phenomenon that plays a pivotal role in shaping market trends and driving business strategies (Kumar et al., 2017). Understanding the intricacies of consumer behaviour is essential for companies seeking to thrive in today's competitive landscape.
It encompasses a range of factors, including psychological, social, cultural, and economic influences, that guide individuals in their purchasing decisions. Marketers employ various strategies and methodologies, such as market research and data analysis, to gain insights into these behaviours (Alaeddin et al., 2018). By comprehending what motivates consumers, their preferences, and how they respond to marketing stimuli, businesses can tailor their products, services, and advertising campaigns to align with consumers’ needs and desires. In this dynamic field, the study of consumer buying behaviour remains a cornerstone for achieving market success and sustaining customer loyalty (Indahingwati et al., 2019).

D. Digital Technology and Consumer Buying Behaviour

Digital technology has profoundly reshaped consumer buying behaviour in today's interconnected world. With the advent of e-commerce, social media, and mobile applications, consumers have unprecedented access to information, products, and services. They can research products, read reviews, compare prices, and make purchases for the comfort of their homes or on the go. Digital technology has enabled highly targeted and personalised marketing efforts. Companies can analyse vast amounts of data to better understand consumer preferences and behaviours, allowing them to tailor advertising and recommendations to individual customers. Additionally, the rise of online reviews and social media has made peer recommendations and user-generated content significant factors in purchase decisions. As consumers become more digitally savvy, businesses must adapt their strategies to meet evolving expectations and leverage technology to enhance their customer experience.

The present investigation constitutes a thorough examination of the extant literature pertaining to two primary subjects: digital technology and consumer buying behavior. This study delves into these topics individually, while simultaneously exploring their interconnections. Essentially, the objective of this comprehensive analysis is to gain a deeper understanding of the influence and interaction of the variables. To this end, the study provides an overview of the major findings from previous research in this domain (Barak et al., 2023; Solanki and Chhikara, 2022; Rathee et al., 2023).

II. Literature Review

A. Digital Technology in Marketing

(Sawicki, 2016) proposed that the digital revolution in marketing presents opportunities to adopt novel consumer relationship models, which is a significant undertaking for enterprises aiming to expand their market presence. The widespread use of smartphones and the influence of social media have played pivotal roles in the rapid growth of digital marketing. These factors have extended business outreach to prospective clients via mobile devices and social networking platforms, establishing them as highly effective communication channels. Consequently, this expansion has resulted in increased sales of these enterprises.

(Agarwal et al., 2020) regarded digital technology as a potent component of marketing communication toolkits. Consequently, prominent firms and their marketing professionals have directed their attention toward establishing digital connections with their customer base. The research discerned that, in the era of digitisation, companies prioritise meeting consumer needs solely to maximise profits. This strategic shift reflects a commitment to ensure that their products possess market value and will remain in demand.

(Amiri et al., 2023) conducted a comprehensive bibliometric analysis of research pertaining to digital marketing in SMEs. This extensive study involved the examination of 247 documents sourced from the Scopus database, employing bibliometric analysis. The findings highlighted that the most prolific year in this domain was 2021, marked by 56 publications. Notably, the University of Birmingham in the UK emerged as the most influential institution, with the United Kingdom ranking as the most impactful country in this field. Furthermore, "Industrial Marketing Management" stood out as the most influential journal, while the "International Journal of Internet Marketing and Advertising" proved to be the most productive. Among the most cited articles, "Usage, barriers and measurement of social media marketing: An exploratory investigation of small and medium B2B brands" held a prominent position.

In their research, (Bist et al., 2022) delved into the intricate process of implementing digital transformation in marketing, focusing on a prominent telecommunications company in Indonesia as their primary case study. Employing a qualitative approach, the study centered on semi-structured interviews, involving 25 high-level executives. The investigation revealed a strategic approach that combines digital and traditional marketing, emphasizing a company's preparedness for digital marketing adoption. This approach advocates for the adoption of an omnichannel model, aiming to seamlessly convey messages to customers, thereby facilitating an enhanced customer experience. This strategy not only aligns with current market trends but also fosters the acquisition of new business opportunities.

(Yasmin et al., 2015) explored the impact of digital marketing in enticing customers and facilitating their engagement with brands through digital media. The study's findings revealed that when the utilization of digital marketing reaches 1%, an impressive 84.70% of customers become informed and updated about the available products or services. This underscores the significant influence of digital marketing in reaching and engaging with the target audience effectively.

B. Consumer Buying Behaviour in Marketing

(Bagga & Bhatt, 2013) set out to discern the intrinsic and extrinsic elements influencing consumers' online buying behaviour. To achieve this, they employed a structured questionnaire and conducted a survey involving 200 participants. Respondents filled out the questionnaires through various methods, including in-person responses and online submissions to accommodate different demographic profiles. The study identified seven prominent intrinsic and extrinsic factors shaping consumer buying behaviour online. These factors encompassed the desire for leisure, information search, convenience, online advertising, social interaction, and concerns related to security and privacy. The importance of these factors varied across
demographic variables. This study offers a straightforward approach to pinpointing the most effective Internet marketing strategies for businesses while enhancing our comprehension of how online consumer behaviour diverges from traditional consumer behaviour across multiple dimensions.

In their investigation, (Kumar et al., 2017) delved into the critical attributes of consumer behaviour and their interrelationships within the realm of E-marketing in Jaipur. Their findings unveiled that individual, regardless of age or gender, actively engage with the internet. Nevertheless, notable distinctions were detected between age groups in terms of online trading attributes, although no discernible correlation was identified with gender. Interestingly, a significant proportion of the respondents exhibited reluctance in making online purchases, primarily due to security concerns. Furthermore, respondents from diverse age groups, especially those within the 18-30 bracket, regarded e-shopping as a more convenient and time-saving option. Additionally, they favoured credit card payment as the most convenient mode of transaction.

(Molteni & Ordanini, 2003) conducted an empirical examination within the music industry. Their analysis of results from an online survey revealed that music downloading is not a uniform practice; rather, consumers are approaching the digital landscape in diverse ways. The presence of these distinct consumption patterns underscores the need for a comprehensive segmentation strategy. To effectively address this segmentation, both aspects of the strategy, from artist selection to promotional and pricing policies, must be thoughtfully considered. Managers in cultural industries will encounter substantial transformations associated with the shift away from physical artifacts, necessitating the ability to anticipate evolving consumption patterns and develop versatile strategies for managing this transitional phase.

(Cruz-Cárdenas et al., 2021) conducted a systematic review of 70 COVID-19 and consumer behaviour studies. They employed descriptive analysis to emphasize the significance, with a particular focus on research conducted in China and the US in Scopus database. Through co-occurrence analysis, they identified various thematic clusters within these studies. Their systematic review followed the input-process-output model of consumer behaviour, which encompasses numerous psychological traits and consumer actions. Additionally, the research highlighted the impact of external factors, such as government measures, technology, and social media. To address evolving consumer risks, revised marketing strategies had emerged. As technological and digital influences increasingly shape consumer behaviour, businesses must integrate digital transformations into their operations.

(Toeh et al., 2013) aimed to uncover the factors that impact how Malaysian consumers perceive electronic payment (e-payment) systems. They developed a self-reporting questionnaire and collected 183 valid responses that were further used for statistical analysis. The results of multiple linear regression showed that “benefits, self-efficacy, and ease of use” significantly influence how consumers view e-payment. However, the findings related to trust and security were not statistically significant and require further investigation. This study contributes valuable insights by offering information about the current state of e-payment acceptance and usage, especially in the context of Malaysian consumers.

C. Digital Technology and Consumer Buying Behaviour

(Khatri, 2021) explored the intersection of modern technology's technical aspects with digital marketing, considering shifts in trends and evolving consumer preferences driven by new products and market analysis. Notably, AI emerged as a significant trend due to its ability to offer personalized experiences based on data analysis. However, research has also highlighted that if digital marketing is not executed optimally, it can have adverse effects. To implement effective AI-based digital marketing, companies must invest in robust IT infrastructure, which can be costly, posing a challenge for digital agencies looking to adopt artificial intelligence. Additionally, the success of artificial intelligence relies on high-quality data, so inadequate or low-quality data can present challenges for firms in this context.

(Indahingwati et al., 2019) delved into the connection between both internal and external factors influencing consumers and explored the moderating role of comparative marketing elements, particularly the involvement of YouTubers and celebgrams, in shaping purchasing decisions. The research adopted a quantitative approach, encompassing descriptive, predictive, and prospective data analysis, involving a cohort of 300 eligible individuals from the Millennial and Generation Y age group, ranging from 20 to 35 years old, with bachelor's degrees. Data collection occurred through online surveys, and the final statistical analysis utilized PLS method. The study revealed that dominant internal consumer factors exerted a positive and substantial influence on consumer purchase decisions. Moreover, when examining the moderating influence, comparative marketing aspects were found to be influential in moderating the impact of internal consumer factors on purchase decision-making. In conclusion, the study emphasized the transformative impact of digital technology on the perceptions and behaviours of Millennials and Generation Y, defining them as tech-savvy generations that not only adapt to technology but also influence and shape the culture of their own and future generations.

(Xiang et al., 2015) explored the internet usage patterns of American travellers based on their behavioural habits. The study noted that while conventional internet use for travel planning is widespread across all customer segments, advanced internet applications like social media are becoming increasingly popular among certain segments, notably Generation Y travellers. Notably, there appeared to be a significant divide within the traveller population. Traditional online consumers continue with their established patterns of using online tools, while substantial groups were embracing new information sources and transaction channels. Furthermore, products and experiences traditionally considered secondary, such as museums, festivals, and events, are gaining prominence in the online market. This shift has the potential to further drive the growth of the internet as a platform for travel-related activities.

(Foroudi et al., 2018) investigated the impacts of technology on “customer dynamics” and “customer experience”. The study employed explanatory research methods in a retail context. To begin, a conceptual framework was developed based on existing scholarly literature. This framework was subsequently tested by collecting data from the 330 customers of retail store in London, UK. The findings shed light on the significance of customer dynamics and customer experience in the adoption of innovative smart technology applications within a retail environment. Moreover, the results contributed to a deeper understanding of the factors influencing customer dynamics and customer experience when utilizing smart technologies.
In a study conducted by Juaneda-ayensa et al. (2016), the research aimed to discern the factors that influence the behaviour of “omnichannel consumers” concerning their acceptance and intention to use new technologies within the shopping process. To achieve this, an innovative model was developed, using UTAUT2 model, and incorporating two additional factors: “personal innovativeness” and “perceived security”. This model was put to the test using a sample of 628 Spanish customers who had shopped at the Zara store and had employed at least two different channels during their most recent shopping journey. The results revealed the pivotal determinants of purchase intention within an omnichannel context, with personal innovativeness, effort expectancy, and performance expectancy emerging as the most influential factors, in descending order of importance.

(Rangaswamy et al., 2022), delved into the transformative impact of digital technology on shifting consumer behaviours, with the particular focus on the home furnishing sector in Singapore. The research adopted a comprehensive approach, encompassing realism philosophies, deductive methodologies, and a quantitative research method. Employing a cross-sectional analysis within a descriptive research design, the study employed a questionnaire research instrument to gather valuable insights. The findings underscored a distinct consumer preference for an omnichannel approach when it comes to purchasing furniture, a choice driven by the desire for competitive pricing and personalized designs and services. Furthermore, consumers expressed a heightened expectation for benefits both in the online and offline realms, aiming to maximize the advantages of their purchasing experiences.

(Balakrishnan et al., 2014) assessed the impact of utilizing social media marketing channels on brand loyalty and purchase intent within Generation Y. The research encompassed surveys administered randomly to 200 undergraduate students from Malaysian universities, utilizing questionnaires as the primary data collection method. The outcomes revealed that various facets of online marketing communications, specifically “E-WOM”, “online communities”, and “online advertisements”, demonstrated effectiveness in fostering brand loyalty and stimulating the intention to purchase products through both company websites and social media platforms. The findings conveyed a significant message to marketing executives, highlighting the increasing importance of social media marketing as a pivotal tool for engaging with the emerging younger consumer demographic. The study provided valuable insights for global brands, serving as a guideline for incorporating social media marketing strategies to enhance product promotion and brand recognition.

(Roy et al., 2007) focused on investigating the influence of IT on the globalization of business buying behaviour. The research involved an integration of existing literature and theoretical frameworks to formulate a conceptual model that elucidates the adoption of IT and its impact on the globalization of purchasing behaviour in the business context. The study delved further into examining the role of firm-level factors, as well as global moderating factors, in this dynamic relationship. It was observed that the globalization of buying behaviour is subject to moderation by specific firm-level factors such as perceived risk and digitizability. Additionally, global moderating factors including the availability of alternative suppliers within the buyer's country, cultural differences, and political stability in the supplier's country played significant roles in influencing this relationship.

(Goel et al., 2017) assessed the efficacy of Digital Marketing within the context of the challenging economic landscape in India. The research employed a combination of primary and secondary data sources, with a structured questionnaire administered to a sample of 105 respondents. Data collection was facilitated through Google Forms and subjected to analysis using statistical techniques in SPSS. The analysis encompassed descriptive statistics like frequency, mean, and standard deviation, along with inferential statistics including regression analysis and ANOVA. The findings revealed a significant reliance of customers on online media as their primary source of information regarding products they intend to purchase. Moreover, the study identified several key factors influencing digital marketing effectiveness, including technology, target market, content, budget allocation, and choice of communication channels.

(Nazir et al., 2023), investigated into “consumer repurchase intentions” within the hospitality industry was conducted. This study incorporated various elements, including “AI, social media engagement, conversion rate optimization, and the overall consumer experience.” Data collection involved surveying 308 hotel customers hailing from different regions in Oman, all of whom had prior experience with online hotel bookings. The data was analyzed using SmartPLS, focusing on the examination of proposed hypotheses. The research outcomes yielded valuable insights. Firstly, it was found that artificial intelligence technology had a positive impact on consumer engagement on social media and conversion rate optimization. Furthermore, the study revealed that consumer engagement on social media and conversion rate optimization had a positive influence on creating satisfying consumer experiences, consequently leading to an increase in consumer repurchase intentions. Lastly, consumer habits were identified as a positive moderator in the relationship between satisfying consumer experiences and repurchase intentions.

A novel theoretical framework was developed by Agrawal & Gupta (2023), to shed light on the significant factors shaping consumers’ shopping motivations in the era of digital technology. The researchers employed a multifaceted approach, employing Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Structural Equation Modelling (SEM) techniques. Through EFA, 18 independent variables were categorized into five latent factors. Subsequently, CFA was utilized to validate the construct of these latent factors and evaluate the model’s fit. The application of SEM allowed for a comprehensive visualization of path analysis, illustrating the intricate web of relationships between these latent factors within a unified framework known as the “consumer shopping motives framework.” The findings underscored a notable shift in consumer shopping priorities. Specifically, three conventional variables, namely “role-playing, status and authority, and pleasure of bargaining,” have become outdated in influencing shopping behaviour. Conversely, three emerging factors, “anywhere and any-time shopping, safe and secure digital transaction, and unbiased reviews and ratings,” had taken centre stage. Furthermore, the dimensions of “fun, entertainment, and recreation, social interaction and communication, and exposure to new and latest trends” had experienced notable transformations. This research underscored the increasing reliance of consumers on technology throughout their shopping journeys and decision-making processes.

(Sama, 2019) investigated the impact of Instagram Live Shopping on buyer engagement and purchasing behaviour. They used a mixed-method approach, conducting an online survey with 517 participants and analyzing the data using partial least square structural equation modelling. Additionally, they
validated the survey results through interviews with nine individuals. The study found that factors like visibility, meta voicing, shopping guidance, trading, and triggered attending enhanced buyer immersion and interactivity, though not necessarily the seller's presence. Importantly, increased feelings of immersion and presence correlated with actual buying actions. (Müller-Pérez et al., 2023) examined post-COVID-19 consumer behaviour. They collected data from 384 consumers and employed PLS-SEM for analysis. The research confirmed that both interpersonal influences and electronic word of mouth play a role in explaining repurchase intention, with EWOM exerting the most significant influence. Notably, the study found that consumer behaviour on these two social platforms leaned towards a more diverse user base, with 50% of survey respondents indicating an orientation towards a socio-diverse community.

In a recent study conducted by Raeisi et al., (2023), the impact of digital marketing on customer behavioural intentions, with a focus on the mediating role of Customer Relationship Management (CRM), was thoroughly investigated. The research followed an applied approach in terms of its objectives and employed a descriptive-correlational methodology, utilizing SEM as its primary analytical tool. The participant pool included 384 customers with prior experience in online shopping within Tehran. The study findings yielded several significant insights. Firstly, it was established that digital marketing exerts a noteworthy influence on CRM. Moreover, CRM itself wields a substantial impact on customer behavioural intentions. Importantly, the research illuminated the mediating role of CRM in the relationship between digital marketing and customer behavioural intentions.

### III. Discussion

A comprehensive review of studies in the field of digital marketing and consumer behaviour reveals several noteworthy findings. Firstly, the advent of digital technology has ushered in novel consumer relationship models, emphasizing the need for enterprises to adapt and expand their market presence. The influence of smartphones and social media has significantly enhanced businesses' outreach, particularly via mobile devices and social networking platforms, leading to increased sales. Additionally, firms are increasingly focused on meeting consumer needs rather than solely pursuing profits, underlining a shift towards ensuring product market value and ongoing demand. Concerning consumer buying behaviour, the researches highlighted the intrinsic and extrinsic factors influencing online purchasing decisions. Intrinsic factors include the desire for leisure, convenience, and social interaction, while extrinsic factors encompass website attributes, online advertising, and security and privacy concerns. Age, income group, and gender also play a role in shaping online consumer behaviour (Rathee and Chhikara, 2022; Solanki and Chhikara, 2023). Furthermore, digital technology's impact on consumer buying behaviour extends to diverse sectors such as the music industry and the hospitality sector. In the music industry, distinct consumption patterns require versatile segmentation strategies. In the hospitality industry, digital technology, including artificial intelligence, social media engagement, and conversion rate optimization, influences consumer re-purchase intentions. In the realm of E-marketing, consumers actively engage with the internet, favouring convenience and time-saving benefits, particularly through credit card payments. Additionally, the study of IT's influence on the globalisation of business buying behaviour highlights the role of firm-level and global moderating factors in shaping purchasing decisions. In summary, the reviewed studies underscore the transformative role of digital technology in reshaping consumer behaviour, the importance of adaptation by businesses, and the need for effective digital marketing strategies to engage with tech-savvy consumers. These findings offer valuable insights for businesses aiming to thrive in the digital age.

### IV. Recommendations

The comprehensive review of studies in the field of digital marketing and consumer behaviour presents several noteworthy findings. To enhance this body of research, it is suggested to further investigate the nuanced interplay between intrinsic and extrinsic factors that influence online purchasing decisions, with a focus on the evolving role of trust in online transactions. Additionally, future studies could explore the specific strategies and best practices employed by businesses across different sectors to effectively harness digital technology for consumer engagement and conversion. Understanding how age, income group, and gender continue to shape online consumer behaviour would provide practical insights for targeted marketing efforts. Moreover, as the impact of digital technology extends to various industries like music and hospitality, in-depth sector-specific analyses could yield tailored recommendations for adapting to digital trends and consumer preferences. Finally, expanding research into the globalization of business buying behaviour in the context of digital technology could yield insights into the unique challenges and opportunities faced by multinational enterprises. Overall, these suggestions aim to further enrich our understanding of the evolving digital landscape and assist businesses in formulating effective strategies to engage tech-savvy consumers in the digital age.

### V. Conclusion

In conclusion, the advent of digital technology, driven by the ubiquity of smartphones and the influence of social media, has necessitated a fundamental shift in how enterprises engage with their customers. This shift emphasizes the importance of adapting to the evolving landscape, where mobile devices and social networking platforms serve as powerful communication channels. Consequently, businesses that embrace these changes experience increased outreach and, consequently, higher sales. Furthermore, the research on consumer buying behaviour highlights the intricate interplay between intrinsic and extrinsic factors that influence online purchasing decisions. These factors encompass a wide range of elements, from the desire for convenience and social interaction to concerns about security and privacy. Importantly, demographic and socio-economic variables, including age, income group, and gender, contribute to the nuances of online consumer behaviour. The impact of digital technology extends across various sectors, as observed in the music and hospitality industries. Versatile segmentation strategies are essential in these diverse landscapes, where consumers exhibit distinct consumption patterns.
influenced by digital trends. Additionally, within the realm of E-marketing, the findings indicate that consumers actively engage with the internet, seeking convenience and time-saving benefits. Credit card payments are favoured as a convenient mode of transaction.

However, it is crucial to acknowledge the limitations of these studies. They often rely on self-reported data, which can be subject to biases. Additionally, the rapidly evolving nature of digital technology necessitates continuous adaptation, making it challenging to formulate static marketing strategies. In summary, the reviewed studies illuminate the transformative power of digital technology in reshaping consumer behaviour and market dynamics. Businesses that recognize and adapt to these shifts are better positioned to succeed in the digital age. Nonetheless, they must remain agile and open to ongoing adjustments in their strategies to effectively engage with tech-savvy consumers and navigate the evolving digital landscape.

References


