

# AN ASSESSMENT ON THE IMPACT OF BLOCKCHAIN TECHNOLOGY ON SUPPLY CHAIN MANAGEMENT IN E-COMMERCE

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## Abstract

Business operations have been considerably changed by the computerized change, which has become a critical social and economic phenomenon. The effect of advanced change on marketing practices in Clean little and medium-sized businesses (SMEs) is examined in this review. The objective of the review is to closely examine the wide moves caused by advanced technology in the marketing idea, its instruments, and activities inside SMEs. The primary review question focuses on how marketing activities are evolving in modern associations. Our analysis and insights are based on deductive reasoning, results from empirical research, a critical literature assessment, and the author's own in-person market observations. Our analysis shows that the surveyed firms' marketing practices are progressively incorporating digital technologies. It is noteworthy that many of these technologies are still included in the arsenal of conventional marketing tools, though. This finding highlights how marketing tactics are still evolving and how old and digital methods coexist in Polish SMEs. This study emphasizes how crucial it is to comprehend the complex interactions between traditional and digital marketing strategies in SMEs. Although the digital transformation has brought about a variety of cutting-edge marketing tools and strategies, it is clear that SMEs continue to use conventional ways as well. The study also shows that the necessity to adjust to fast changing consumer tastes and behaviors is what motivates this coexistence.

**Keywords:** *Blockchain, Technology, Supply Chain, Management, E-Commerce*

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## 1. INTRODUCTION

Supply chain management is critical to the success of organizations in the fast-paced world of e-commerce, where the movement of products and information is essential. The techniques and instruments employed to manage these complex supply networks also develop along with technology. Blockchain is one such revolutionary technology that has attracted a lot of interest recently. This introduction lays the groundwork for a thorough analysis of how blockchain technology has affected supply chain management in the context of e-commerce. The foundational technology underlying cryptocurrencies like Bitcoin, blockchain, has evolved from its original purpose to become a disruptive force with the potential to transform a variety of industries, including supply chain management. Blockchain offers a decentralized and immutable ledger that tracks each transaction and movement of items, in contrast to conventional supply chain solutions, which depend on centralised databases and middlemen. A network of users shares this ledger to produce a transparent and impermeable record of events.

E-commerce is particularly well-positioned to profit from the adoption of blockchain technology in its supply chain procedures because it has experienced exponential growth over the past ten years. The possibilities of blockchain are perfectly compatible with the intrinsically digital nature of e-commerce, which is characterized by online markets, electronic payments, and international logistics. Because of this, companies active in this market are increasingly looking into how blockchain technology could improve efficiency, security, transparency, and trust throughout their supply chains. This evaluation's goal is to thoroughly examine how blockchain technology has affected e-commerce supply chain management. We will investigate the theoretical underpinnings of blockchain technology and look at how its core ideas are being used to improve supply chain operations. In addition, we'll look into case studies, empirical data, and real-world use cases to determine how adopting blockchain technology would actually affect the e-commerce industry. The primary research question that informs this evaluation is focused on how marketing activities carried out by organizations will change in light of the integration of blockchain technology into e-commerce supply chains. We will take into account the good as well as negative effects of this technological innovation and work to offer insightful information to scholars, entrepreneurs, and governments alike. The size of small and medium-sized businesses (SME) is the primary way in which they differ from giant organizations. However, they have a huge role in the economy. The SME sector in India is regarded as the groundwork of the nation's economy, representing 45% of modern result, 40% of exports,

60 million positions yearly, 1.3 million new positions yearly, and the development of more than 8000 great merchandise for domestic and international markets. With very nearly 30 million SMEs in India, 12 million people expected to enter the workforce in the next three years, and a sector increasing at a pace of 8% every year, the Indian government is implementing a number of initiatives to improve their competitiveness in the worldwide market. The expansion of Indian SMEs has been influenced by a number of variables. A few of these include the subsidizing of SMEs by domestic and international investors, the use of new technology in the market to help SMEs enhance their businesses, and a variety of trade directories and trade gateways that help facilitate trade between buyers and suppliers, lowering trade barriers. With such huge potential and strong government assistance, Indian SMEs continue to share their success stories. Despite this quick expansion, Indian SMEs actually have a tremendous measure of unrealized potential.

### 1.1 E-commerce Has Undergone a Digital Transformation

E-commerce, often known as electronic commerce, has developed significantly over the past few decades and has become a keystone of the global economy. The dynamics of traditional retail and the supply chain have also been fundamentally altered as a result of this shift, placing it as a crucial industry for game-changing technological advancements like blockchain.

- **The Rise of E-Commerce in the Global Economy:** In today's linked world, e-commerce has become more and more important as a driving force. Businesses and customers have both seen a significant change in how they conduct business since the internet's invention. Geographical limitations have been overcome by online marketplaces, enabling customers to make purchases at any time and from any location in the world. A 24/7 e-commerce ecosystem has developed as a result of this worldwide reach, beyond the constraints of traditional brick and mortar retailers.
- **Reshaping Traditional Retail:** Traditional brick-and-mortar retail has been negatively impacted by the growth of e-commerce. Physical stores have to change or face serious difficulties. E-commerce has brought about a degree of accessibility, choice, and convenience that traditional retail may struggle to match. Customers now expect frictionless online shopping, tailored recommendations, and quick, dependable delivery, all of which present potential and problems for businesses in the digital age.
- **Transformation of Supply Chain Dynamics:** The growth of e-commerce has altered not only the retail industry but also the entire supply chain environment. Complex networks of suppliers, third-party logistics providers, and fulfilment centres have been added to the traditional supply chain, which is

characterised by a linear flow of goods from producers to distributors to retailers and ultimately to consumers. These networks function with the speed and accuracy necessary to satisfy the demands of online consumers, who anticipate prompt delivery and real-time order tracking.

- **The Role of Technological Innovations like Blockchain:** E-commerce has developed into an excellent testing ground for cutting-edge technologies like blockchain in this situation. Businesses are looking into how blockchain can help with these issues because supply chain operations and online transactions need to be secure, transparent, and trustworthy. By reducing problems with fraud, counterfeiting, and information opacity, the decentralised ledger provided by blockchain technology has the potential to revolutionise supply chain management in e-commerce.

## 1.2 Blockchain compatibility with e-commerce

**E-commerce's Compatibility with Blockchain:** A compelling narrative, based on the intrinsic qualities of both, connects e-commerce and blockchain technology. Here, we'll explore the inherent overlap between these two fields, emphasising how e-commerce is a perfect setting for blockchain integration due to its digital nature, worldwide accessibility, and demand for openness and confidence in the online marketplace.

**Digital Nature of Online Transactions:** The digitalization of transactions is the foundation of e-commerce. The exchange of digital versions of products and services occurs during online buying. Customers can explore product catalogues, make orders, pay for them, and get digital receipts all online. This inherently digital nature fits perfectly with blockchain technology's capabilities. Blockchain is based on a decentralised, digital ledger that keeps track of transactions in a visible and impenetrable way. It was initially intended to make it easier for people to transact with digital currencies like Bitcoin. It carries on this history when used in e-commerce by offering a safe and effective way to monitor and confirm online transactions. The blockchain enables the immutable and auditable recording of every transaction, including purchases, payments, and inventory movements.

**Global Reach of E-Commerce:** E-commerce allows companies access to a worldwide customer base by bridging geographical barriers. Customers have access to suppliers and retailers everywhere in the world. A payment and supply chain infrastructure that can handle international transactions effectively and securely is required due to this company's global presence. Blockchain's capacity to streamline cross-border transactions demonstrates how well it complements the global reach of e-commerce. The use of intermediaries, currency conversion costs, and lengthy settlement periods frequently slow down traditional financial systems. International e-commerce transactions can now be carried out more easily and affordably

thanks to blockchain, a technology without national boundaries that enables almost immediate cross-border payments at lower rates.

**Imperatives of Transparency and Trust:** Transparency is a key element in the virtual market, where customers cannot physically verify things and where trust is essential. Customers depend on accurate product information and prompt delivery to feel confident that the things they buy are authentic. This demand for transparency goes throughout the entire supply chain, not just individual transactions. This demand for trust and transparency is met by the immutable and transparent ledger of blockchain technology. It offers a verified record of the products' manufacturing procedures, provenance, and shipping information. This allows customers to check the legitimacy of products and follow them from the maker to their door. It guarantees supply chain transparency for enterprises, lowering the possibility of fake goods, fraud, and legal issues.

## 2. REVIEW OF LITREATURE

The 2016 book by Don and Alex Tapscott offers a thorough review of blockchain technology and its potential to revolutionise a number of industries, including supply chain management. technology examines the fundamental ideas of blockchain, highlighting how technology might revolutionise conventional business procedures by boosting trust, transparency, and security. The authors provide various case studies and real-world examples to illustrate how blockchain is changing supply chain operations. For a foundational grasp of blockchain's broader corporate and societal ramifications, read this book.

Iansiti and Lakhani (2017) thoroughly evaluate the principles of blockchain technology in this seminal Harvard Business Review essay. By addressing concerns with trust and coordination, they emphasise how it has the ability to upend entire sectors. The essay also analyses blockchain's difficulties and restrictions while emphasising its revolutionary effects on supply chains, particularly in industries where transparency and traceability are crucial.

In order to increase supply chain transparency, this research study focuses on a specific application of blockchain technology. The authors outline an effective blockchain-based method for improving supply

chain traceability and transparency. The paper provides details on the technological implementation of blockchain and its potential to reduce problems like fraud and counterfeiting.

The article by Sarkis and Cohen (2018) offers a thorough analysis of blockchain applications in supply chain management. It goes over the numerous ways that blockchain can be used to address supply chain problems like efficiency, transparency, and traceability. In order to provide direction for future research projects in blockchain and supply chain management, the article also outlines research problems and gaps in the field.

Zhao, S. (2018). This case study shows how blockchain technology is being used in supply chain financing in practise. It illustrates how blockchain technology can boost supply chain liquidity and streamline financial transactions. The study sheds light on the practical advantages and difficulties of applying blockchain technology to supply chain finance.

The systematic review by Wang et al. (2019) provides a thorough examination of blockchain-based supply chain financing. In order to provide a comprehensive overview of the advantages, difficulties, and developments in this sector, the study synthesises previous research on the subject. It is a useful tool for comprehending the state of supply chain finance solutions based on blockchain at the moment.

S. Saeed (2020) This study examines the broader uses of blockchain technology in supply chain and logistics management. It explains how blockchain might improve supply chain ecosystem collaboration, transparency, and traceability. The study also emphasises the potential advantages of blockchain adoption in logistics for the environment and sustainability. Together, these sources give a solid framework for comprehending the complex effects of blockchain technology on supply chain management, as well as insights into its uses, difficulties, and revolutionary potential in the e-commerce industry.

### **3. MATERIALS AND METHODS**

A complete process called "computerized change" causes an organization to embrace new working practices based on advanced technologies. Every level of the association, as well as practical divisions like marketing, finance, or creation, participate in the process. It revolves around a man and his needs, inspiring an organization to change its earlier operational model and frequently embrace a new strategy for its labor and products. Computerized change is a deeper and broader concept than digitalization, which is simply loosely

related to technological advancement; basically a technological and social change entails the emergence of new market interactions.

Innovation in the sale of goods and services as well as in how companies engage with customers at each stage of the "path to purchase" is the foundation of digital transformation. It becomes more significant in light of the fact that the X, Y, and Z generations will make up the majority of societies worldwide in the not too distant future. It's important to keep in mind that these socioeconomic groupings prioritise developing strong ties with brands online as well as with their immediate surroundings, social responsibility, and environmental concerns. Consumers are paying more and more attention to brand authenticity as a result of aggressive advertising.

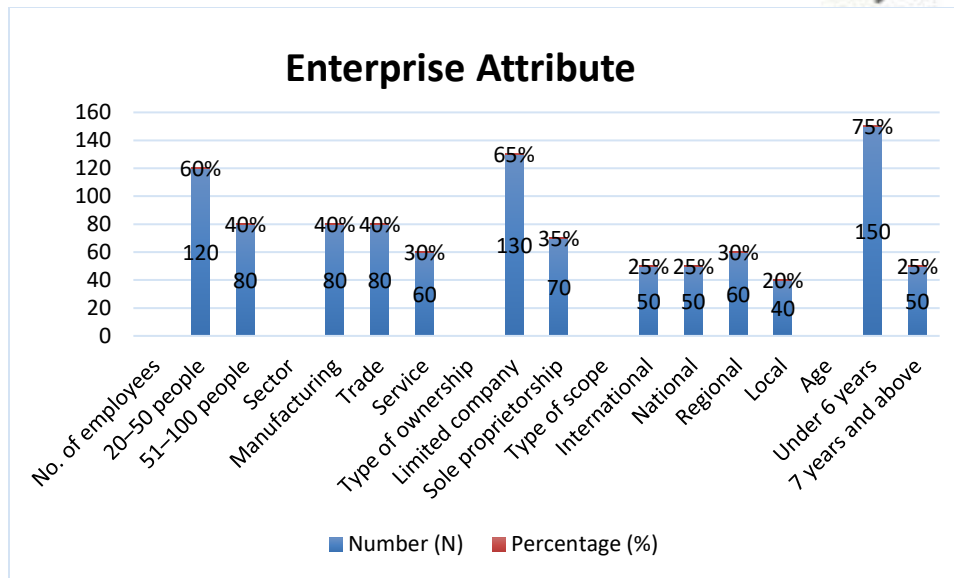
The study was carried out in Poland in 2020, and the results are discussed in this publication. The SMEs group was investigated using a quantitative study design. Small and medium-sized businesses, which make up 97% of all Polish businesses, were the study's target population. In July 2020, the survey's test run provided the chance to clarify the questions and their sequencing. The real study was then conducted from September 10 to 15, 2020. The diagnostic survey method and the survey instrument, an Internet form with a defined series of questions that the sample of respondents to the survey willingly and anonymously answered, were utilised in the current investigation. Exploratory in nature, the study made use of a nominal measuring scale. Computer-assisted web interviewing (CAWI) was used in empirical investigations.

In the design of non-experimental research, the CAWI approach was applied. An online structured questionnaire that was inserted into the database of SMEs in Poland (around 1.3 million economic entities) was used to target the review's target audience. The employment of data and correspondence technologies (ICT) apparatuses in business operations — arbitrary deliberate testing — was requested. 200 correctly completed questionnaires were obtained as a consequence of the review, and at the finish of the research period, a further absence of members was seen. The descriptive technique was utilized to ascertain the frequency of valuables in the populace utilizing the survey's numeric descriptions of a subset of a SME's populace's features. The survey assessed qualities of the respondents collectively at a specific period disregarding the causes and effects of such characteristics. The frequency dissemination for a specific variable was used to summarize the discoveries, which were then compared through investigation and synthesis to enable for the development of definite ends.

**Table 1:** Respondents profile

<b>Enterprise Attribute</b>	<b>Number (N)</b>	<b>Percentage (%)</b>
<b>No. of employees</b>		
20–50 people	120	60%
51–100 people	80	40%
<b>Sector</b>		
Manufacturing	80	40%
Trade	80	40%
Service	60	30%
<b>Type of ownership</b>		
Limited company	130	65%
Sole proprietorship	70	35%
<b>Type of scope</b>		
International	50	25%
National	50	25%
Regional	60	30%
Local	40	20%
<b>Age</b>		
Under 6 years	150	75%
7 years and above	50	25%





**Figure 1:** Respondents profile

The presented information exposes numerous important facts regarding the businesses surveyed. The bulk of these businesses, or 60%, have a workforce of 20 to 50 employees, while the other 40% have a somewhat bigger workforce of 51 to 100 employees. In terms of sector distribution, the service sector comprises 30% of the studied firms, while the manufacturing and trade sectors each account for 40% of them, making them equally dominant. According to ownership structure, 65% of the businesses are set up as limited corporations, demonstrating a preference for corporate ownership, as opposed to 35% of sole proprietorships. In terms of geographic reach, 20% of the firms primarily serve local markets, 30% have a regional focus, and 25% operate internationally and nationally, respectively. The remaining 25% of the questioned firms have been in operation for seven years or more, indicating the existence of more established businesses in the survey sample, while a significant 75% of the surveyed businesses are under six years old, suggesting a prevalence of comparatively newer businesses. The combination of these data provides a thorough understanding of the make-up and traits of the examined firms across these essential categories.

## 4. RESULTS

### 4.1 Digital Technologies Applied in Marketing

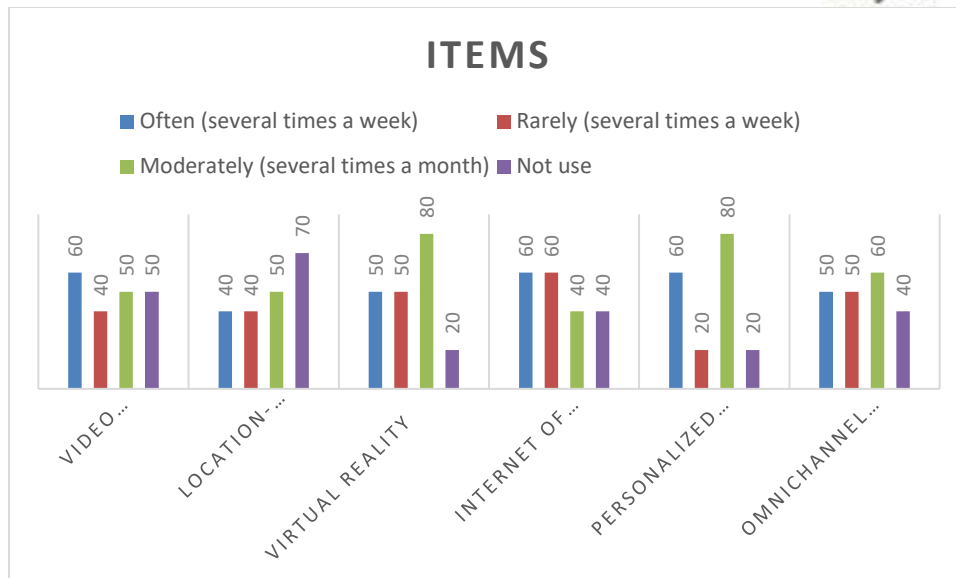
The results were analyzed using descriptive statistics. The characteristics of the study's data were described and discussed using descriptive statistics. The descriptive aspect of the study was to describe the existing

situation of nominal and categorical variables. The nominal scale, which only permits qualitative classification, was employed. There is no mathematical interpretation for the nominal level of measurement. In order to summarize the frequency of data, descriptive statistics are frequently utilized. To display the frequency of each response selected by the respondents, relative frequency analysis was employed. Frequency estimations and percentage fractions were utilized as statistical approaches, and the importance of various measures was examined. As the study's analytical generalization, aggregated data were visualized using graphs and tables. Data from a descriptive research methodology show that SMEs are experiencing a digital shift in the marketing sector.

Tools used by businesses for marketing communication represent changes in marketing that have been seen in the digital age. Figure 2 displays the usage of marketing communication tools, including the most modern and online tools.

**Table 2:** Use of digital technologies in marketing by the sampled companies, expressed as a percentage of responses

Items	Often (several times a week)	Rarely (several times a week)	Moderately (several times a month)	Not use
Video marketing	60	40	50	50
Location-based Marketing	40	40	50	70
Virtual Reality	50	50	80	20
Internet of Thing	60	60	40	40
Personalized marketing Messages	60	20	80	20
Omnichannel Marketing	50	50	60	40



**Figure 2:** Use of digital technologies in marketing by the sampled companies, expressed as a percentage of responses

The information given sheds light on how frequently certain marketing tactics are used by respondents. Notably, internet of things (IoT) and video marketing are used the most frequently, with 60% of respondents saying they frequently use these tactics multiple times a week. With 50% of consumers using them frequently, virtual reality and personalized marketing messages are also widely used. 50% of respondents use omnichannel marketing and location-based marketing on average multiple times per month. It's interesting to note that a sizable percentage of respondents (40%) and 20%, respectively, rarely use location-based marketing and virtual reality. Additionally, just 70% employ location-based marketing, indicating a less regular use of this tactic. These results show the wide range of marketing tactics used by the studied population, with variable levels of acceptance that are probably impacted by factors including industry, target market, and technological readiness.

#### 4.2 Application of Communication Tools

The necessity to modernize their operations and stay up with market developments presents small and medium-sized firms with development hurdles every day. The Industrial Revolution 4.0, which is characterized by quick advances in science and technology, defines the course of development and business expansion. Organizations who do not recognize the necessity of adapting to these developments run the risk of suffering real income losses.

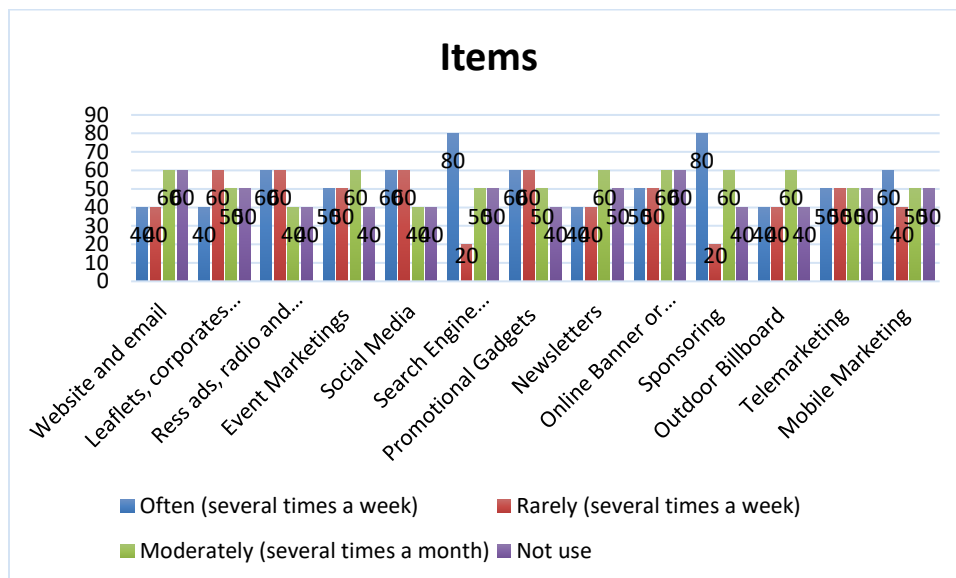
Sales, HR, and other development-related fields all experience change. Each of them has been modernized by the technology and devices of today. When it comes to marketing (external correspondence), the online market is expanding every month, and devices used by 21st-century marketing are not intended to increase sales rigorously speaking. Instead, it is becoming increasingly critical to communicate with customers, giving the impression that you are generally online and ready to talk.

Therefore, capable managers are likely to respond to changes welcomed on by the computerized change relatively rapidly, which can represent the positive moderation effect of a sustainable strategy in the relationship between management capacity and monetary performance. Other review demonstrates that digitizing business operations and building the operational competence of the advanced business plan are insufficient when associations attempt to achieve monetary development with a sustainable strategy. To begin the process of acquiring and supporting a competitive advantage and further developing performance, businesses should digitalize the progression of data and knowledge all through their supply chains, service delivery systems, and marketing. As per some studies, managers should make strategic decisions about the computerized change of their associations to stay away from gambles with welcomed on by improper process and resource identification and deployment, as well as decisions about which manageability values, notwithstanding economic values, are of strategic importance. The right use of the internet tool kit is vital around here to establish the brand's reputation, increase sales, foster customer steadfastness, influence consumer choices, and engage customers. The more apparatuses an association utilizes in its marketing efforts, the larger it becomes. In spite of the fact that there is a significant hole between little and large businesses, the performance of medium-sized businesses in this area is comparable to that of large businesses. Larger businesses normally pursue more expensive endeavors like television advertisements, item placement, or sponsorship. The biggest qualification is displayed in the usage of press advertisements, with private companies employing it essentially less frequently than huge businesses.

**Table 3:** Use of communication technologies by the study's included businesses, expressed as a percentage of answers

Items	Often (several times a week)	Rarely (several times a week)	Moderately (several times a month)	Not use
Website and email	40	40	60	60

Leaflets, corporates news slitters	40	60	50	50
Res ads, radio and TV Commercials	60	60	40	40
Event Marketings	50	50	60	40
Social Media	60	60	40	40
Search Engine Activities	80	20	50	50
Promotional Gadgets	60	60	50	40
Newsletters	40	40	60	50
Online Banner or Video Content	50	50	60	60
Sponsoring	80	20	60	40
Outdoor Billboard	40	40	60	40
Telemarketing	50	50	50	50
Mobile Marketing	60	40	50	50



**Figure 3:** Use of communication technologies by the study's included businesses, expressed as a percentage of answers

The information offers insightful information on how frequently respondents use different marketing channels and strategies. With 60% or more of respondents utilising them frequently (several times a week), it is clear that several digital channels, such as search engine activity, social media, and online banner or video material, are highly favored. 60% of users frequently or occasionally use email marketing, newsletters, and promotional items. 60% of people routinely use traditional advertising techniques like print ads, radio and TV commercials, and outdoor billboards, which have a fairly even distribution between frequent and infrequent users. Notably, 80% and 50% of respondents, respectively, use sponsorship and event marketing frequently. The distribution of usage frequencies for telemarketing and mobile marketing, on the other hand, is more evenly distributed. These results show a variety of marketing strategies being used, with digital channels and event-related techniques being among the most commonly used. Traditional strategies are still relevant, though with various degrees of adoption among the respondents to the study.

#### 4.3 The Relevance of Content Marketing

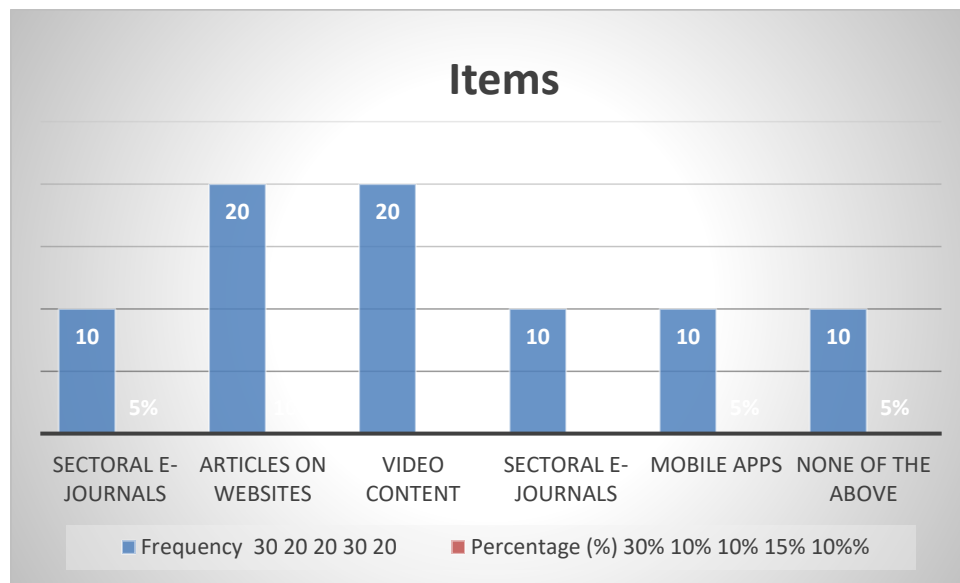
Material marketing entails producing worthwhile material that addresses the demands of the target company's customers and disseminating it with the goal of grabbing their attention and retaining it [18]. This content may be presented in a variety of ways, including articles, movies, webinars, and multimedia presentations. In content marketing, it's crucial to consider both the way the material is published and its actual substance.

It is a device made to create intense, enduring emotional connections with a brand. The most well known content marketing stages are online entertainment, newsletters, website articles, photos, videos, sites, specialized e-diaries, infographics, and mobile applications.

Such content marketing employed by the SMEs partaking in the review are examined in further investigation of the computerized technologies used by these businesses (see Figure 3). The examination of the information reveals that a sizable larger part of respondents' businesses (83.5%) and online entertainment (80.0%) use articles. Despite the fact that they should be visible as being extremely conventional these days, not all businesses use them to fabricate long haul relationships with their customers. Without making a huge monetary investment, web-based entertainment provides chances and devices that enable businesses to provide flexible, direct, and available all day, every day consumer services.

**Table 4:** Types of content marketing used by assessed businesses, % of responses

Items	Frequency	Percentage (%)
Blogs	30	30%
Newsletters	20	10%
Social Media	20	10%
Articles on websites	30	15%
Video Content	20	10%%
Sectoral e-Journals	10	05%
Articles on websites	20	10%
Video Content	20	10%
Sectoral E-journals	10	05%
Mobile Apps	10	05%
None of the Above	10	05%



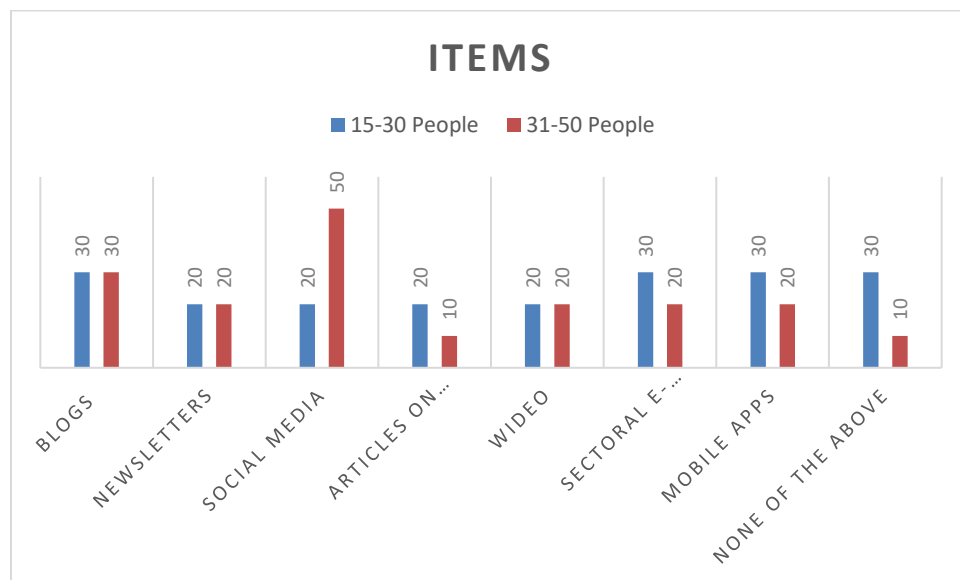
**Figure 4:** Types of content marketing used by assessed businesses, % of responses

The information reflects the respondents' preferred sources of knowledge or content consumption. With 30% of respondents saying they use them; blogs and online articles stand out as the most popular options. This shows that the consumption of written content, such as blogs and articles, is very important. With 10% apiece, newsletters, social media, and video material all have their fair share of consumers. Sector-specific

e-journals and mobile apps, however, are less popular, receiving only 5% each. Surprisingly, 10% of respondents chose "None of the Above," showing that some respondents do not rely on any of the sources mentioned for their information or content intake. Written content, social media, and video content were found to be the most popular ways for respondents in this sample to acquire information or content, highlighting the diversity in respondents' preferences for information consumption.

**Table 5:** Content marketing types in analysed businesses by size, % of answer

Items	15-30 People	31-50 People
Blogs	30	30
Newsletters	20	20
Social Media	20	50
Articles on websites	20	10
Wideo	20	20
Sectoral e-Journals	30	20
Mobile Apps	30	20
None of the Above	30	10



**Figure 5:** Content marketing types in analysed businesses by size, % of answer



Based on the respondent groups' sizes, the data offers insights about preferred information or content consumption, notably for the two staff size categories of 15–30 and 31–50. It is clear that among businesses with 15–30 employees, blogs, newsletters, online articles, and mobile apps are the most often utilized sources, with 20% of respondents giving each category the same preference. 30% of respondents reported using sector-specific e-journals and video content. With a significant 50% of respondents favoring it for content consumption, social media stands out as the most popular source among businesses with 31–50 employees. This implies that larger businesses with between 31 and 50 employees rely more on social media for news and content, but smaller businesses with between 15 and 30 employees show a more equal distribution of preferences among different sources. It's interesting to note that 10% of respondents in the bigger group chose "None of the Above," indicating a group that does not rely on the sources mentioned. This highlights the variability in information consumption patterns among businesses of various sizes.

## 5. DISCUSSION

Industry 4.0 encompasses a new method of managing sales as well as a new approach to technology and product manufacturing. Enterprise 4.0 has altered the manner in which information is shared with customers regarding products and how to communicate with them. In actuality, it pertains to the change from a B2B or B2C collaboration paradigm to an H2H (human-to-human) cooperation model based on personalized communications aimed at clients and business partners. The seller reduces the gap between a firm and a client or between a company and its business partners by using resources that are readily available, like social media, for example. Organization 4.0 is able to gather a large amount of information and give the customer a product that meets his preferences and expectations thanks to ICT and a shorter distance. As a result, businesses today entice clients with the option to select specific product components. Being practical, it should be clear that not every product category could offer such a choice. Some goods arrive whole and in one piece. A company's revenue will increase in direct proportion to how rapidly it can adjust to personalization. Small businesses (SMEs) can make these adjustments and modifications far more easily than huge organizations, which must plan a project and start a change management procedure for any change. There are more business opportunities thanks to digital marketing. The interactions between an organization and the market are changing in the era of lightning-fast ICT breakthroughs. IT innovations and digital tools have an impact on marketing, make it easier to develop relationships with customers and

increase the worth of any firm. The capacity to use the synergistic data and their analysis, as well as a quick relevant response to customer behavior and preferences, will be essential. According to research, managerial understanding of the company's digital transformation is essential to achieving improved financial performance through the support of a sustainability plan. A new method of organizing marketing operations is required to alter a marketing system. A new marketing strategy puts the customer first. After the system's components and their interactions have been well thought out, customers can be encouraged to interact with the products in a way that stimulates their emotions and allows them to offer new value. The newest trends in marketing include personalization (better targeting) of marketing correspondences, mobile, huge information, search engine activities (SEO iSEM), video endlessly content marketing. Therefore, being able to recognize emerging trends and technologies, having solid correspondence abilities, and being innovative are the essential competencies pursued at the Marketing Department of any SME. Businesses from the SME sector that were examined for the concentrate for the most part use online entertainment, email, and websites often (several times per week) to engage in computerized marketing. They likewise utilize other strategies on a regular premise, for example, press adverts, radio and television commercials, leaflets and newsletters, and search engine operations. In the digitalization process, event marketing is employed essentially less frequently while sponsorship, outside announcements, and telemarketing are never used. The digitalization of businesses depends on content marketing and the instruments used to produce and distribute marketing content to consumers. Website articles, virtual entertainment posts, and video content are the apparatuses most often utilized to communicate the content. It means a lot to note that up to half of the surveyed associations' overall marketing budgets are spent on computerized initiatives.

## 6. CONCLUSION

In conclusion, the analysis of how blockchain technology affects supply chain management in the e-commerce industry highlights the technology's revolutionary potential. Our investigation has shown that the decentralised ledger system of the blockchain, which is characterised by openness, security, and immutability, is ready to revolutionise how companies conduct themselves in the e-commerce environment. By addressing persistent issues like fraud, forgery, and information opacity, it aims to improve customers' and businesses' trust in one another. The connection of blockchain with the digital nature, global reach, and demand for transparency within the e-commerce sector suggests that its impact will only grow in importance in the years to come, despite challenges and acceptance hurdles. Supply chain management is undergoing a transformation as a result of the incorporation of blockchain technology, which has the

potential to completely alter the sector. By removing all barriers between clients and their requirements, digital technology has permanently altered the way business is conducted. Nearly all firms today are aware of the need to change their old habits. If they stick with the status quo, they run the danger of losing customers to more technologically savvy rivals. Despite the fact that most businesses recognise the need for change, many are terrified by the idea of transformation. It's crucial to comprehend the steps of the process and choose the right time to begin the transformation if you want to digitally convert an organisation successfully. The delivery of services to customers should be swift and seamless in a dynamic environment. They anticipate easy-to-use payment options and clear policies governing their interactions with the company or organisation. Businesses that want to succeed in the digital age must constantly analyse their environment and respond as quickly as possible to developing trends by adjusting their strategy. It is challenging to forecast the future of marketing in the digital age since technological innovations happen quickly and have a big impact on the economy and society. Only by predicting trends and implementing new technology can organisational changes be made. The 'golden age' of marketing is thought to be the present. Companies now have access to new optimisation options that were still out of reach twenty years ago thanks to the digital transformation and the abundance of technologies that enable broadly sketched and in-depth analyses of data. In a way, marketing turns into an analytical division while yet preserving a place for consumer empathy. Today, technology is an essential component of marketing, and businesses must now consider "how" they should adapt in order to compete in the market and satisfy customer demands, rather than just "whether" they should do so. Businesses are compelled to create collaborative platforms under the new marketing 4.0 theory. They are essential to ensuring communication between a conventional vendor and buyer. In his new capacity as a prosumer, a consumer will only be able to communicate with a business in this fashion. Importantly, prosumers should find it simple and straightforward to use such platforms. It must be emphasised that the core of the new marketing concept 4.0 does not consist in disregarding earlier marketing tenets and research study outcomes. It draws attention to evolving consumer roles, interpersonal dynamics, and feedback between various market actors. Most significantly, there is a blurring of the lines that traditionally separate manufacturers from consumers. Manufacturers are being obliged to cede part of their expertise to end users in order for them to jointly build the value of a good or service as prosumers become more and more important in the market. Targeting specific consumers with personalised information is a significant trend. Databases are used to reach customers, and content is provided directly to them and customised to their specific needs. Modern customers anticipate that marketing messages will immediately address their requirements.

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