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Digital Entrepreneurship Within International Business Landscape: Implications for Marketing Strategies

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ABSTRACT

With the rise of digital advancements, the global economic landscape is reshaping marketing and entrepreneurship, creating both new opportunities for growth and significant challenges for businesses. Rapid economic shifts, combined with society's increasing reliance on digital technologies, require organizations to continuously adapt and modify their business models. This study is particularly relevant, as maintaining competitive advantage and ensuring long-term sustainability now depend heavily on the integration of digital solutions. The research evaluates the impact of digital technologies on marketing strategies, financial performance, and overall business effectiveness at the global level. By analyzing digital transformation strategies through a combination of statistical and practical approaches, the study highlights critical success factors as well as barriers to implementation. Findings reveal that the adoption of digital tools enhances process automation, strengthens customer engagement, improves resource management, and ultimately increases productivity and profitability. However, challenges remain, including regulatory constraints, cybersecurity risks, and the constant demand for technological innovation. Despite these obstacles, digital transformation creates pathways to new markets and fosters innovative opportunities. To fully capitalize on these benefits, companies must design adaptive strategies that not only mitigate risks but also maximize the potential of emerging technologies. These insights provide valuable guidance for businesses seeking to build sustainable digital strategies, ensuring long-term competitiveness in the global marketplace.

1. Introduction

Digital transformation is not occurring in isolation. Instead, it is intimately related to and occurs in the context of entrepreneurship. The amount of digitalization of the economy, as represented by

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digital framework conditions, has an impact on entrepreneurial activity at the national level by influencing general and systemic framework circumstances.

Digital entrepreneurship refers to business activity involving digital media, information, and communication technology. It includes entrepreneurial pursuits in fields such as artificial intelligence, blockchain, the internet of things, and augmented reality, among many others. The digital economy is estimated to generate over $60 trillion in revenue by 2025 [1]. With the rise and proliferation of emerging technologies around the world, entrepreneurs have sought ways to leverage their skills, abilities, and resources to create new revenue streams. Companies like Facebook, Uber, and Twitter are examples of highly successful digital firms that have grown to become industry leaders. Entrepreneurs and executives from around the world want to follow in their footsteps. The article will outline and discuss strategies for businesses of all sizes to benefit from the digital economy. This study aims to investigate the key components, trends and latent topics of digital entrepreneurship ecosystem and their implications for marketing strategies.

However, cybersecurity dangers, data privacy, market instability, and the need for ongoing adaption to technology improvements are all major challenges for global digital entrepreneurs. These problems necessitate strategic planning, effective risk management, and an emphasis on building consumer trust.

A developing topic that examines the relationship between digital technologies and entrepreneurship is global digital entrepreneurship research. It investigates the ways in which digital technology are changing the business environment as a whole as well as entrepreneurial outcomes and processes. The economy's growing digitization and the emergence of new digital business models have made this subject of study increasingly more significant. Some scientists, for example Zhai *et al.,* [2] attempt to provide a structured review of digital entrepreneurship (DE) to identify status, hotspots, knowledge structure, dynamic trends and future developments in this field. At the same time, studies devoted to digital entrepreneurship implications for marketing strategies are, in fact, rather in the initial stage.

Integrating digital technology into the company’s strategic domain is necessary to ensure business sustainability and competitiveness. In order to succeed in the global digital economy, corporate transformation initiatives must be managed with diligence and concentration. Restructuring organizational structures, optimizing company procedures, maximizing resource allocation, and aligning corporate cultures with technological developments are a few of these [3]. Furthermore, management techniques can be enhanced throughout time to facilitate organizational growth and allow businesses to achieve high performance at low cost. This article’ primary focus is the effect on marketing and business globally. It looks at the main benefits and drawbacks of how the government has responded to the digital revolution. The study also examines the relationship between marketing expenses and financial performance to understand how digital marketing strategy works in every sector of economy.

Developing a consistent brand, reaching target audiences efficiently, and adjusting to the quickly changing digital scene are some of the particular marketing issues that come with being a digital entrepreneur. Increasing brand recognition, producing high-quality leads, and staying competitive are further crucial concerns. Significant obstacles may include lack of experience, budgetary restrictions, and the requirement to track and evaluate marketing initiatives.

Through a variety of digital platforms, digital entrepreneurship platforms have given manufacturers and marketers the chance to use digital technologies to accomplish their marketing goals. The use of digital platforms has replaced traditional brick-and-mortar company methods with online marketing, app stores, online or smartphone purchases, e-transactions, and e-commerce. It is

widely held that bringing businesses into the digital age and using digital platforms to offer goods and services will improve their capabilities and boost sales, which will ultimately improve their performance. Actually, not all businesses that sell and purchase on digital platforms fall into this category [4]. The success or failure of marketing strategies for digital entrepreneurship depends on a variety of elements. The landscape of strategic marketing in digital entrepreneurship is characterized with both advantages and challenges in a "Web 2.0 networked world" [5].

People from all walks of life may now easily transform their ideas into successful enterprises because to the democratization of the entrepreneurial process brought about by the digital revolution. But a new set of difficulties has also been brought about by this democratization. The rate of change in the fiercely competitive digital industry can be debilitating. To stay ahead of the curve, entrepreneurs need to be skilled at using digital tools and platforms, comprehending and analyzing data, and consistently inventing. This calls for an all-encompassing strategy that incorporates product creation, customer interaction, market analysis, and sustainable business practices. Furthermore, value co-creation in digital marketing becomes one of the crucial concerns because digital entrepreneurship is about more than simply technology; it's about comprehending and producing value in a digital environment.

This state-of-the-art became a motivation for our research. The impact of digitalization on business and marketing in international markets is examined in this article. The primary advantages and difficulties of the convergence of the digital and real economies have been examined, along with the enterprise operating procedures in the digital economy. Examining the relationship between marketing spending and financial performance – specifically, how the percentage of marketing costs relates to revenue growth and net income across various economic sectors – is one of the study's primary objectives. The purpose of this investigation is to learn how marketing strategies were developed in response to globalization. The study aims at tracing and systematizing peculiarities of marketing strategies in the international digital entrepreneurship, as well as contributing to the theory of Agile marketing and value co-creation in digital landscape. In the Results section, in particular, we present empirical results and their triangulation, and in Discussion section we conduct consideration of the results on the background of other studies in the field.

2. Literature review

Companies' digitalization is becoming increasingly more important to their internationalization. Kraus *et al.,* [6] claim that globalization is causing digitalization to transform firms all over the world. The rise of multinational corporations like Uber and Airbnb, among others, that maintain their globalization through technology and the suggestion of creative business models, is evidence of the demand on businesses to undergo dramatic change in recent decades. White [7] demonstrates that digitalizing procedures and collaborative tools can lead to an effective integration. Given this, digital transformation (DT) has become increasingly important [8] and has an impact on almost every aspect of the company [9, 10].

Numerous scholars [11-13] claim that in the contemporary global economy, digital transformation is increasingly playing a significant role in companies' expansion on a global scale. Businesses may increase cross-border customer engagement, improve supply chain resilience, and scale operations more effectively with the advent of artificial intelligence, automation, cloud computing, and e-commerce.

Pop *et al.,* [14] examine the complex nature of digital entrepreneurship by following its development in tandem with the wider economy's digital revolution. The study of entrepreneurship has broadened to include many different theoretical stances. It describes how theoretical viewpoints

in entrepreneurship studies have changed over time, moving away from an emphasis on personal traits and toward a more comprehensive focus on institutional, social, and environmental factors. The study emphasizes the range of quantitative, qualitative, and computational methodological approaches used in entrepreneurship research. E-commerce was made possible by the internet in the 1990s, and Web 2.0 social platforms emerged in the 2000s, giving entrepreneurs even more influence through user-generated content and network power. Data-driven platforms, complex algorithms, and the blurring of digital and physical borders are characteristics of the current stage of digital entrepreneurship. Theoretical frameworks, including innovation theory, resource-based viewpoints, lean startup approaches, and institutional perspectives, contribute in comprehending the opportunities and constraints within this dynamic industry. The modern economy is being reshaped by the dynamic force of digital entrepreneurship. Pop *et al.,* [14] outline three major stages in the development of digital entrepreneurship: the 1990s saw the rise of e-commerce, the 2000s saw the rise of Web 2.0 social platforms, and the present era is dominated by data-driven platforms. The current digital revolution has significantly changed the terrain of entrepreneurship, necessitating the development of new abilities, tactics, and success models. Digital adoption in enterprises and society was further boosted by the COVID-19 pandemic. The importance of digital entrepreneurship is emphasized in the study in light of changing market dynamics, institutional changes, and technical innovation.

A wide range of methodological techniques are used in the study of digital entrepreneurship. The most widely used techniques in the literature review include surveys that collect information on digital capabilities and behaviors from individuals and organizations, as noted by Kraus *et al.,* [15]; statistical analyses that quantify digital entrepreneurship using population-level data [16]; computational methods that analyze online artifacts to study digital entrepreneurial dynamics (e.g., [17]); ethnographic studies investigating cultures and interactions within the digital entrepreneurship space, and in-depth case studies investigating how digital ventures operate within particular contexts (e.g., [18]). Mixed-methods approaches will probably become even more useful as the area develops since they offer multi-level insights into the environments and processes that influence the outcomes of digital entrepreneurship.

Traditional market entry methods necessitated large expenditures in physical infrastructure, local relationships, and logistical networks, as it is correctly point out in [19]. This strategy has been upended by digital transformation, which allows companies to virtually enter new markets through:

- platforms for e-commerce that let companies to sell internationally with little local presence;
- social media and digital marketing tactics that increase consumer acquisition and brand recognition;
- analytics driven by AI that shed light on customer behavior and market demand.

This is particularly crucial for companies that operate in global markets since digital transformation enables business owners to use online platforms and digital marketing solutions to expand into new areas and draw in more customers [20]. Scholars delve further into that intriguing digital revolution and how it affects the entrepreneurial approach to problem-solving [21].

Digital entrepreneurship and digital transformation are linked. In order to change how a business functions and provides value to its customers, digital transformation implies integrating digital technology into every facet of the company [22, 23]. Digital entrepreneurship, on the other hand, is the process of starting and expanding new businesses that leverage digital technology [24]. The emergence of digital entrepreneurship is greatly aided and supported by the digital transformation ecosystem [19]. The potential of digital technologies to assist new enterprises in gaining billions of

clients, creating previously unheard-of goods and services, and establishing connections with people like never before is indicative of this trend [25, 26].

With governments from many countries placing a great deal of emphasis on the development of digital infrastructure and services, digital transformation is becoming a more important factor in the global economy [27; 28]. All of these trends will undoubtedly have a significant effect on global trade as well as the nations that stand to gain a competitive edge from the digital transformation of the entire industry [29]. These days, it significantly affects consumer behavior and market demand, which in turn affects how businesses interact with their target audience [30]. Consumers today are more empowered, aware, and connected than ever [31].

According to [32], globalization has created a necessity for businesses, notably multinational corporations, to transition to digital methods in order to generate long-term success. Digital transformation, according to [33], is the methodical implementation of digital technology in all corporate domains, resulting in significant adjustments to how businesses manage their resources and provide customer service.

In terms of sustainable development, in [34] the authors investigate the relationships between digital technology and protecting international financial systems. The study team demonstrates how contemporary digital systems facilitate the tracking of international money transfers and guard against fraud and corruption. The paper highlights the risks and advantages, demonstrating how different countries manage decentralized financial systems, putting everyone at risk for cyberattacks. This source illustrates the main benefits and drawbacks of global financial digitalization. In their paper on financial inclusion, in [35] the authors examine fintech and digital banking options. The study shows how blockchain technology, big data, and AI “work” together to help provide people without regular access to banking with cheap financial services. The writers use actual measurements to support their claims regarding the beneficial effects of digital finance. Financial services get the most from research on digital transformation when it is applied to real-world business situations. According to [36], an inclusive economy is crucial to the process of sustainable development. The authors describe how digitalization lowers economic inequality and increases market participation to improve social circumstances. In order to establish equitable income distribution and bolster the economy over time, digital financial resources require the backing of inclusive economic strategies. Significant obstacles are identified by the investigation, but they should be addressed in order to properly use digital financial tools.

According to [37], digitalization is transforming how entrepreneurs approach possibilities. The authors developed a conceptual framework for better comprehension of digital entrepreneurship. With the use of this paradigm, Global Index of Digital Entrepreneurship Systems (GIDES) was created – an analytical tool for measuring and understanding the impact of digitalization on entrepreneurship. In its essence, GIDES is a composite indicator that measures the success of digital entrepreneurial systems on a national level. GIDES takes a systemic approach, employing the Penalty for Bottleneck (PFB) algorithm to identify bottlenecks that may impair overall system performance, in contrast to traditional entrepreneurship or the majority of entrepreneurial ecosystem measurements. GIDES evaluates 113 nations’ digital entrepreneurship frameworks, concentrating on 21 emerging Asian economies. Globally, Singapore is the top-ranked developing Asian nation. Nonetheless, there is a lot of space for development in the majority of emerging Asian economies. Even though emerging Asia has excellent physical infrastructure, its informal institutions and culture still require improvement.

Scholars also discuss how the digital transition has produced so-called digital dividends, which are advantages.

In [38], the authors use data from a qualitative research to examine how digital technologies are changing marketing. Managers from businesses in several Italian industries participated in in-depth interviews as part of the study's qualitative research. The findings demonstrate that businesses use digital technology extensively, even though they frequently fall within the category of traditional tools, and that businesses are rather "digitalized" than "digitally transformed". Digital technologies affect marketing by increasing market analytics, pricing, and channel management capabilities, as well as assisting in the development of client relationships in order to achieve value co-creation. Professional abilities are being enhanced in a variety of ways, while organizational processes are becoming more effective and flexible as a result of the utilization of varied knowledge and cross-functional perspectives.

Additionally, one industry that is experiencing DT on a large scale and experimenting with new technologies like blockchain, artificial intelligence, and the Internet of Things is marketing [39, 40]. Since people are now always connected, digitalization has drastically changed the consumer journey. Additionally, the digital age has seen a remarkable rise in client empowerment. Customers are no longer satisfied with the role of passive recipients of businesses' messages due to the wealth of information and chances for interaction [41, 42]. This transition necessitates novel ways to marketing communication and forces brands to communicate with individual customers swiftly, openly, and continuously.

A customer-centric approach, which puts the customer first in organizational strategies, has been adopted by businesses as a result of all these changes [43]. Connections between businesses and their clients are therefore changing, and businesses should make investments to create more solid, intimate, and enduring client connections in both B2B and B2C sectors. Businesses have benefited from digital technologies in their pursuit of this goal. CRM technologies, for example, enable businesses to collect customer data from a variety of sources and disseminate the information throughout the organization in order to align marketing choices with the needs and values of customers, find more lucrative clients, direct investment choices, promptly address client inquiries, and provide tailored products and experiences [44]. Naturally, the ability to offer customized product innovation that meets demand and the growing capacity to involve customers in the company's value creation process have impacted business-customer relationships, making them more stable, lucrative, and advantageous to both parties.

The development of companies that engage in increasingly digital entrepreneurship, such as digitalized value-chain operations, has, however, received little attention. In addition to offering no insights into the influence of value-chain digitalization's degree on internationalization, including in the area of marketing strategies, the literature currently in publication presents an ambiguous picture of how value-chain digitalization impacts businesses' internationalization and international marketing.

3. Methodology

The mixed method approach was applied to the study. To evaluate the impact of digital transformation on corporate activity in international marketplaces, the study uses a combination of methodologies. The method of bibliographic analysis and narrative review was used to structure an examination of the effects of digitalization on businesses in international marketplaces and to identify the main opportunities and hazards associated with it. The formation of sources sample for analysis was carried out in scientometric databases ScienceDirect, MPDI, JSTOR, Wiley, Emerald. Statistical data analysis (baseline regression) was used to assess the impact of corporate digital transformation on financial flexibility. The generalization method was used to synthesize the trends

and more general conclusions on the impact of digitalization on creating international company strategy. Combination of narrative review and statistical analysis allowed enabling results triangulation. The overall philosophical framework of study implies positivist paradigm.

This study employs an inductive research approach. This strategy extends from individual observations to general patterns and themes in order to understand a social phenomenon.

4. Results

The environment for enterprises' functioning in the rapidly evolving global market is characterized by high levels of uncertainty and volatility, necessitating prompt responses. In order to redefine how firms operate, digital technologies are revolutionizing managerial and socioeconomic processes. Entrepreneurial activity is being impacted by digital transformation increasingly more in both national and global markets. According to statistics, the global market for digital transformation will manifest a growth of CAGR on to 28.5% till 2030 [1]. In 2024, this market' size was valued at USD 1,070.43 billion (see Figure 1) [45]. Examples of digital transformation solutions that help traditional businesses maximize business operations, reduce operational efforts, and increase efficiency include cloud computing, big data analytics, AI, and IoT. Digital transformation represents a process of using digital technology while creating new or enhance existing business processes, organizational cultures and behaviors, and consumer experiences [46, 47].

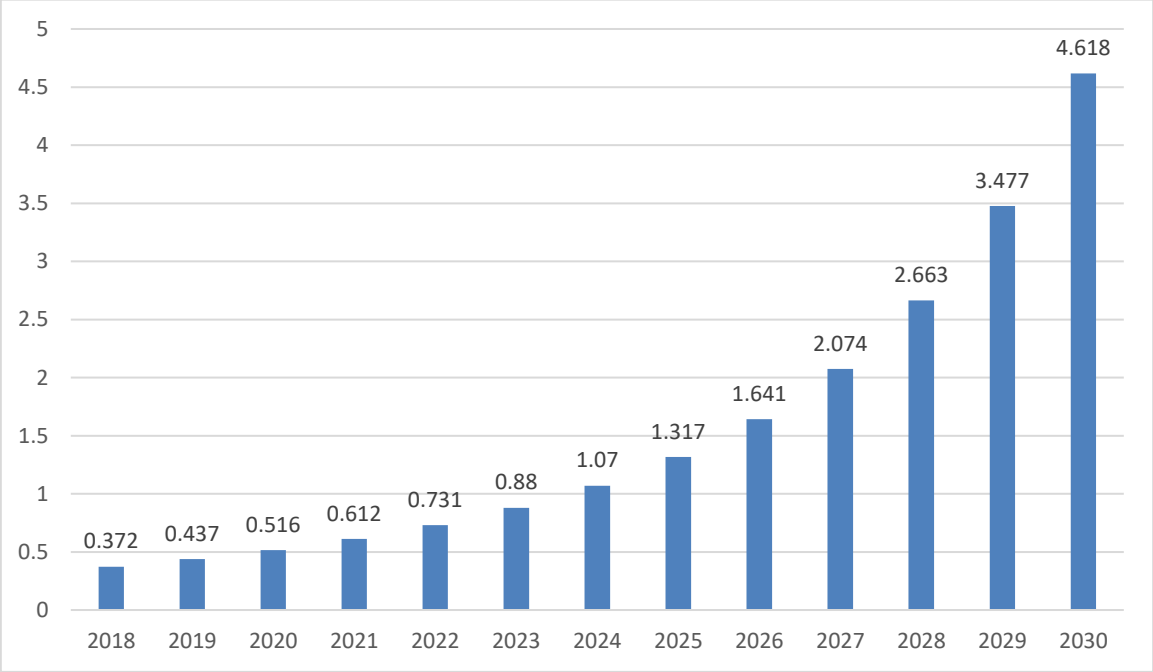

Fig. 1. Global digital transformation market, with forecast (in USD bln)
Source: [45]

Businesses should create digital strategies to adjust to changing business conditions since digital technologies have become ingrained in the economy, social processes, and managerial procedures. The field of enterprise development and competitiveness in today realities is discussed, with special attention paid to society's level of digital competency, the rate at which novel items are released onto the market, and the ongoing modernization of corporate procedures. Successful adoption of digital technologies will enable overcoming today's challenges, including the rapidly evolving

technological environment, heightened global competition, and the rapidly shifting consumer landscape, which is reflected in society's expectations of business management to be socially and environmentally responsible while meeting high standards for the quality of services and goods.

Companies should be prepared for digital transformation trends across markets since digital transformation impacts the way they operate in the global business environment currently. Businesses can now optimize their business processes to serve more clients with better performance thanks to digital transformation. Companies must contend with increased competition, security risks, and ongoing product changes. Globally operating businesses rely on key success factors. First, automation, data-driven decision-making, and enhanced consumer involvement are made possible by integrating digital tools and platforms. Businesses that combine computer intelligence systems with cloud, cloud, and big data technologies improve their ability to forecast the market and make better use of the resources at their disposal. Organizations must adhere to local internet management requirements while aligning their operating procedures with evolving international commerce regulations. Businesses can guard against market volatility by assessing their ability to adapt to abrupt changes. While modifying their business models to accommodate evolving client tastes, managers should also train their workers to use technology more effectively and generate new ideas through business growth. Organizations increase their chances of long-term growth and profit by carefully integrating digital technologies into their operations. To compete in the global market, organizations must understand the trends of digitalization. Figure 2 shows the impact of digital transformation across industries.

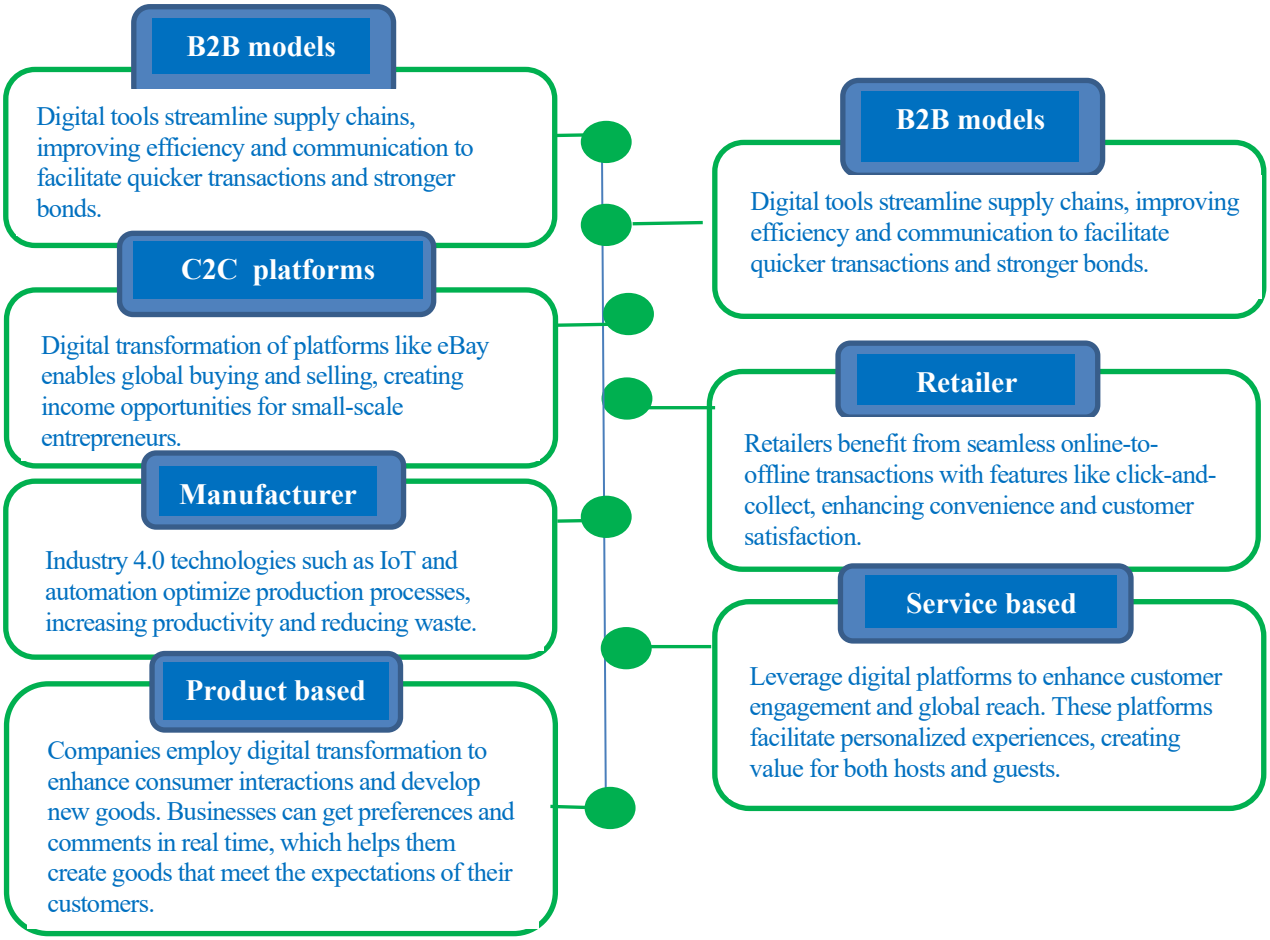

Fig. 2. The market impact of digital transformation across industries
Source: designed by the author

Organizations are pushed to innovate by digitalization, which also improves business procedures and increases their ability to compete on a global scale. It enables businesses to operate globally, better integrate into global supply chains, and react swiftly to changes in the market in order to boost the economy [48]. Risks associated with digital transformation might lower company performance and impair operational dependability. In the digital age, the biggest threat to enterprises is not the same as traditional physical barriers. The primary barriers to company efficiency and sustainability are digital hazards, including cyber threats, technical issues, internet dependence, and inadequate digital infrastructure [49]. As digital commerce evolves, businesses that operate internationally must contend with complex regulations that make it more difficult to police digital security.

To succeed today, businesses must develop market reactions that adapt to global competition. What transpires in particular industries when rivals battle with consumers and marketplaces grow determines how well marketing funds function as an investment. To achieve positive growth outcomes, businesses must make prudent use of their marketing budget. Due to intense competition in the market, service companies need a significant amount of capital for marketing. Since businesses in this sector need to expand in order to maintain their market share, 13.9% of their income must be allocated to aggressively marketing and differentiating their offerings. CRM and advertising systems, along with effective digital marketing initiatives, assist organizations in the services sector attract and retain customers [50].

Businesses in markets with consistent demand and little rivalry spend less on marketing as increasing service volume is the primary factor in their success. Businesses in this sector allocate marketing funds to other business areas since they require consistent energy resources for homes and industries. Instead of funding marketing campaigns, the funds are used to improve infrastructure, ensure that operations adhere to regulations, and acquire superior technology.

When determining how much to spend on marketing for a specific industry, regional businesses rely on the integrity of the marketing data. because different sectors require distinct budgetary allotments and promotional strategies. By analyzing market trends, consumer engagement indicators, and investment returns, businesses can become more creative and align marketing initiatives with industry-specific requirements. In order to expand their reach and make the most of their efforts, businesses could use data-driven insights to accurately identify customer preferences, monitor new trends, and modify their promotional activities accordingly. Additionally, understanding the competitive environment in a given industry will aid the business in more effectively allocating its resources, striking a balance between customer acquisition and retention.

Moreover, regional economic conditions, rates of digital adoption, and changes in consumer behavior that differ across industries all have a significant impact on marketing expenditures. Companies in highly competitive industries, such as retail and consumer services, frequently devote disproportionately large portions of their budget on marketing in order to maintain their brand and draw in customers. Businesses in industries like energy or infrastructure, whose demand is steady, might not devote as much attention to aggressive marketing initiatives as others. Rather, these businesses will be more focused on long-term investment plans and operational efficiency. If left to their own, businesses use their general budgets to fund their goods and services, which makes the return on investment unsustainable and profitability uncertain.

Only 2% of manufacturing companies expect to spend less than $500 per month on marketing in 2025, compared to 52% who want to spend $5,000 to $10,000+ per month (see Figure 3). This information comes from WebFX research.

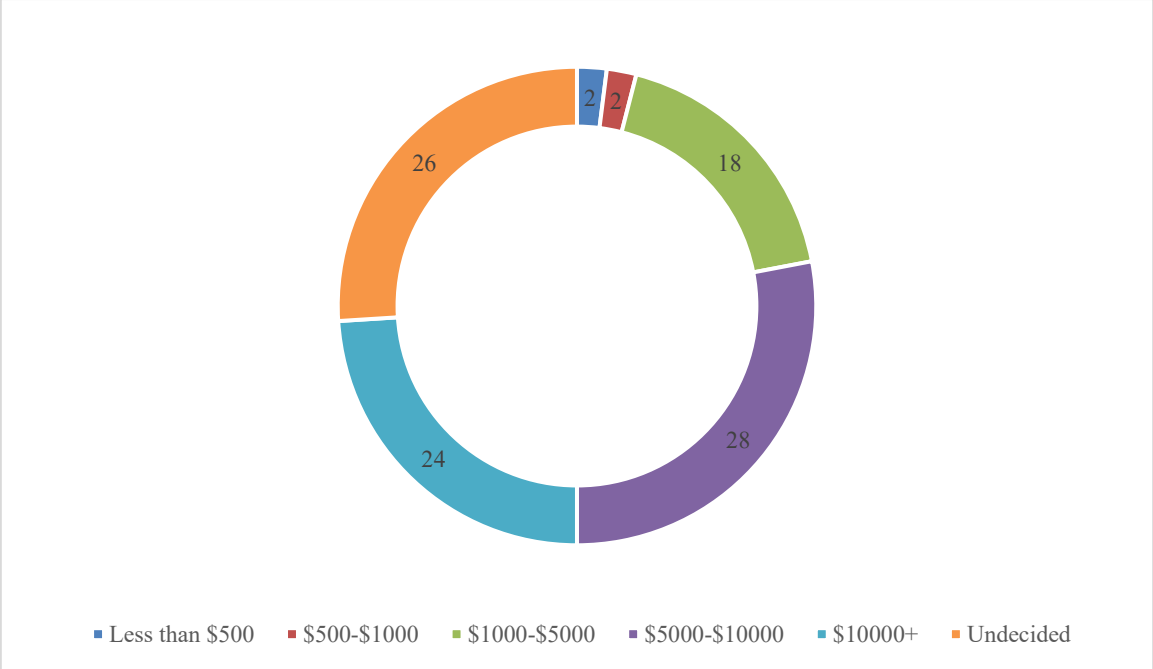

Fig. 3. 2025 monthly digital marketing investment of manufacturing companies, in %
Source: [51]

One can assume that a big percentage of companies which did not decide the size of their monthly digital marketing investment yet represents the evidence of their agility in digital marketing strategies and tactics depending on rapid changes in market environment, and, thus, even better prospects of preserving competitiveness in global markets.

These days, digitalization makes it easier for businesses to expand into new markets. When growing digitally, it is crucial to comprehend cultural and legal quirks. Customizing digital marketing campaigns for local audiences, modifying UI/UX design for various consumer languages and habits, and making sure regional data protection rules (such as the CCPA and GDPR) are followed are examples of best practices. Furthermore, ecosystem cooperation and strategic alliances are crucial. Forming partnerships with regional finance companies, digital platforms, and IT companies speeds up market access.

Digital transformation improves corporate total factor productivity, and this effect is stronger when companies perform better in terms of ESG. Corporate technical cooperation bridges the gap between digital transformation and total factor productivity. ESG performance also has a favorable moderating effect on the relationship between digital transformation and company technical cooperation [52]. It is worth noting that ICT adoption in Latin American countries is a strong predictor of the following: financial system (49%), corporate dynamism (66%), product market (75%), labor market (42%), and skills (81%). Similarly, ICT adoption in European countries strongly predicts product market (51.6% of the variance), business dynamism (35.6% of the variance), skills (72.2% of the variance), labor market (81.7% of the variance, but with a negative path coefficient), and financial system (38% of the variance) [53].

Businesses see digital transformation as a crucial way to guarantee dependability, operational effectiveness, and financial stability in the face of growing global market rivalry. Businesses can streamline their operations, allocate resources more effectively and according to needs, and improve decision-making inside their organizations by integrating digitally. Businesses should use automation, cloud computing, big data analytics, and artificial intelligence to increase productivity, reduce

expenses, and take the lead in their respective markets. The most evident example is found in industries where more recent ones have successfully incorporated digital tools into their fundamental operations and realized measurable financial rewards.

Digitalization not only improves agility and scalability, but it also promotes innovation development. Businesses that implement such a digital approach outperform those who do not and still rely on old operational methods. Firms that use advanced digital solutions are capable of better communication with customers, personalizing marketing campaigns, and responding to market trends, resulting in increased overall profitability. Furthermore, implementing digital transformation eliminates manual procedures, reducing human error and improving operational visibility, resulting in long-term sustainability.

Nonetheless, the time it takes to reap financial benefits from transitioning to a digital base of operations varies greatly by industry. Automated and digital marketing generates rapid revenue for technology-dependent industries such as finance, retail, and manufacturing. Industries that do not rely as much on digital may take longer to see a meaningful return on their investment. Organizations' ability to accept evolving technology, systemize cybersecurity, and remain compliant with changing regulations has a substantial impact on how well their digital transformation programs succeed.

With the following modifications to the raw data, this study chooses A-share listed companies in Eastern and Central Europe from 2011 to 2022 as the initial sample, taking into account the accelerated commercialization of digital technologies and the rapid growth of the digital economy in these regions, which mostly occurred after 2010. First, all financial industry samples are not included because financial organizations' financial statements are unique. Secondly, companies that receive special treatment (ST and *ST) are eliminated. Lastly, we eliminate companies who lack information on important aspects. Following these modifications, 22,834 firm-year observations from 2,889 listed companies make up the final sample. All continuous variables are winsorized at the 1% and 99% percentiles to lessen the impact of extreme outliers. The variables' descriptive statistics are shown in Table 1.

Table 1
Summary statistics

Variables	Obs	Mean	Std. Dev	Min	P25	Median	P75	Max
FF_Dummy	21,834	0.542	0.589	0.000	0.000	1.000	1.000	1.000
FF	21,834	0.064	0.197	−0.213	−0.071	0.012	0.159	0.767
CFF	21,834	−0.008	0.136	−0.225	−0.095	−0.038	0.051	0.455
DFF	21,834	0.074	0.103	0.000	0.000	0.001	0.133	0.406
DTI	21,834	34.047	9.393	18.620	26.119	30.285	38.609	63.141
Growth	21,834	1.915	1.232	0.787	1.185	1.505	2.131	13.527
Profit	21,834	0.093	0.116	−0.331	0.030	0.070	0.132	0.647
Tang	21,834	0.377	0.174	0.010	0.255	0.358	0.484	0.845
CashFlow	21,834	0.043	0.068	−0.206	0.015	0.051	0.092	0.273
CapExp	21,834	0.048	0.046	0.000	0.016	0.036	0.069	0.270
BusCredit	21,834	0.001	0.138	−0.368	−0.073	−0.002	0.066	0.440
CashDividend	21,834	14.057	8.172	0.000	15.704	17.487	18.706	24.836
Size	21,834	7.769	1.283	2.078	7.040	7.814	8.617	13.253
Age	21,834	2.319	0.895	0.000	1.609	2.485	2.944	3.497
SOE	21,834	0.507	0.493	0.000	0.000	0.000	1.000	1.000
ContrshrProp	21,834	37.444	15.393	7.160	25.580	35.810	48.400	79.92
Mngmhldn	21,834	11.455	18.859	0.000	0.000	0.173	16.713	69.69

Source: calculated by the author

Table 2 shows the baseline regression results for corporate digital transformation and financial flexibility reserves. Columns (1) and (3) contain solely firm fixed effects and year fixed effects, but Columns (2) and (4) incorporate control variables relating to financial flexibility reserves, resulting in a more accurate model formulation. Regression coefficients of digital transformation (DTI) on the financial flexibility reserves level (FF) and the intention of financial flexibility reserves (FF_Dummy) are negative, specifically −0.028, −0.020, −0.152, and −0.082, according to the results across Columns (1) to (4). These coefficients are all significant at the 1% statistical level. Financial flexibility reserves are significantly impacted by digital transformation from an economic standpoint. The aim of financial flexibility reserves (FF_Dummy) is reduced by about 0.188 (−0.020×9.392) and the level of financial flexibility reserves (FF) is reduced by around 0.008 (−0.082×9.392/100) for every one standard deviation increase in the degree of digital transformation (9.392). These decreases explain 12.5% (0.008/0.064) and 35.4% (0.188/0.531) of the corresponding sample means. All things considered, these results show that digital transformation drastically lowers businesses' financial flexibility reserves. This suggests that the strategic financial resource allocation of businesses is altered by digital transformation, which is defined by the fusion of digital technologies and data-driven processes.

Table 2
Baseline regression results

Variables	FF_Dummy		FF		CFF	DFF
	(1)	(2)	(3)	(4)	(5)	(6)
DTI	−0.028***	−0.020***	−0.152***	−0.082***	−0.059***	−0.023**
	(0.007)	(0.007)	(0.024)	(0.020)	(0.015)	(0.010)
Growth		0.071**		0.188*	0.159*	0.001
		(0.035)		(0.110)	(0.084)	(0.059)
Profit		3.357***		16.134***	7.018***	9.320***
		(0.453)		(1.423)	(1.032)	(0.758)
Tang		−6.431***		−41.213***	−34.351***	−6.852***
		(0.413)		(1.084)	(0.794)	(0.584)
CashFlow		4.527***		20.110***	16.851***	3.261***
		(0.447)		(1.475)	(1.080)	(0.832)
CapExp		−6.842***		−41.160***	−33.186***	−8.315***
		(0.776)		(2.386)	(1.741)	(1.293)
BusCredit		2.650***		12.012***	21.229***	−9.233***
		(0.417)		(1.137)	(0.847)	(0.607)
CashDividend		2.257***		11.778***	8.716***	2.975***
		(0.410)		(1.333)	(0.978)	(0.719)
Size		−0.682***		−3.887***	−1.527***	−2.338***
		(0.077)		(0.234)	(0.162)	(0.132)
Age		−1.935***		−10.476***	−5.880***	−4.624***
		(0.137)		(0.340)	(0.259)	(0.167)
SOE		−0.578**		−3.192***	−2.253***	−0.932**
		(0.226)		(0.728)	(0.501)	(0.399)
ContrshrProp		−0.002		−0.000	0.040***	−0.042***
		(0.005)		(0.013)	(0.010)	(0.007)
Mngmhldn		−0.003		0.002	−0.004	0.006
		(0.005)		(0.014)	(0.011)	(0.007)
Firm & Year	Yes	Yes	Yes	Yes	Yes	Yes
N	16,108	16,108	23,726	23,726	23,726	23,726

Pseudo /Adj. R^2	0.010	0.187	0.598	0.707	0.630	0.719

Source: developed by the author
Note: *, **, and *** indicate the significance levels – 10%, 5%, and 1%, respectively, with robust standard errors in parentheses. Firm represents firm-specific fixed effects, whereas Year represents year-specific fixed effects. To make the regression results more apparent, FF, CFF, and DFF were multiplied by 100.

Since digital transformation drastically lowers businesses' financial flexibility reserves, there is un urgent need for digital entrepreneur companies to address innovative marketing strategies which do not require huge financial resources but at the same time bring sound results. One of the important discourses of such strategies is value-co-creation, which takes its specific forms in digital environment.

In particular, amidst growing conceptual developments in the areas of value co-creation and digital marketing, the importance of Online Brand Communities (OBCs) has emerged to reinforce strategies.

In the context of platforms, in [54] the authors contend that value co-creation is founded on the planning and growth of customer engagement on platforms since it enables businesses with the necessary technological, intellectual, and human resources to benefit (e.g., the innovative ideas about products/services, new business opportunities). Value co-creation is the process by which platform users from different backgrounds work together to solve a common problem and collect diverse viewpoints in order to produce original ideas by utilizing the platform's infrastructure. Customers' appreciation of co-creation initiatives aids businesses in improving the caliber of their goods and services, which increases client loyalty and satisfaction.

By include consumers and other stakeholders in the design and development of goods, services, and marketing plans, value co-creation in digital marketing can result in significant cost reductions. This cooperative strategy decreases the need for in-depth market research, reduces the possibility of mistakes in product development, and gives customers a sense of ownership, which increases engagement and loyalty and can reduce the cost of acquiring new customers. By using customer participation and feedback to optimize marketing efforts and resource allocation, value co-creation in digital marketing can result in significant cost reductions. By encouraging a sense of ownership among consumers, this cooperative strategy increases advocacy and loyalty while lowering the need for costly and time-consuming traditional marketing initiatives.

Meanwhile, for highly traditional companies, friction between the digital and non-digital resources can lead to opposite phenomenon - value co-destruction. Thus, exclusively careful and weighted approach should be applied in building and development of digital business model and processes, and digital marketing strategies.

5. Discussion

The study's conclusions are consistent with other studies on digital transformation and its dual impacts on corporate operations. According to [55], research demonstrates that digital technology promotes automation and business modernization while increasing industrial productivity and business freshness. According to [6], businesses need to train their staff, monitor important performance indicators, and establish clear digital strategies. Our study supports the notion that successful digital transformation requires well-thought-out planning and technology adaptability to keep up with market developments. Our review reveals key information that require further investigation. In [56], it is demonstrated that firms face numerous challenges while working digitally in different nations since the rules change. The study highlights this problem, particularly for multinational businesses, as diverse legal regimes make it difficult to connect digital platforms. Luo

[57] demonstrates how firms may achieve in digital transformation by addressing cybersecurity concerns and digital reliance while managing their finances effectively. This relates to our findings regarding managing security to maintain stability.

Digital transformation reduces uncertainty and finance limitations, resulting in a decrease in financial flexibility reserves. Moreover, digital transformation increases the adjustment rate of financial flexibility reserves, hence boosting the efficiency of financial resource allocation. In the context of an imperfect capital market, restricting financial flexibility reserves may reduce firm value by limiting investment choices or increase firm value by saving reserve costs, which echoes with the findings of [58].

Our research is also in line with [59], who claimed that Industry 4.0 is a framework that integrates vertical and horizontal value chains, digitizes management and projects, and introduces revolutionary business models. Our research confirms that businesses can expand by applying artificial intelligence to marketing features and using customer data and targeted promotion tactics.

However, our findings differ from Khan and Siddiqui [60], who found that digital marketing was cost-effective (M = 2.31; SD = 0.72). Our research demonstrates that business success necessitates marketing expenses; nevertheless, we discovered that spending more on marketing often results in poorer revenue growth. Marketing costs generate long-term profit increases, as seen by a favorable correlation with net income growth.

Our findings are also consistent with the monographic work [61], which provides an introduction to a variety of broad and controversial philosophical viewpoints and procedures on the subject of OBC. Focusing on current digital marketing concerns, it provides a thorough assessment of customers' reactions to active participation in such communities.

Our results also represent a kind of broadening the 2023 study in [62] Value co-creation methods vary between business-to-business and customer-to-customer digital service kinds, according to [62] who investigated 113 in-depth laddering interviews using interpretive structural modeling. Social usage, customer orientation and decision-making, service experience, service use context, and customer values and goals are the five mechanisms the authors suggest to facilitate value co-creation in the design of digital services. The writers are correct when they say that businesses can easily use these processes to enhance the customer service experiences of their clients.

Platform users benefit from digitalization, but traditional market relationships face new difficulties as the platform economy expands. Due to the ease with which actors on the platform can exchange knowledge and information, people are creating and consuming more content and participating more actively. However, mainstream marketing has come under fire for being unchanging and unable to adapt to the shifts in the market brought about by new business models and technology advancements. Even though value co-creation has been the subject of system-oriented thinking for ten years, few studies currently examine service value co-creation in practice, and consumer-firm interactions continue to be viewed as the primary focus of services marketing research. An integrative framework to examine the various collaboration processes and a more thorough comprehension of the role of players in service value co-creation are required.

According to our research, digital transformation helps businesses succeed, but they also need to come up with ways to deal with the associated technological, financial, and security issues. Because different industries make it difficult to comprehend digital advances, research must go on. We need to test digital adoption, improve expenditure strategies, and monitor financial outcomes over time. In addition to investigating how blockchain protects data and evaluating various approaches to manage digital organizations, researchers must carry out more research on marketing enhancements utilizing artificial intelligence.

5. Conclusions

The study made an attempt to contribute to yet scarce research discourse of marketing strategies issues and concerns in the landscape of global digital entrepreneurship. According to this study, digitalization has both beneficial and complicated effects on how businesses function today. Although digital transformation increases consumer engagement and production effectiveness, it also presents challenges due to regulations, security risks, and financial constraints. According to the research, marketing expenditures should be directed on strategy development because larger budgets do not always translate into bigger revenue, but they do eventually result in higher profitability. According to this study, industries with stable product demand require less promotion than those with fierce rivalry, which require more great market investment to thrive. We also emphasize the crucial expediency of value co-creation practices, to overcome negative correlation patterns between digital transformation and financial stability in the companies. The study produced valuable results, but its efficacy will decline fast as a result of rapidly evolving technology and shifting customer preferences that required data to be updated on a frequent basis.

To increase long-term corporate performance in digital markets, scientists should look into ways to enhance digital advertising, apply artificial intelligence to business processes, and implement global regulations. To develop stronger business planning for the global marketplace of the future, more research is required on how digitalization affects consumer experiences, firm innovation, and financial stability over many years.

Author Contributions

Conceptualization, O. P.; methodology, O. R.; software, E. A.; validation, V. V.; formal analysis, O. R., E. A.; investigation, V. V.; resources, V. V., O. S.; data curation, E. A.; writing—original draft preparation, O. P., O. R.; writing—review and editing, O. P., O. R.; visualization, O. S.; supervision, O. S.; project administration, O. S. All authors have read and agreed to the published version of the manuscript.

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Data Availability Statement

All data generated or analysed during this study are included in this article.

Conflicts of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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References

[1] Liu, Y., & Lian, X. (2025). The spatial spillover effect of digital economy on regional tax revenue: An empirical study based on the decay boundary and spillover path. *International Review of Economics & Finance, 102*, 104352. https://doi.org/10.1016/j.iref.2025.104352

[2] Zhai, Y., Yang, K., Chen, L., & Lin, H. (2022). Digital entrepreneurship: Global maps and trends of research. *Journal of Business and Industrial Marketing, 38*(3), 637-655. http://dx.doi.org/10.1108/JBIM-05-2021-0244

[3] Zhuk, I., Khaletska, A., Stepura, T., Shchepanskiy, E., Sadova, U., & Pyla, V. (2022). Public administration system in the field of finance under the influence of digitalization. *Economic Affairs (New Delhi), 67*(3), 225–231. https://doi.org/10.46852/0424-2513.3.2022.11
[4] Cai, Q., & Mandy, M. (2021). The challenges and solutions for digital entrepreneurship platforms in enhancing firm's capabilities. *International Journal of Business and Management, 18*(11), 21-21. http://dx.doi.org/10.5539/ijbm.v16n11p21
[5] Hair, N., Wetsch, L., Hull, C., & Perotti, V. (2013). Market orientation in digital entrepreneurship: Advantages and challenges in a Web 2.0 networked world. *International Journal of Innovation and Technology Management, 9*(06). http://dx.doi.org/10.1142/S0219877012500459
[6] Kraus, S., Jones, P., Kailer, N., Weinmann, A., Chaparro-Banegas, N., & Roig-Tierno, N. (2021). Digital transformation: An overview of the current state of the art of research. *Sage Open, 11*(3). https://doi.org/10.1177/21582440211047576
[7] White, M. (2012). Digital workplaces: Vision and reality. *Business Information Review, 29*(4), 205–214. https://doi.org/10.1177/0266382112470412
[8] Bouncken, R. B., Kraus, S., & Roig-Tierno, N. (2021). Knowledge- and innovation-based business models for future growth: Digitalized business models and portfolio considerations. *Review of Managerial Science, 15*(1), 1–14. https://doi.org/10.1007/s11846-019-00366-z
[9] Bouwman, H., Nikou, S., Molina-Castillo, F. J., & de Reuver, M. (2018). The impact of digitalization on business models. *Digital Policy, Regulation and Governance, 20*(2), 105–124. https://doi.org/10.1108/DPRG-07-2017-0039
[10] Hess, T., Matt, C., Benlian, A., & Wiesböck, F. (2016). Options for formulating a digital transformation strategy. *MIS Quarterly Executive, 15*(2), 123–139.
[11] Christensen, J. (2016). *Digital economics: The digital transformation of global business*. Books on Demand.
[12] Pereira, C. S., Durão, N., Moreira, F., & Veloso, B. (2022). The importance of digital transformation in international business. *Sustainability, 14*(2), 834. https://doi.org/10.3390/su14020834
[13] Tudose, M. B., Georgescu, A., & Avasilcăi, S. (2023). Global analysis regarding the impact of digital transformation on macroeconomic outcomes. *Sustainability, 15*(5), 4583. https://doi.org/10.3390/su15054583
[14] Pop, D., Simut, R., & Bac, D. (2024). Understanding digital entrepreneurship: A theoretical perspective. *Annals of Faculty of Economics, University of Oradea, Faculty of Economics, 33*(1), 148-154. https://ideas.repec.org/a/ora/journl/v33y2024i1p148-154.html
[15] Kraus, S., Palmer, C., Kailer, N., Kallinger, F. L., & Spitzer, J. (2018). Digital entrepreneurship: A research agenda on new business models for the twenty-first century. *International Journal of Entrepreneurial Behavior & Research, 25*(2), 353-375. https://doi.org/10.1108/IJEBR-06-2018-0425
[16] Sussan, F., & Acs, Z. J. (2017). The digital entrepreneurial ecosystem. *Small Business Economics, 49*(1), 55-73. https://doi.org/10.1007/s11187-017-9867-5
[17] Arora, A., Athreye, S., & Huang, C. (2016). The paradox of openness revisited: Collaborative innovation and patenting by UK innovators. *Research Policy, 45*(7), 1352-1361. http://dx.doi.org/10.1016/j.respol.2016.03.019
[18] Nambisan, S. (2017). Digital entrepreneurship: Toward a digital technology perspective of entrepreneurship. *Entrepreneurship Theory and Practice, 41*(6), 1029-1055. https://doi.org/10.1111/etap.12254
[19] Vărzaru, A. A., & Bocean, C. G. (2024). Digital transformation and innovation: The influence of digital technologies on turnover from innovation activities and types of innovation. *Systems, 12*(9), 359. https://doi.org/10.3390/systems12090359
[20] Chen, Z., Wan, J., Liu, F., & Hou, Z. (2024). Driving enterprise digital transformation: Unveiling the significance of E-commerce demonstration city in China. *IEEE Transactions on Engineering Management, 71*, 5641–5655. https://doi.org/10.1109/TEM.2024.3366450
[21] Thamrongthanakit, T. (2023). *Impacts of cybersecurity practices on cyberattack damage and protection among small and medium enterprises in Thailand* [Doctoral dissertation, Stockholm University]. https://urn.kb.se/resolve?urn=urn:nbn:se:su:diva-219680
[22] Vadana, I., Torkkeli, L., Kuivalainen, O., & Saarenketo, S. (2020). Digitalization of companies in international entrepreneurship and marketing. *International Marketing Review, 37*(3). https://doi.org/10.1108/IMR-04-2018-0129
[23] Malik, A., Sharma, P., Kingshott, R., & Laker, B. (2022). Leveraging cultural and relational capabilities for business model innovation: The case of a digital media EMMNE. *Journal of Business Research, 149*, 270–282. https://doi.org/10.1016/j.jbusres.2022.05.004
[24] Bhuiyan, M. R., & Akter, M. (2024). Assessing the potential usages of blockchain to transform smart Bangladesh: A PRISMA based systematic review. *Journal of Information Systems and Informatics, 6*(1), 245–269. https://doi.org/10.51519/journalisi.v6i1.659

[25] Denga, E. M., & Rakshit, S. (2022). Digital marketing and the sustainable performance of small and medium enterprises. In R. M. Potluri & N. R. Vajjhala (Eds.), *Advances in electronic commerce* (pp. 213–234). IGI Global. https://doi.org/10.4018/978-1-6684-5727-6.ch011

[26] Bhuiyan, M. (2024). Examining the digital transformation and digital entrepreneurship: A PRISMA based systematic review. *Pakistan Journal of Life and Social Sciences, 22*(1), 1136–1150. https://doi.org/10.57239/PJLSS-2024-22.1.0077

[27] Salam, M. A., Saha, T., Rahman, M. H., & Mutsuddi, P. (2021). Challenges to mobile banking adaptation in COVID-19 pandemic. *Journal of Business and Management Sciences, 9*(3), 101–113. https://doi.org/10.12691/jbms-9-3-2

[28] Dąbrowska, J., Almpanopoulou, A., Brem, A., Chesbrough, H., Cucino, V., Di Minin, A., ... & Ritala, P. (2022). Digital transformation, for better or worse: A critical multi-level research agenda. *R&D Management, 52*(5), 930–954. https://doi.org/10.1111/radm.12531

[29] Mani, L. (2019). *An analysis of loan portfolio of Janata Bank Limited* [Working paper]. SSRN. https://doi.org/10.2139/ssrn.4644687

[30] Taheri, S. G., Navabakhsh, M., Tohidi, H., & Mohammaditabar, D. (2024). A system dynamics model for optimum time, profitability, and customer satisfaction in omni-channel retailing. *Journal of Retailing and Consumer Services, 78*, 103784. https://doi.org/10.1016/j.jretconser.2024.103784

[31] Kang, M. J., & Hwang, Y. C. (2022). Exploring the factors affecting the continued usage intention of IoT-based healthcare wearable devices using the TAM model. *Sustainability, 14*(19), 12492. https://doi.org/10.3390/su141912492

[32] Krasnyuk, M., Kulynych, Y., Tuhaienko, V., & Krasniuk, S. (2022). E-business and e-commerce technologies as an important factor for economic efficiency and stability in the modern conditions of the digital economy (on the example of oil and gas company). In *Science of post-industrial society: Globalization and transformation processes*. NGO European Scientific Platform; LLC International Centre Corporative Management. https://scholar.google.com.ua/citations?view_op=view_citation&hl=uk&user=3xR2xwMAAAAJ&citation_for_view=3xR2xwMAAAAJ:ZeXyd9-uunAC

[33] Fernández, A., Gómez, B., Binjaku, K., & Meçe, E. K. (2023). Digital transformation initiatives in higher education institutions: A multivocal literature review. *Education and Information Technologies, 28*(10), 12351–12382. https://doi.org/10.1007/s10639-022-11544-0

[34] Desyatnyuk, O., Krysovatyy, A., Ptashchenko, O., & Kyrylenko, O. (2024a). Enhancing financial inclusivity and accessibility of financial services through digital technologies. *AD ALTA: Journal of Interdisciplinary Research, 14*(1), 65–69. https://www.magnanimitas.cz/ADALTA/140142/papers/A_13.pdf

[35] Desyatnyuk, O., Naumenko, M., Lytovchenko, I., & Beketov, O. (2024b). Impact of digitalisation on international financial security in conditions of sustainable development. *Problemy Ekorozwoju/Problems of Sustainable Development, 1*(2024), 104–114. https://doi.org/10.35784/preko.5325

[36] Krysovatyy, A., Ptashchenko, O., Kurtsev, O., & Arutyunyan, O. (2024). The concept of inclusive economy as a component of sustainable development. *Problemy Ekorozwoju/Problems of Sustainable Development, 1*(2024), 164–172. https://doi.org/10.35784/preko.5755

[37] Autio, E., Komlosi, E., Szerb, L., Tiszberger, M., Park, D., & Jinjarak, Y. (2024). Digital entrepreneurship landscapes in developing Asia: Insights from the Global Index of Digital Entrepreneurship Systems. *European Journal of Innovation Management*. https://doi.org/10.22617/WPS240095-2

[38] Pascucci, F., Savelli, E., & Gistri, G. (2023). How digital technologies reshape marketing: Evidence from a qualitative investigation. *Italian Journal of Marketing, 2023*, 27–58. https://doi.org/10.1007/s43039-023-00063-6

[39] Grewal, D., Hulland, J., Kopalle, P. K., & Karahanna, E. (2020). The future of technology and marketing: A multidisciplinary perspective. *Journal of the Academy of Marketing Science, 48*, 1–8. https://doi.org/10.1007/s11747-019-00711-4

[40] Kumar, V., Ramachandran, D., & Kumar, B. (2021). Influence of new-age technologies on marketing: A research agenda. *Journal of Business Research, 125*, 864–877. https://doi.org/10.1016/j.jbusres.2020.01.007

[41] Auh, S., Menguc, B., Katsikeas, C. S., & Jung, Y. S. (2019). When does customer participation matter? An empirical investigation of the role of customer empowerment in the customer participation–performance link. *Journal of Marketing Research, 56*(6), 1012–1033. https://doi.org/10.1177/0022243719866408

[42] Akhavannasab, S., Dantas, D. C., & Senecal, S. (2018). Consumer empowerment in consumer–firm relationships: Conceptual framework and implications for research. *AMS Review, 8*(3), 214–227. https://doi.org/10.1007/s13162-018-0120-4

[43] Ewim, Ch., Okeke, N., Alabi, O., & Igwe, A. (2024). Customer-centric digital transformation framework: Enhancing service delivery in SMEs for underserved populations. *International Journal of Management & Entrepreneurship Research, 6*(10), 3493–3516. https://doi.org/10.51594/ijmer.v6i10.1658

[44] Nasir, S. (2015). *Customer relationship management strategies in the digital era*. IGI Global. https://doi.org/10.4018/978-1-4666-8231-3
[45] Global digital transformation market size & outlook. (n.d.). Horizon. https://www.grandviewresearch.com/horizon/outlook/digital-transformation-market-size/global
[46] Bielialov, T., Kalina, I., Goi, V., Kravchenko, O., Shyshpanova, N., & Negoda, A. (2023). Global experience of digitalization of economic processes in the context of transformation. *Journal of Law and Sustainable Development, 11*(3), e814. https://doi.org/10.55908/sdgs.v11i3.814
[47] Zghurska, O., Korchynska, O., Rubel, K., Kubiv, S., Tarasiuk, A., & Holovchenko, O. (2022). Digitalization of the national agro-industrial complex: New challenges, realities and prospects. *Financial and Credit Activity: Problems of Theory and Practice, 6*(47), 388–399. https://doi.org/10.55643/fcaptp.6.47.2022.3929
[48] Herve, A., Schmitt, Ch., & Baldegger, R. (2020). Digitalization, entrepreneurial orientation and internationalization of micro-, small- and medium-sized enterprises. *Technology Innovation Management Review, 10*(4), 5–17. https://doi.org/10.22215/timreview/1343
[49] Joel, O., Oyewole, A., Odunaiya, O., & Soyombo, O. (2024). The impact of digital transformation on business development strategies: Trends, challenges, and opportunities analysed. *World Journal of Advanced Research and Reviews, 21*(03), 617–624. https://doi.org/10.30574/wjarr.2024.21.3.0706
[50] Levesque, J., Dalmasso, C., & Hooge, S. (2022). *Understanding the impacts of digital transformation in the service industry: The mutation of the back-office function in the insurance sector* [Conference paper]. IPDMC 2022, EIASM. https://minesparis-psl.hal.science/hal-04068150v1/document
[51] 2025 manufacturing marketing budget to improve your ROI. (2025). Web FX. https://www.webfx.com/industries/industrial/manufacturing/budget/
[52] Li, N., Wang, X., Wang, Z., & Luan, X. (2022). The impact of digital transformation on corporate total factor productivity. *Frontiers in Psychology, 13*, 1071986. https://doi.org/10.3389/fpsyg.2022.1071986
[53] Bacca-Acosta, J., Gómez-Caicedo, M. I., Gaitán-Angulo, M., Robayo-Acuña, P., Ariza-Salazar, J., Mercado Suárez, Á. L., & Alarcón Villamil, N. O. (2023). The impact of digital technologies on business competitiveness: A comparison between Latin America and Europe. *Competitiveness Review, 33*(7), 22–46. https://doi.org/10.1108/CR-10-2022-0167
[54] Yao, G., & Miao, J. (2021). Service value co-creation in digital platform business: A case of Xianyu idle trading platform. *Sustainability, 13*(20), 11296. https://doi.org/10.3390/su132011296
[55] Morillas Guerrero, J. (2021). Global impact of digital transformation on entrepreneurship: Present position in Spain. *Athens Journal of Mediterranean Studies, 7*(2), 103–118. https://doi.org/10.30958/ajms.7-2-2
[56] Danielsen, F. (2021). Benefits and challenges of digitalisation: An expert study on Norwegian public organisations. In *dg.o '21: Proceedings of the 22nd Annual International Conference on Digital Government Research* (pp. 317–326). Association for Computing Machinery. https://doi.org/10.1145/3463677.3463703
[57] Luo, Y. (2022). A general framework of digitisation risks in international business. *Journal of International Business Studies, 53*(2), 344–361. https://doi.org/10.1057/s41267-021-00448-9
[58] Zhao, F., Meng, T., Wang, W., & Alam, F. (2023). Digital transformation and firm performance: Benefit from letting users participate. *Journal of Global Information Management, 31*(1), 1–23. https://doi.org/10.4018/JGIM.322104
[59] Zhou, Y., Ock, Y.-S., Alnafrah, I., & Dagestani, A. A. (2023). What aspects explain the relationship between digital transformation and financial performance of firms? *Journal of Risk and Financial Management, 16*(11), 479. https://doi.org/10.3390/jrfm16110479
[60] Khan, F., & Siddiqui, K. (2013). The importance of digital marketing: An exploratory study to find the perception and effectiveness of digital marketing amongst the marketing professionals in Pakistan. *Romanian Economic Business Review, 7*(2), 221–228. https://ideas.repec.org/a/rau/journl/v7y2013i2p221-228.html
[61] Ozuem, W., & Willis, M. (2025). *Digital marketing strategies for value co-creation* (2nd ed.). Springer.
[62] Tuunanen, T., Lumivalo, J., Vartiainen, T., & Zhang, Y. (2023). Micro-level mechanisms to support value co-creation for design of digital services. *Journal of Service Research, 27*(3), 109467052311731. http://dx.doi.org/10.1177/10946705231173116