



## Improving Marketing Performance: How Business Analytics contribute to Digital Marketing

Sajal Kabiraj<sup>1</sup>, Shanmugan Joghee<sup>2</sup>

<sup>1</sup> Hame University of Applied Sciences, Finland

<sup>2</sup> School of Business, Skyline University College, UAE

### ARTICLE INFO

#### Keywords:

Digital, Marketing, Business, Analytics, Decision Strategy, E-Commerce.

Received: Apr, 10, 2023

Accepted: May, 15, 2023

Published: May, 24, 2023

### ABSTRACT

This research is aimed to assess the business analytics impact on marketing performance with mediating role of digital marketing. In order to evaluate the variables, the data was empirically collected from e-commerce industry UAE. 116 responses were included for statistical analysis. The quantitative nature of research enabled to measure the data using SmartPLS 4.0. PLS-SEM applied to assess the research model and validity of the proposed model. The findings revealed a significant association between business analytics and marketing performance whereas, the indirect link between business analytics has significant relevance using digital marketing (mobile Marketing, Social Media Marketing). As a result, business analytics has become an essential tool for companies to improve their marketing performance. By analyzing customer data and market trends, businesses can gain insights into consumer behavior and preferences, allowing them to make informed decisions and target their marketing efforts more effectively. Digital marketing has also emerged as a key component of modern marketing strategies, with its ability to reach and engage with customers through various online channels.

### 1. INTRODUCTION

In the e-commerce sector, digital analytics is a potent instrument that aids firms in measuring, analyzing, and comprehending the behavior of their online customers. Data from several sources, including website traffic, social media engagement, email marketing, and more, must be gathered and analyzed. With the use of digital analytics, e-commerce companies can learn more about the preferences, purchasing patterns, and website usage of their clients. This information can be used to optimize their online presence, boost customer engagement, and boost sales. E-commerce companies can get a competitive edge in the congested online market by utilizing the power of

digital analytics (Conboy et al., 2020).

Whereas, the way that organizations connect with and interact with their target audiences has been changed by digital marketing. It includes a wide variety of strategies, including search engine optimization (SEO), pay-per-click (PPC) marketing, social media marketing, email marketing, content marketing, and others. Businesses may develop focused, quantifiable, and affordable marketing programs that can reach a larger audience, provide more leads, and ultimately drive more sales by utilizing these digital channels (Yasa et al., 2020). Moreover, digital marketing provides businesses with a wealth of data that can be used to measure

and optimize marketing performance. With digital analytics tools, businesses can track and analyze their marketing campaigns' effectiveness in real-time, identifying what's working and what's not. This allows businesses to adjust their strategies and tactics quickly, optimizing their marketing efforts for maximum impact (Bala and Verma, 2018). Overall, digital marketing has transformed marketing performance by enabling businesses to reach their target audience more efficiently and effectively, while also providing the data needed to continually improve and refine their marketing strategies.

### *1.1. Problem Statement*

Despite the growing importance of business analytics and digital marketing in modern marketing strategies, there is still a lack of understanding regarding the precise impact of these tools on marketing performance. While it is clear that businesses can leverage analytics to gain insights into customer behavior and preferences, and that digital marketing can be an effective way to reach and engage with customers, the extent to which these tools can improve marketing performance remains unclear. Moreover, the mediating role of digital marketing in amplifying the impact of business analytics on marketing performance is not yet fully understood. As such, there is a need for further research to explore the relationship between business analytics, digital marketing, and marketing performance, and to identify the key factors that contribute to their success.

## 2. THEORETICAL FRAMEWORK

### *2.1. Business Analytics*

In the subject of digital analytics, digital data is measured, analyzed, and interpreted to support business decisions. Its foundations are in the broader discipline of data analytics, which include methods for gathering, processing, and analyzing data in order to gain knowledge about a variety of phenomena (Liu et al., 2019). Data is gathered from a variety of digital sources in the context of digital analytics, including websites, social media platforms, email campaigns, and mobile apps. Then, in order to find patterns and trends that can help with business choices, this data is evaluated using a range of approaches, including data mining, statistical analysis, and machine learning (Tong-On et al., 2021). Digital analytics has its roots in web

analytics, which was initially focused on analyzing website traffic and user behaviour (Mikalef et al., 2020). However, as digital channels have proliferated, digital analytics has expanded to encompass a broader range of data sources and analysis techniques.

### *2.2. Digital Marketing*

In the realm of digital marketing, a target audience is reached by using digital media to promote goods or services. It includes a variety of strategies, including social media marketing, email marketing, content marketing, pay-per-click (PPC) advertising, and more. The expansion of the internet and the rise in the usage of digital devices for information access and purchasing decisions are largely responsible for the rise of digital marketing. Businesses have had to modify their marketing methods as customers have switched to digital media (Bhosale et al., 2020).

As comparison to traditional marketing channels, digital marketing has a number of advantages, including the capacity to reach a larger audience, target particular demographics, and more precisely gauge results. Also, it enables companies to give their clients more unique and interesting experiences, which boosts client loyalty and retention (Tariq et al., 2022). Because of changes in consumer behavior and technological advancements, the field of digital marketing is continually evolving. Businesses must continually change their marketing tactics to stay competitive as new digital channels appear and customers continue to migrate towards them.

### *2.3. Marketing Performance*

The monitoring and analysis of a company's marketing efforts are referred to as marketing performance. It entails establishing precise marketing objectives, monitoring progress toward those objectives, and using data to guide subsequent marketing choices. Depending on the precise objectives of the marketing effort, there are many different approaches to evaluate marketing performance (Hendiarto et al., 2021). Examples of measures that can be used to evaluate marketing effectiveness include website traffic, social media engagement, email open rates, and sales income. To determine what is and is not working in marketing, as well as to create data-driven decisions that will increase the efficiency of

upcoming marketing campaigns. Marketing performance is influenced by a variety of factors, including the quality of the marketing strategy, the relevance of the marketing message to the target audience, and the effectiveness of the marketing channels used (Daud et al., 2022). By continually monitoring and optimizing marketing performance, businesses can improve their marketing ROI and drive business growth.

#### 2.4. Industry description

By 2023, the United Arab Emirates will surpass Belgium as the 28th-largest market for e-Commerce, with anticipated sales of US\$11,782.3 million. The predicted market volume by 2027 is US\$16,373.4 million, with revenue expected to rise at a compound annual growth rate (CAGR 2023–2027) of 8.6%. The UAE e-Commerce market contributed to the global growth rate of 17.0% in 2023 with an anticipated increase of 10.6%. Global e-Commerce sales are anticipated to rise over the coming years, just like they did in the United Arab Emirates.

Within the UAE e-Commerce market, e-commerce DB takes into account five markets. The main market and source of 38.7% of UAE e-Commerce sales is fashion. It is followed by Furniture & Appliances with 12.4%, Toys, Hobby & DIY with 15.4%, Food & Personal Care with 13.6%, Electronics & Media with 19.9%, and Toys, Hobby & DIY with 15.4%.

### 3. LITERATURE REVIEW

#### 3.1 Business analytics impact on Digital Marketing

There is a growing body of literature that examines the impact of digital analytics on digital marketing. Several studies have found that digital analytics tools can significantly improve the effectiveness of digital marketing campaigns by providing businesses with a more comprehensive understanding of their customers' behavior and preferences.

For example, a study by (Adaileh et al., 2022) found that companies that use digital analytics to inform their marketing strategies are more likely to achieve their marketing goals. The study also found that companies that invest in digital analytics are more likely to see a positive return on their marketing investment. Similarly, discovered (Marcelo and López, 2022) that businesses are better able to determine which channels and

approaches are most effective at generating traffic and conversions when they use digital analytics to measure the success of their marketing initiatives. As a result, firms are able to maximize the impact of their marketing initiatives.

Several studies have studied the precise ways in which digital analytics tools can be used to improve digital marketing performance (Tariq et al., 2022). According to a study by (Bala and Verma, 2018), for instance, businesses may determine which pages and content are most appealing to their target audiences by studying website visitor behavior, which enables them to improve both the look and the functionality of their websites (Orzan et al., 2020).

#### 3.2 Business Analytics impact on Marketing Performance

According to (Afriyie et al., 2019), digital marketing means promoting goods and services on social media platforms digitally. There are several online marketing campaigns that are conducted where the advertisers are paid by companies to promote their goods or services online. This actually helped customers to reach the brand much faster. As suggested by (Amado et al., 2018), these marketing techniques are usually focused on driving actions, and as per the analysis, each asset's ROI is done. If the social media campaigns are focused and there are good strategies for online marketing, then the products are sold easily to the customers, and the customers also get in touch with the brand through the platforms (Wright et al., 2019). Digital analytics provides businesses with the data and insights they need to continuously improve their marketing strategies. By tracking the performance of each marketing channel and tactic, businesses can identify areas for improvement and adjust their strategies accordingly. This can lead to a more efficient use of marketing resources and a better overall marketing performance.

#### 3.3 Digital Marketing impact on Marketing Performance

Digital marketing has revolutionized the way businesses reach and engage with their target audiences. With the proliferation of internet and social media, digital marketing has become an essential component of any comprehensive marketing strategy (Orzan et al., 2020). Numerous studies have been conducted to understand the

impact of digital marketing on marketing performance (Nuseir and Aljumah, 2020). Digital marketing has the potential to improve customer engagement by providing personalized experiences to customers. According to a study by (Daud et al., 2022), personalized content can increase engagement rates by up to 80%. Furthermore, digital channels such as social media and email can enable businesses to communicate with their customers in real-time, providing them with relevant information and offers.

### 3.4 Digital Analytics impact on Marketing performance with mediating role of Digital Marketing

As stated by (Alwan and Alshurideh, 2022), digital marketing can also improve lead generation and conversion rates. According to a study by Hubspot, inbound marketing, which includes digital marketing tactics such as content marketing, SEO, and social media marketing, can result in 54% more leads than traditional outbound marketing methods. Furthermore, a study by McKinsey & Company found that companies that use digital

marketing to engage with their customers can increase their conversion rates by up to 50% (Edelman and Heller, 2015). Moreover, digital marketing provides businesses with valuable insights and analytics that can help them optimize their marketing strategies. By using tools such as Google Analytics, businesses can track the performance of their campaigns and identify areas for improvement. Furthermore, digital marketing can enable businesses to gather valuable customer data that can be used to inform future marketing campaigns.

Furthermore, Digital analytics can provide businesses with a wealth of customer insights that can be used to inform their marketing strategies. A research by (Rikhardsson and Yigitbasioglu, 2018) identified, tracking customer behavior across various digital channels, businesses can gain a better understanding of their customers' preferences and needs. This can help businesses tailor their marketing messages and offers to better meet the needs of their target audience.

### 3.5. Research Model

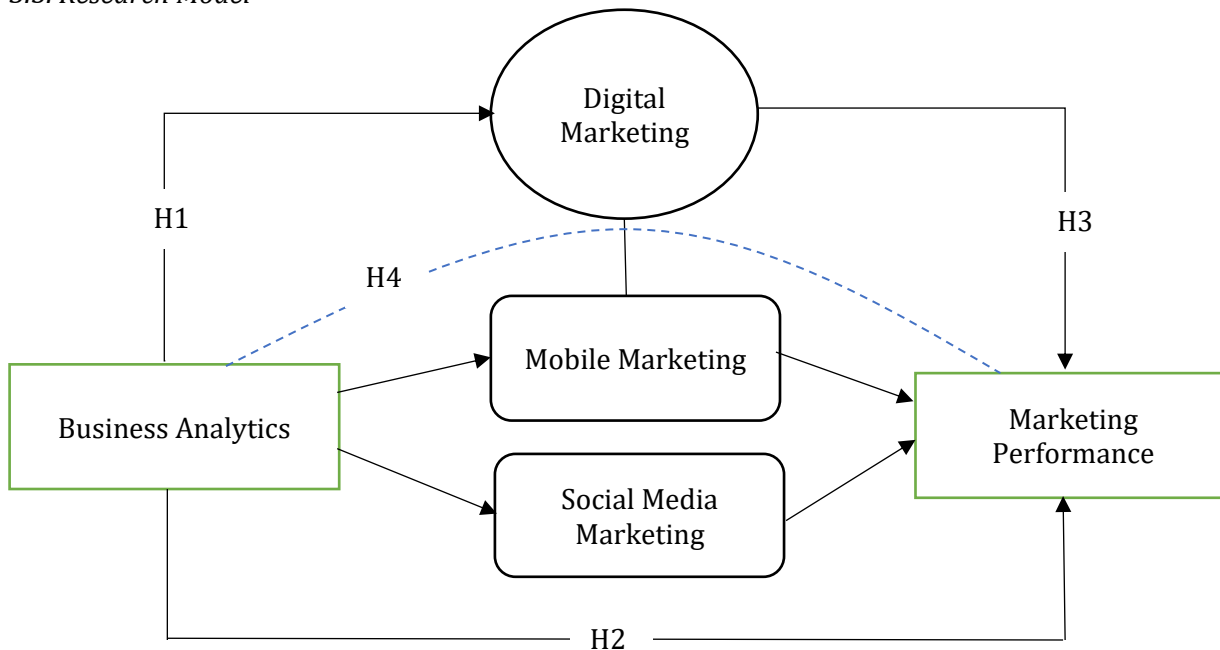


Figure 1: Conceptual Research Model

### 3.6 Hypothesis Development

Ho1: There is no statistically impact of Business Analytics on Digital marketing in e-commerce industry UAE.

Ho2: There is no statistically impact of Business Analytics on Marketing Performance in e-commerce Industry UAE.

Ho3: There is no statistically impact of Digital Marketing on Marketing Performance in e-commerce industry UAE.

Ho4: There is no statistically impact on Business Analytics on Marketing Performance with mediating role of Digital Marketing in e-commerce industry UAE.

## 4. METHODOLOGY & RESEARCH DESIGN

With the help of business and e-commerce industry experts, a survey instrument was first constructed. By completing a pilot study, expert opinions from e-commerce industry practitioners were incorporated into the survey instrument. The survey's material was divided into two categories, the first of which focuses on the respondents' profiles. The information relevant to the degree of business analytics applied in marketing processes to gauge the marketing performance with mediating effect of digital marketing. Further, the instrument was developed on the basis of five point likert scale. The data were collected from e-commerce industry UAE. And the respondents were accessed through email. Due to quantitative nature of research an empirical analysis was performed using SmartPLS 4.0 software. A PLS-SEM model was applied to measure the hypothesis path coefficients. The model assessed with convergent validity, variance inflation factor and hypothesis testing.

## 5. EMPIRICAL ANALYSIS

### 5.1. Structured Model Assessment

Structured model assessment is a process of evaluating the quality of a predictive model using a predefined set of criteria. This assessment typically involves comparing the predicted outcomes of the model to actual outcomes, in order to determine the accuracy and effectiveness of the model. The following justifications led to the usage of PLS-SEM in this investigation. First off, this strategy works best when the goal of the study is to forecast and examine the dependent variables in order to

understand the more precise amount of variance. Second, PLS-SEM is the most suitable prediction-oriented approach. Moreover, it can manage both structural models and measurement tasks simultaneously. Also, it is a suitable method for evaluating intricate path models. Finally, the PLS-SEM can still produce trustworthy results when utilised with small sample sizes. As a consequence, PLS-SEM seems to be the most acceptable method for this investigation.

### 5.1.1. Convergent Validity

We used the variance-based Partial Least Squares Structural Equation Modeling (PLS-SEM) approach to analyse the data. This method of multivariate data analysis allows for the simultaneous examination of numerous relationships between a wide range of variables, including latent variables. In this analysis, methods like Average Variance Extracted (AVE), (CR), and Cronbach's Alpha are typically employed to calculate the values of the indicators. However, using this methodology enables the study to provide information on several vital processes that must be handled and scrutinised in order to establish the reliability of these indicators. Moreover, dependability is connected to critical aspects of the study model's validity evaluation, also known as internal consistency.

It was also assessed whether the variance inflation factor (VIF) values in this study suggested collinearity problems with the model before carrying out the hypothesis tests. When the inner VIF values are less than 5, collinearity issues are not present in the data. The results of the current investigation show that the inner VIF construct values are substantially below the required level (0.5). The absence of collinearity in the data utilised for this study demonstrates the robustness of the model. Table 1 displays these results. The outcomes additionally demonstrated that the convergent validity had acceptable values of  $>0.50$  and  $>0.60$ . The outcomes of the measuring method used in this study demonstrated that the constructs were valid and consistent, and they largely supported all of the hypotheses

### 5.1.2. Hypothesis Testing and Mediating Analysis

The final step of the analysis was to conduct the mediation analysis, which involves testing the

significance of the indirect effect of the independent variable on the dependent variable through the mediator. This is done by calculating

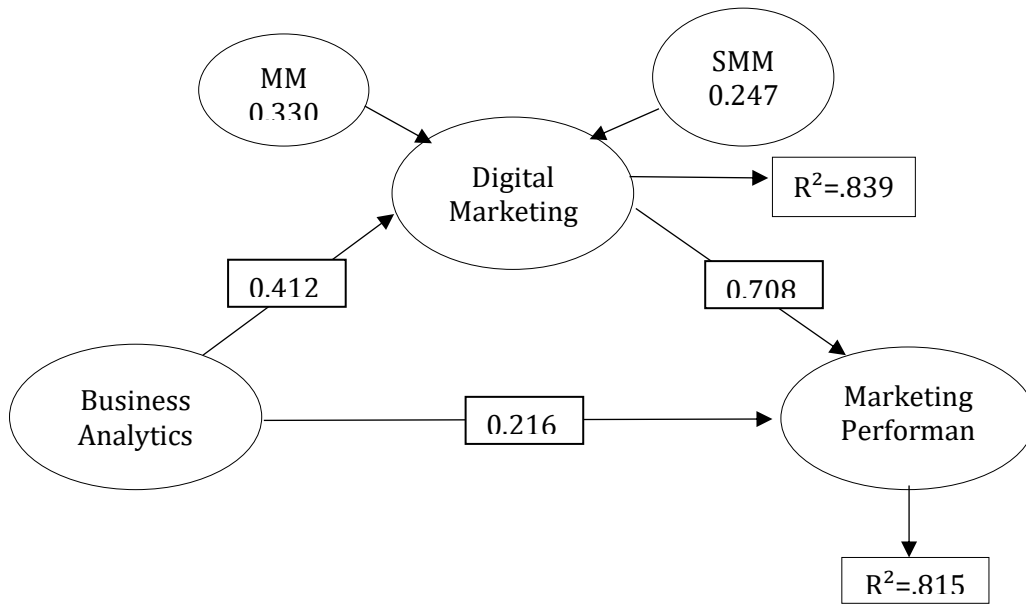
the product of coefficients approach or bootstrapping approach. Table 2 displayed the overall findings.

Table 1: Convergent Validity, AVE, CA, CR, VIF, FL

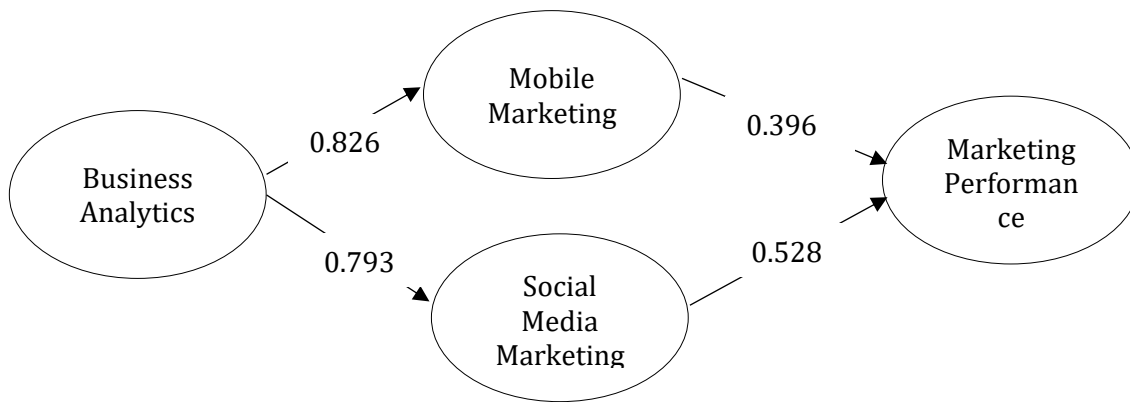
Construct	Items	VIF	Loadings	Cronbach's Alpha	CR (rho c)	AVE
<b>Business Analytics</b>	BA1	1.789	0.823	0.842	0.891	0.527
	BA2	2.896	0.877			
	BA3	1.239	0.812			
	BA4	1.863	0.789			
	BA5	1.224	0.833			
<b>Digital Marketing</b>	DM 1	1.766	0.765	0.734	0.878	0.518
	DM 2	1.876	0.921			
	DM 3	1.934	0.814			
	DM 4	1.883	0.902			
<b>Mobile Marketing</b>	MM1	1.821	0.872	0.824	0.844	0.622
	MM2	1.058	0.826			
<b>Social Media Marketing</b>	SMM1	1.008	0.826	0.891	0.845	0.627
	SMM2	1.255	0.749			
	SMM3	2.122	0.932			
<b>Marketing Performance</b>	MP1	1.786	0.982	0.822	0.854	592
	MP2	1.865	0.821			
	MP3	1.872	0.889			
	MP4	1.445	0.724			
	MP5	1.943	0.831			
	MP6	1.554	0.870			
	MP7	1.032	0.731			

CA=Cronbach's Alpha, CR=Composite Reliability, AVE=Average Variance Extracted, VIF=Variance Inflation Factor, FL=Factor Loadings

5.1.3. Structured Equation Modelling



(a) Figure 1: Structural Model Assessment



(Digital marketing dimensions)

(a) Figure 3: The Mediating Effect Model

The PLS method was used to produce the path coefficients, and the PLS bootstrapping method with a resampling of 5000 was used to assess the importance of the path coefficients at level (0.05). The R-square was initially computed to verify the explanatory power of exogenous impacts on endogenous variables. The model explained 83.9% of the variance in the business analytics and 85% of the marketing performance. thus, our study's first hypothesis explains the impact of business analytics on influences digital marketing ( $\beta=0.412$ ,  $p=0.001$ ) at level of 0.05 that indicate a H1 is supported in this study. The relationship of business analytics is measured with marketing performance as ( $\beta=0.216$ ,  $p=0.005$ ) predicted as Table 2: Hypothesis Testing

acceptance level of H2 of the research model. The data findings show a significant impact of digital marketing on marketing performance ( $\beta=0.708$ ,  $p=0.000$ ) at total significance level of  $<0.05$ . hence the H3 of the model is supported. The mediating effect of digital marketing is also measured with its dimensions (Mobile Marketing and Social Media Marketing). The findings show ( $\beta=0.508$ ,  $p=0.006$ ) has the significant direct effect of business analytics on marketing performance whereas, an indirect effect using a mediator also shows a significant effect as ( $\beta=0.292$ ,  $p=0.005$ ). The H4 of the study is also supported. The overall findings are demonstrated in Table 2 above.

Hypothesis	Paths	Direct Effect				Indirect Effect				Decision
		$\beta$	R <sup>2</sup>	t-value	p-value	$\beta$	t-value	p-value	Percentile bootstrap 97.5% confidence interval	
H1	BA→DM	0.412	0.839	3.27	0.001				Lower 2.5% Upper 97.5%	Supported
H2	BA→MP	0.216	0.850	2.17	0.005					Supported
H3	DM→MP	0.708		7.49	0.000					Supported
H4	BA→DM→MP	0.508		5.21	0.006	0.292	2.82	0.005	0.087 0.495	Partial Med

BA=Business Analytics, DM=Digital Marketing, MP=Marketing Performance, level of significance at  $p<0.05$ .

### 6. DISCUSSION

The research discusses the role played by business analytics on marketing performance with the mediating role of digital marketing. The business analytics process helps an organization use technologies, systems, and skills to gain an understanding and conduct a thorough investigation into the company's past performance. Gaining information on past performance helps an organization ensure the task of future business planning, and the company can avoid significant business risks. Business analytics make sure the company learns thoroughly about the organization's past performance, and data analysis and statistic models of information advantage can be gained through the process.

As discussed in the above findings, digital analytics can help in the process of marketing performance with the help of the applied understanding of the business. Business analytics takes the help of gaining knowledge of the previous performance of

the company through data analysis to lay out performance indicators for the company. The current demands and requirements of the consumers can be focused on while conducting data analysis of the company's previous performance, ultimately allowing the company to sustain the marketing performance for future activities and tasks in terms of the company's growth and development. Marketing performance indicators can favor the business analytics conducted by the company.

The marketing performance of an organization is not completely dependent on the business analytics a company conducts but is also largely contributed o by the performance of the employees, channels of selling the products and services, and so on. The satisfaction of customers from the products and services offered by the company, the product and service being delivered to the company, and so on are some factors contributing to the company's marketing



performance. As soon as the consumer demands are fulfilled, customer satisfaction and the company's marketing performance are enhanced. Understanding the needs and requirements of the market can contribute to marketing performance enhancement.

Additionally, the mediating role of digital marketing refers to promoting products and services and the company itself using internet-related marketing tools. One of the most frequently used internet tools for marketing is the social media platforms to help organizations in digital marketing procedures. Online or digital marketing tools and campaigns act as the mediating variable in laying down the impact of digital analytics on the company's marketing performance. Digital marketing tools may help an organization gather data to enhance the company's marketing performance.

As analyzed the digital marketing process helps organizations with an easy checkout process, thus increasing the easy-to-use nature of digital marketing. The strategies and methods of digital marketing being easy to use help the company enhance the efficiency of marketing performance of the digital strategies. Products being promoted through digital marketing have also been able to create reliability within the customers for the company's website and create reliability for the products being sold by the company, as can be gathered from the seventh question of the analysis process.

The processes and systems of business analytics and digital marketing are extremely integrated and rely on each other to complete the activities successfully. Business analytics or digital analytics process can only be conducted under a system as digital marketing help in gathering the customers for the company and helps in ensuring the company's successful growth. The process of digital marketing helps an organization in the collection of data, and the business analytics process and system ensure data is analyzed, used for future growth, and so on. Business analytics also allows organizations to explore business strategies to ensure the company completes its operations successfully. The business growth strategies can involve digital marketing strategies to ensure the mediating role of the same in enhancing marketing performance.

## 7. CONCLUSION

The research focuses on the impact of business analytics strategies on the marketing performance of an organization, with the mediating role of digital marketing and digital marketing strategies. The mediating role of digital marketing has further amplified the impact of business analytics on marketing performance. Through digital marketing, businesses can leverage the insights gained from business analytics to create targeted campaigns and personalized messaging that resonates with their audience. Additionally, digital marketing allows for real-time monitoring and optimization of campaigns, enabling companies to make data-driven adjustments to their marketing strategies. Overall, the integration of business analytics and digital marketing has proven to be a powerful combination in improving marketing performance. By leveraging these tools together, companies can gain a deeper understanding of their customers, create more effective marketing campaigns, and ultimately drive business growth.

## 8. MANAGERIAL IMPLICATIONS

The e-commerce industry needs to focus on expanding its employee performance to increase marketing efficiency. Digital marketing or business analytics are not the only factors essential for the success of the marketing performance process. Other factors, such as the performance of employees, are also essential in the successful generation of marketing performance. The company can focus on enhancing employee performance, thus giving the company enhancement strategies for marketing performance and digital marketing. Enhancing the employee performance will offer the company strategies for successfully enhancing all the areas of operations because the employees are a pillar of the organization, and the employee performance enhancement will lead to larger successful implications.

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