

Digital Innovation: The Challenges of a Game-Changer

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Abstract: A few years ago, marketing managers considered the Internet as another advertising channel and used it as a magazine advertisement, equipped with sound and motion. They placed banner ads and pop-ups to display advertisements on websites, but once again consumers identified them as distractions and found ways to ignore or avoid them. Nowadays, digital technology offers numerous ways for brands to engage with their customers and present new exciting challenges. It would not be an exaggeration to say that the marketing world is changing every day. But as the digital world is evolving, so is the balance shifting between consumers and marketing experts who try to adjust to this new era of consumer engagement. The purpose of the present paper is to address the question of how digital innovation is changing the marketing field. In a post-pandemic environment, terms like social media, artificial intelligence (AI), Internet of Things (IoT), Big Data, Cloud Computing, Blockchain, and cryptocurrencies, Augmented Reality marketing, and Virtual reality marketing are not just buzzwords but crucial aspects of digital marketing. Nonetheless, their integration into a business strategy is followed by the challenges accompanying them. The ever-changing nature and complexity of digital technology and other issues like privacy regulations and funding can be intimidating, especially for SMEs. In the field of entrepreneurship, their use can be viewed as a creative and innovative response to the evolving environment and an ability to recognize and exploit economic opportunities as many companies include the use of digital technology as the original idea. The theoretical framework of the aforementioned digital technologies and their use as marketing tools are analysed. This is followed by an insight into the digital transformation of Greek SMEs, the adoption of such technologies from start-up companies, and the opportunities they provide for the development of entrepreneurship.

Keywords: digital transformation, innovation, digital marketing, entrepreneurship, SMEs

1. Introduction

Innovation in marketing is considered an essential element of competitive advantage since it can change product design, pricing, packaging, and promotion (D'Attoma and Ieva, 2020). In a post-pandemic environment, terms like social media, artificial intelligence (AI), Internet of Things (IoT), Big Data, Cloud Computing, Blockchain, Cryptocurrencies, Augmented Reality, and Virtual Reality are not just buzzwords but crucial aspects of digital marketing. Nonetheless, their integration into a business strategy is followed by the challenges accompanying them. The ever-changing nature and complexity of digital technology and other important issues like privacy regulations and funding can be intimidating, especially for SMEs. In the field of entrepreneurship, it can be viewed as a creative and innovative response to the evolving environment and an ability to recognize and exploit economic opportunities considering many companies include the use of digital technology as the original idea. The purpose of the present paper is to provide an overview of the integration of digital innovation and the way new technologies are utilized as advanced marketing tools. It represents a theoretical approach regarding the key features of all these technologies, their importance in the marketing context, and their adoption by Greek enterprises.

2. The intersection of technology and marketing

Based on Hoffman et al., (2022, p.2) new technologies in marketing can be defined as “scientific knowledge and/or its application in the early adoption cycle for firms and/or consumers with the potential to influence the activity, institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large”. In the following sub-sections, the concept of social media and certain elements of the Industry 4.0 that have reshaped the marketing landscape (Tuten, 2019), such as the Internet of Things, Big Data, Augmented and Virtual Reality, Artificial Intelligence, and Blockchain are presented.

2.1 Social Media

A few years ago, marketing managers considered the Internet as another advertising channel, and used it as a magazine advertisement, equipped with sound and motion. They placed banner ads and pop-ups to display advertisements on websites, but once again consumers identified them as distractions and found ways to ignore

or avoid them. Those methods were proved either inefficient or not as effective as expected (Weber, 2009) but marketing managers felt the pressure to embrace social media in order to keep up with new trends, harness their potential power, and follow the changes they brought to consumer behaviour (Bond, 2010; Dutta, 2010). Therefore, a new approach was needed. Nowadays, digital technology offers numerous ways for businesses to engage with their customers and presents new exciting challenges for marketing experts. It would not be an exaggeration to say that as the digital world evolves, so is the world of marketing. Social media has become an essential communication channel for companies, organizations, and institutions, but at the same time, the balance between consumers and companies who try to adjust to this new era of consumer engagement is shifting, thus fueling an ongoing discussion regarding the use of social media among both marketing practitioners and scholars. One could argue that social media has become mainstream and therefore is no longer a new technology or media, but for the purpose of this paper, we adopt the case that new is the application of scientific knowledge that has not been replaced by a different one (Hoffman et. al., 2022). And social media keep changing due to two main reasons: the first is technological innovation (as the platforms keep adding new features and services), and the second derives from the ever-shifting consumer trends (as they find new uses of the same media or create the need for new ones) (Appel et al., 2020). So, it is not old. Facebook reported having 2.93 billion monthly active users for the first quarter of 2022, remaining the most popular social media on a global scale (Statista, 2022).

But the question remains, is social media still vital as a marketing tool? Divol et al. (2012) stated that the element that makes this form of communication extremely important, is that it can influence consumers in each stage of their decision journey. Nevertheless, since each consumer is different, it makes it even more difficult to comprehend and influence his decisions (Barwitz and Maas, 2018). Therefore, it should be noted that if marketers do not rely on the basics (e.g., viral marketing, e-WoM, brand strategy, or message consistency) and are consumed by technological innovation, consumers would end up disloyal and confused (Doctoroff, 2014). So, let's go back to the basics. There are two concepts directly related to the use of social media as a marketing tool: e-Word of Mouth and viral marketing (Kaplan and Haenlein, 2011). According to Katz and Lazarsfeld (1955), WoM could influence consumer behaviour and be more effective than traditional advertising methods in impacting brand switching decisions (Hepp, 2019) while e-WoM had a higher diffusion speed for new pieces of information (Kaplan and Haenlein, 2011). Research showed that social media has altered the "bottom-down" model of traditional advertising to a "bottom-up" one. In the new model, the consumer is not just the receiver of a memorable and creative message but an active participant. If the user-generated content (UGC) is spread widely and fast, it will probably attract the attention of the traditional media, and will ultimately be spread to other audiences as well, as these two models could coexist even simultaneously (Hollis, 2013). Besides it is the consumers' participation that differentiates social media marketing from social media advertising, which ultimately leads to "earned media" and not "paid media" (Campbell et al., 2014). It seems that consumers relate more to a brand, after reading other customers' reviews on social media (Ioanas and Stoica, 2014). In addition to audience engagement, they also increase brand visibility and trust (Capitello et al., 2014; Ching-Wei, 2014), and are considered more sophisticated communication tools (Barbulet, 2013). Still, there were cases (at least at the early stages) that abstained from the use of social media and argued that their role in marketing was either debatable or considered inadequate (Drossos et al., 2011). For example, in the field of bank marketing, experts were reluctant at first mainly for security reasons or due to the lack of coordination with other marketing strategies (Mitic and Kapoulas, 2012). Nevertheless, it should be pointed out that their use also has serious risks for a company. User feedback could, for example, backfire as audiences can be offended by a message (Schlagwein and Hu, 2016). Nonetheless, monitoring the impact of brand positioning has been proven difficult (Sokolova and Kefi, 2020).

Aljukhadar and Senecal (2011) divided online consumers into three main categories: the basic communicators, the lurking shoppers, and the social thrivers who engage in more interactive media. Social media have transformed the third group from passive readers of a company's website to content creators. They can participate either in the demotion of a brand by posting negative comments on an online medium or in its promotion by praising it and even sometimes defending it against bad reviews (Colliander and Wien, 2013). The exact motives that drive consumers to post their opinion have not been fully ascertained yet. The trend could be attributed (in the case of a positive review) to altruistic behaviour, or to an attempt of gaining social acceptance/status and admiration regarding an exceptional purchase, and ultimately being characterised as an "expert". The opposite situation (that of a bad evaluation) could be the result of hostile behaviour or simply a search for revenge (Chen et al., 2011).

Another buzzword that is on the rise in the field of digital marketing is the “social media influencers”. The term refers to social media users that have well-established credibility in their industry or profession and are connected to a large audience who trust their opinion (Arora et al., 2019). According to Forbes (2017), an influencer is a person who has the power to influence people’s opinion on something or lead to a change in their behavior. Those individuals can create online content regarding their opinion on a product or service, make a review, post a personal story or even describe their feelings on their media, and that action can have a huge impact on a brand and perhaps influence many potential customers (Hsu et al., 2013). Furthermore, influencers should have the following characteristics: reach (to be able to spread the message to a large number of people), contextual credibility (the level of trust and power given to them by the public according to their knowledge and experience on a particular subject) and salesmanship (the communication style, the charismatic personality, and the talent to convince the public to follow their point of view). The stronger the above features, the more powerful their influence on the public. Those key individuals can be present in almost all sectors such as food, high-tech technology, fashion, health, fitness, and more (Klassen et al. 2018). What differentiates them from the traditional brand ambassadors is that they are not celebrities (e.g., famous actors, singers, or athletes) and their posts are not the traditional professional advertisements (Abidin, 2016). They usually present the products they have used and provide their opinion or experience on YouTube, Facebook, Twitter, and Instagram (Freberg, 2011). Brands collaborate with influencers to promote their products so that they can capitalize on their social networks and benefit from the “trustworthy and intimate relationship” they have built with their audiences (Khamis et al., 2016). Nonetheless, discovering the right influencer for brand promotion is not an easy strategy (Gan et al., 2019). It should also be noted that in terms of content marketing, it appears that nowadays a company’s website is equally important to its social media and that applies to B2B and B2C channels (Statista, 2022b).

2.2 Digital elements of the Industry 4.0

2.2.1 Digital Reality (Augmented Reality and Virtual Reality)

According to Deloitte Consulting, Digital Reality is considered an umbrella term used to describe a wide set of technologies such as Virtual Reality (VR), Augmented Reality (AR), Mixed Reality (which combines digital content into the real world), 360-degree video (users can look in every direction and therefore gain a better view of something), and other immersive experiences, that enable the stimulation of an artificial virtual environment through computer-generated contents (Deloitte Consulting, 2018; IGI Global, 2020; Baecker et al., 2021). Virtual Reality is a simulated experience that immerses users in an artificially constructed environment (physical or digital) that consists of virtual objects (i.e., computer-generated and displayed objects that appear similar to real ones) (Baranyi et al., 2021). For this purpose, they use wearable devices to prevent the real world (Bonetti et al., 2018). On the other hand, Augmented Reality refers to a combination of “real and computer-generated digital information into the user’s view of the physical world, in such a way that they appear as one environment” (Olsson et al., 2013, p.288). As these technology elements grow, they affect marketing evolution and how entrepreneurs make their business decisions (Scholz and Smith, 2016). More specifically, marketing research pointed out that VR connects to three stages of the consumer buying process. In the pre-purchase stage, VR has been more applied in manufacturing, designing, and testing new products, e.g., in the automobile industry by providing virtual test drives. It can also promote existing products or brands through communication campaigns, social media, or acting as advertising by simulating a product and its packaging. The use of VR provides consumers with a more vivid representation of the product and a more positive customer experience. Certain hotel chains, for example, offer their future guests the opportunity to visit their hotel room from home and the same applies to tourist agents about worldwide destinations. In the purchase stage, a virtual environment is created so that customers can visualize the products on sale. In the last phase consumers, interactions after the sale are included (Loureiro et al., 2019). On the other hand, AR applications in retail settings are used to a large extent used for the evaluation of products in the pre-purchase phase. According to Tan et al. (2022), the four applications of AR in retail are: entertaining and educating customers, helping them evaluate product fit, and adding to the post-purchase production experience. Using AR through mobile apps has been found to increase sales (especially for unpopular or not very appealing products and luxury brands) and reduced product-related uncertainty.

2.2.2 Artificial intelligence

Another technological advancement that has affected the retail industry is Artificial Intelligence (AI). According to Kaplan and Haenlein (2019, p.3), AI is defined as “a system’s ability to correctly interpret external data, to

learn from such data and to use those learnings to achieve specific goals and tasks through flexible adaptation.” It has been used to automatically generate personalised offerings for consumers based on their search patterns and navigation histories (Hoffman et al., 2021). Bharadwaj et al. (2022), suggested that AI can enhance personal selling in a live stream retailing platform using computer vision to monitor the seller’s facial activity (and therefore his emotions) and ultimately the way they affect his sales. It can also provide real-time coaching that can improve sales effectiveness and output. Raisch and Krakowski (2021) pointed out that AI also contributes to a company’s new product development decisions. The invasion of AI could not leave social media intact either. It seems that, for the last decade, computer-generated algorithms (i.e., social bots) that can produce content and interact with social media users, have been widely settled on social media platforms. It has been estimated that 15% of active Twitter users are social bots (Appel et al., 2020).

2.2.3 Internet of Things

The term Internet of Things was introduced by Kevin Ashton at a presentation to Procter & Gamble in 1999 (Ashton, 2009). Although there is no official definition, for this paper we adopt the International Telecommunication Union – T Recommendation Y.2060 (2012, p.3) definition: “Internet of things (IoT): A global infrastructure for the information society, enabling advanced services by interconnecting (physical and virtual) things based on existing and evolving interoperable information and communication technologies.” Its fundamental characteristics include its interconnectivity, its capability of providing things-related services, the heterogeneity of devices, the fact that the state and number of devices can change dynamically, and its enormous scale. According to Kumar et al., (2020) IoT it could be described as a data-oriented technology that senses, records and exchanges data about products in the physical world. From a marketing perspective there are two features of IoT products that are of great interest: product analytics and remote access. Product analytics is based on the autonomous collection of data regarding consumers’ insights on product usage. Remote access, offers the possibility of remotely using IoT products or changing parameters. Both characteristics provide a wide range of new opportunities regarding research, strategic planning, decision-making, and other marketing purposes (Jara et al., 2014).

2.2.4 Big Data and Cloud Computing

Similarly, to IoT, many researchers have proposed their views on Big Data. It is an involving broad term that refers to traditional, structured, and transactional data as well as more unstructured, contemporary, behavioral data generated not only by traditional information exchange and software but also from sensors and every device that can produce digital information. In 2001, industry analyst D. Laney proposed the mainstream definition of the three Vs of Big Data: Volume(quantity), Variety (different forms), and Velocity (frequency of incoming data). Next to these dimensions researchers and practitioners have proposed additional Vs (e.g., Veracity, Variability, Visualization, Value, and more) (Patgiri and Ahmed, 2016; Dhamodharavadhani et al., 2018). With the support of another innovative technology i.e., Cloud Computing (on-demand computing systems and resources such as cloud storage) these massive quantities of raw data (customer, financial or operational) provide behavioral information about consumers and with the help of consumer analytics (which provides tools that find hidden patterns in data and therefore consumer habits), marketing managers translate them into market advantage. This offers competitive advantages, value creation, business opportunities, and cost reduction (Erevelles et al., 2015). It should be pointed that a Big Data system is important for marketing when it is used for the extraction of useful and effective knowledge that will influence business decisions (Amando et al., 2018). But as the influence of the Big Data phenomenon grows, so are the concerns about privacy issues, data leaks, and consumer privacy laws that if managed poorly will end up being a huge obstacle in a company’s marketing strategy (Moorthy and Ghosh, 2015).

2.2.5 Blockchain and Cryptocurrencies

A Blockchain is a “consequential list (chain) of blocks (records), linked using cryptography. Each block contains a cryptographic hash of the previous block, a timestamp, and transaction data. It could be regarded as a public ledger, in which all committed transactions are stored in a chain of blocks. This chain continuously grows when new blocks are appended to it. Blockchain technology has characteristics such as decentralisation, persistency, anonymity, verifiability, and auditability” (Moro Visconti, 2019, p.). Blockchain and the controversial cryptocurrencies (e.g., Bitcoin) are vulnerable to security attacks and that is the reason they raise security concerns and are faced with skepticism (Shin and Rise, 2022). Although the role of blockchain in marketing has not been explored in detail it could be integrated indirectly through the supply chain and digital payments and directly

through tokenization and smart contracts. It could ultimately lower advertising costs bringing more direct transactions between marketers and consumers and increasing transparency and trust (Antoniadis et al., 2019).

3. The use of digital technology by Greek SMEs

Most research on the digital transformation of Greek companies focuses on SMEs and not unjustly, as they are the backbone of the Greek economy. Although evidence about the integration of digital media by Greek companies regarding their marketing practices is scarce, few surveys present an indicative picture. In a previous study on the adoption of social media for marketing purposes, the most popular social media platforms were social networking sites, microblogging platforms, and video sharing tools. Fewer companies used photo-sharing applications and only a very small number had picked out RSS feed as their choice of a digital tool. At the time of the research (2012), the majority of participants had used social media for approximately two years. The main reasons (in descending order) for their use were to promote products and services, attract new customers, provide information about the brand, communicate with existing clients, improve corporate image, obtain and analyse information about consumers, and to provide customer service. The vast majority thought that social media was a useful marketing tool, and only a very small percentage described them as moderately useful. On the issue of funding, companies appeared divided regarding the existence of a specific social media budget (Zairis and Lagia, 2015). Triantafillidou and Yannas (2014) studied the use of social media specifically in public relations organizations. Their research showed that Greek practitioners had incorporated digital platforms in their communication campaigns, as they perceived the opportunities offered concerning research, public relations, and the formation of public opinion (views and beliefs) regarding a firm. The most common uses of these tools were the management of Facebook accounts (YouTube accounts were not so popular), the creation of corporate sites, and the implementation of email and viral campaigns. Results also showed that the presence of a social media professional in the company played a significant role in the implementation of digital campaigns, but so did the opinion that the public relations manager had on their advantages. According to the results of another study regarding how digital was business marketing in Greece, companies were divided into three categories: the “pioneers” who are described as the leading companies in the use of digital media (accounted only for 16%), the “beginners” who have just started to make their first digital steps (represented the 18%) and the “traditional” (accounted for 66%) who have an established presence in digital media. On the issue of advertising budget, most companies spent 18% of their total marketing budget on online campaigns, except for the travel industry which raised the percentage to more than 85%. An impressive 69% of the participants stated that they intended to increase their digital budget in the future. Facebook, was again the basic digital marketing tool that companies preferred while the potential of Twitter was growing. Regarding SEO, Greek companies although valued its importance were not so familiarised with its use, in comparison to SEM which was considered very valuable and more popular (Eltrun and Valuecom, 2015).

It should also be pointed out that most research on the integration of digital technologies by SMEs does not focus on marketing but their use in business generally. The same applies to the research of the Small Enterprises Institute (GSEVEE, 2020) about the understanding of key concepts of the new digital environment by practitioners working in the SME sector. Data revealed that: 75,3% were familiar with digital platforms, 60,5% with AI, 55,8% with Cryptocurrencies, about 36,5% with IoT and Cloud Computing, 27% with Big Data, and 15,9% with Blockchain technology. On the important subject of digital technologies’ integration into a business strategy, almost 60% use digital marketing and social media but only 15% use Cloud Computing. Recently, ELTRUN (2022) also surveyed the use of digital systems and infrastructure by SMEs and compared their results with those of 2020. Even though results can in no way be described as impressive, an increasing trend was nevertheless recorded. The use of websites increased (from 70% in 2020 to 78% in 2022) and the same applied to digital campaigns implemented by professionals (from 17% in 2020 to 33% in 2022). In addition, 2 out of 3 businesses use servers. On the other hand, the use of technologies such as IoT (4%) and the utilization of Data Analytics (25%) was limited. It appears that their limited resources force Greek SMEs to choose only the absolute necessary technologies for their management purposes as well as for the expansion of their customer base even though a digital marketing technique could be detrimental to the survival of a startup or a small company (Dianeosis.org, 2022).

4. Conclusion

There is no doubt that social media and digital technologies are no more a side project in the communication mix, and that marketing managers have increased the advertising budgets of social media tools, which are now used in conjunction with the traditional media. It should be pointed out that although all companies share many

of the same objectives (e.g., brand awareness or customer engagement) they should customize their social media strategy to meet their specific goals. After all, social media is just the tip of the marketing iceberg. Marketers should be more creative, search for the media channels and technologies that are unique for their audiences, and should use both digital and non-digital tools to meet their goals. Regarding their use in Greece, it appears that executives acknowledge the role of digital technology and social media in marketing, understand their value and try to incorporate them into their marketing strategy. Data showed that in the last decade digital technology in Greece has shown increasing trends although there are still many obstacles to be covered. The most important trend is the change in attitude from luxury technologies to necessary tools even by small businesses. It is now obvious that companies applying emerging technologies such as cloud, big data, mobile, and social technologies acquire higher revenues in the long run and bigger market valuations than their competitors. It should also be noted, that using as many of these technologies as possible is not the appropriate strategy. There should be a clear vision of a company's development and therefore the necessary tools should be chosen.

Although the study advances knowledge in the area of digital innovation and marketing and provides useful literature for real-world applications in entrepreneurship (e.g., marketing campaigns) it has limitations such as the lack of more data on Greek SMEs. Therefore, further research needs to be carried out regarding their use in Greek companies specifically in the marketing domain. Other important issues that should be addressed in the future are their relationship with the basic rules of marketing, how well strategically organized the social media campaigns and measuring their true value. After all, it would be disappointing if it all turned out to be just buzzwords.

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