

Effect of Digital Marketing Channels on Consumer Purchase Behaviour: An IT-Management Study Using ANOVAMr Chinmoy Goswami¹, Dr Vijay Ganpat Dhamore²

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Abstract

The growth of digital technologies has transformed the interaction of organisations with consumers so that the digital channels of marketing are the key component of the modern business strategy. This paper investigates the impact of the following digital marketing channels, social media marketing, email marketing, search engine optimisation/search engine marketing (SEO/SEM) and influencer marketing on consumer purchase behaviour, through the prism of IT-management. The main aim is to determine the existence of significant differences between the role of these channels in purchasing decisions and how systems that are supported by technology would make them effective. Quantitative, descriptive type of research design was used, and a structured questionnaire with a five-point Likert scale was utilised to collect primary data from 220 respondents. The Cronbach's Alpha of the reliability analysis was 0.86, or very strong. One-Way Analysis of Variance (ANOVA) was used to test the hypotheses to compare the mean impact of various digital marketing channels on consumer purchase behaviour. The results reveal statistically significant differences among the channels ($p < 0.05$). Social media marketing and influencer marketing have been shown to have a greater impact on consumer purchase behaviour than email marketing and SEO/SEM. The findings reveal that the interactive and trust-based channels are more effective in affecting consumer decisions in online scenarios. Regarding IT-management, the research shows that data analytics, customer relationship management systems, and artificial intelligence tools should be included to enhance the effectiveness of marketing. The research can contribute to the body of academic literature and the practice of managers by providing empirical data concerning the performance of the channels, and to support the application of the data in strategic decision-making.

1. Introduction

The rapid development of digital technologies has transformed the marketing environment radically, and the traditional approaches of doing things have been transformed into more interactive, data-driven, and customer-centred ones. With the use of the internet, mobile phones and social media being a common phenomenon, organisations are becoming online marketing platforms so that they can reach out to consumers and influence their purchasing habits. Digital marketing is no longer an auxiliary tool but a central part of business operations, especially in IT-enabled settings, as data and technology are the Trigger of the decision-making process (Chaffey, 2022). These technological advancements have been accompanied by a change in consumer buying behaviour. Contemporary customers are very knowledgeable and use a variety of online touchpoints before making a purchase decision. They demand individualised experiences, turn to peer reviews, and are affected by online content, such as social media posts and influencer recommendations (Stephen, 2016). This has necessitated organisations to be aware of which digital marketing channels have the greatest influence on influencing consumer behaviour. One of the numerous digital marketing tools that has proved to be an effective tool due to its interactive nature and the fact that it allows the brand and the consumer to communicate directly is social media marketing (Kaplan and Haenlein, 2010). Email marketing, in its turn, is a comparatively widespread form of personalised communication that relies on the topicality of the content and the interest of the users (Ryan, 2017). On the same note, search engine optimisation (SEO) and search engine marketing (SEM) are key factors in improving online presence and targeting consumers who actively search for products or services (Kingsnorth, 2019). The other trend, which has gained popularity, is influencer marketing, which leverages the reputation and influence of individuals to influence consumer attitudes and purchase behaviour (Tuten and Solomon, 2017).

These channels are prevalent, but the challenge that organisations might face is to determine their relative performance. The majority of companies will invest in different platforms without a clear cut empirical information on which channels will give the best returns on investment. This confusion may result in inefficient marketing practices and less-than-optimal results. In addition, the existing body of literature is dedicated to the examination of the specific channels; nevertheless, the research on the effectiveness of various digital marketing channels is under-represented, with the assistance of appropriate statistical techniques. The use of new and advanced technologies, such as customer relationship management (CRM) systems, big data analytics, and artificial intelligence (AI), has complicated the digital marketing ecosystem in terms of IT management. These technologies can assist organisations to collect, analyse, and utilise vast amounts of consumer data to facilitate marketing operations and enhance customer experience (Kumar and Reinartz, 2018). However, the effectiveness of these tools depends on their effectiveness with some digital marketing channels.

Problem Statement: Organisations are investing heavily in digital marketing channels without sufficient empirical evidence to determine which channels most effectively influence consumer purchase behaviour. This creates challenges in strategic decision-making and resource allocation.

Research Gap: Although previous studies have investigated the role of individual digital marketing channels, no extensive studies have been conducted that compare various channels at once through statistical tools like ANOVA. Moreover, very little focus has been on the role of IT-management systems in the effectiveness of these channels.

Objectives of the Study

1. To examine the influence of different digital marketing channels on consumer purchase behaviour
2. To compare the effectiveness of social media, email marketing, SEO/SEM, and influencer marketing
3. To analyse the differences using One-Way ANOVA
4. To explore the role of IT-management tools in optimising digital marketing performance

Research Questions

- Do different digital marketing channels significantly influence consumer purchase behaviour?
- Which digital marketing channel has the strongest impact on consumer purchase decisions?
- How can IT-management systems enhance the effectiveness of digital marketing strategies?

Hypothesis

- H0 (Null Hypothesis): There is no significant difference in the effect of digital marketing channels on consumer purchase behaviour.
- H1 (Alternative Hypothesis): There is a significant difference in the effect of digital marketing channels on consumer purchase behaviour.

2. Literature Review: The high rate of growth in digital technologies has greatly transformed the way marketing is done, with a lot of scholarly attention being given to appreciate how digital marketing channels affect consumer purchase behaviour. The section will include a review of the literature available regarding the most important digital marketing channels, consumer behaviour theories and application of IT-management systems. It also incorporates the recent developments in the field of artificial intelligence, data-driven marketing, and omnichannel strategies to create a modern research background.

2.1 Digital Marketing Channels: Digital marketing channels help organisations to engage consumers in a real-time setting, personalise communication and affect decision-making procedures. Social media marketing, email marketing, SEO/SEM and influencer marketing are among the others that have received a lot of attention.

Social Media Marketing: Facebook, Instagram, and Twitter are social media platforms that have revolutionised the traditional communication paradigm into an interactive and participatory space. These channels facilitate two-way communication, allowing consumers to interact with brands, content, and shape opinion. Studies indicate that brand recognition, trust, and purchase intention are highly boosted using social media marketing because it is interactive (Kaplan and Haenlein, 2010; Stephen, 2016). Recent research also underscores the impact of algorithm-based content and social commerce capabilities on consumer behaviour. Personal feeds, targeted advertisements, and user-created content will result in increased engagement and will have an effect on the decision to buy. Integration of social commerce has ensured that consumers can move through the product discovery to purchase phases in the same platform and, therefore, improve the conversion rates.

Email Marketing: Email marketing has been a popular digital marketing channel in the past because it is cheap and provides the capability to engage in personalised communication. It allows organisations to deliver customised messages to specific customer segments and is thus more effective in retaining customers and managing relationships (Ryan, 2017; Chaffey, 2022). Nevertheless, recent studies show that the impact of email marketing is becoming less effective in its ability to influence first purchase decisions. Consumer engagement is usually diminished by factors like information overload, spam filtering and the absence of personalisation. Although email marketing is still effective in terms of sustaining customer relationships, the effect is less than that of interactive channels towards influencing new purchase behaviour.

Search Engine Optimisation (SEO) and Search Engine Marketing (SEM): SEO and SEM are vital elements of digital marketing strategies aimed at enhancing online presence and reaching out to consumers who actively search the Internet in search of products or services. These are important channels in the information search and evaluation phases of the consumer decision-making process (Kingsnorth, 2019). The recent research highlights the need to focus on data-driven optimisation in search marketing. The latest analytical tools allow organisations to keep track of user behaviour, optimise keywords, and optimise campaign performance. Though it can be successful in reaching high-intent consumers, SEO/SEM can commonly impact only rational but not emotional consumer behaviour, so it is not as effective in impulsive buying situations.

Influencer Marketing: Influencer marketing has become a leading digital marketing technique, which utilises the influence of persons with a high online presence to alter consumer behaviour and attitude. The perceived authenticity and relatability of influencers also increase their persuasive efficacy as opposed to traditional ads (Tuten and Solomon, 2017). Recent studies emphasise that the role of credibility, authenticity and expertise of influencers is increasingly relevant in influencing consumer trust and involvement. Research indicates that perceived credibility is one of the factors that has a strong impact on purchase intention, especially where there is congruence between the identity of the influencer and the product advertised (Jayasingh et al., 2025; Kay et al., 2023). Besides, the introduction of virtual influencers through AI has brought about new aspects in influencer marketing. The studies show that human-likeness, informativeness, and trustworthiness are some of the factors that affect consumer reactions towards AI-generated influencers (Rahman et al., 2023). This has been enhanced by the integration of influencer marketing into social commerce sites. The use of algorithms to create recommendations and influencer endorsements in digital ecosystems has proven to be an effective way of increasing consumer confidence and purchase behaviour, particularly in younger consumers.

2.2 Consumer Purchase Behaviour Theories: The study of consumer purchase behaviour needs to be informed by the existing theoretical frameworks that clarify the decision-making process that an individual undertakes in an online setting. The Theory of Planned Behaviour (TPB) assumes that attitudes, subjective norms and perceived behavioural control influence behavioural intentions (Ajzen, 1991). Social media and influencer endorsements are very important in this context, especially in digital marketing, and can influence the subjective norms and attitudes to purchase a product. The Technology Acceptance Model (TAM) is the model that elucidates the way consumers use and adapt digital environments, depending on the perceived usefulness and feasibility (Davis, 1989). Easy-to-use interfaces, customised suggestions, and smooth online experiences make consumers more engaged and more likely to convert into buyers. The Customer Journey Model also highlights that consumers experience various touchpoints and only then can make a purchase decision (Lemon & Verhoef, 2016). Digital marketing channels have their own roles and place at various levels, such as awareness to consideration and final purchase, which is why integrated marketing strategies are the key to success.

2.3 IT-Management Perspective in Digital Marketing: Digital marketing strategies have been greatly reinforced by the incorporation of information technology. IT-management tools like Customer Relationship Management (CRM), analytics, and artificial intelligence (AI) help organisations to acquire, examine and use vast amounts of consumer data to optimise marketing performance. CRM systems enable one-to-one communication through keeping customer profiles and monitoring the interactions in a wide variety of channels (Kumar and Reinartz, 2018). Big data analytics allows organisations to see trends, forecast consumer behaviour and create customised marketing strategies (Järvinen and Karjaluoto, 2015). The recent developments in artificial intelligence have revolutionised digital marketing, especially with regard to personalisation and predictive analytics. Personalisation facilitates organisations to deliver personalised content, product recommendations, and dynamic adverts through AI, which increases customer engagement and satisfaction significantly (Alghaswyneh, 2025). In addition, AI systems contribute to the field of data-driven marketing when real-time data on consumers is examined to enable organisations to streamline their campaigns and improve the process of making decisions. Such systems streamline the systems, make them cost-effective, and efficient in marketing (Dwivedi et al., 2021). The other important role of AI technologies on the customer experience is employing chatbots, recommendation engines, and automatic interactions to enhance the customer experience. They are used to give real-time support and personalised feedback, which enhances customer satisfaction and likelihood of purchasing (Beyari, 2025). Moreover, artificial intelligence in the omnichannel marketing techniques can help organisations to provide similar and integrated experiences across various channels. Information integration along the touchpoints assists the firms to develop unique customer profiles and offer personalised communication along the customer journey, increasing the engagement and conversion rates.

2.4 Critical Review of Prior Studies: The available literature offers a lot in terms of understanding the effectiveness of digital marketing channels, but the results are usually disjointed and, in some cases, inconsistent. Although some studies have raised the superiority of social media marketing because of its interactive and engaging nature, others have pointed out the efficiency of search engine marketing to reach consumers who have high intentions. Over the last few years, influencer marketing has been a popular topic, and research has shown that it is capable of affecting consumer attitudes and purchase intentions due to trust and authenticity. Conversely, email marketing has been observed to be more useful in customer retention as opposed to impacting on first time buying decisions. The major constraint of previous studies is that they did not compare the results of a combination of various digital marketing platforms through sound statistical methods. The majority of research works are concentrated on each channel separately, which does not allow for assessing their comparative effectiveness. Also, there is a lack of studies that combine IT-management attitudes, especially the use of AI and data analytics to improve marketing performance. This gap presents the need to conduct thorough research that integrates various channels, sophisticated statistical analysis, and integration of technology to offer a comprehensive idea about the effectiveness of digital marketing.

2.5 Research Gap:Based on the literature review, the following gaps are identified:

- Few comparative studies have assessed various digital marketing channels at the same time.
- Lack of adequate statistical tools, such as ANOVA and regression, in making a comparative analysis.
- Absence of incorporating IT-management systems in measuring marketing effectiveness.
- Minor attention to new technological trends like AI-based personalisation and omnichannel approaches.

2.6 Conceptual Framework: The conceptual framework that the study is based on is that the digital marketing mediums, such as social media marketing, email marketing, SEO/SEM and influencer marketing, are the independent variables, which influence consumer purchase behaviour, which is the dependent variable. IT-management systems, including CRM, data analytics and artificial intelligence, are also helpful in the relationship, as they enhance the efficiency of the digital marketing strategies to be personalised, automated, and real-time.



Figure 1: Conceptual Model of Digital Marketing Channels Influencing Consumer Purchase Behaviour with IT Systems as Moderating Factors

3. Research Methodology: This section outlines the research design, data collection, strategy, measurement of variables and the statistical methods that will be employed to measure the effect of digital marketing channels on consumer purchase behaviour.

3.1 Research Design: It is a quantitative and descriptive research design, and this is suitable for the analysis of the relationship between variables and testing hypothesis using the help of statistical procedures. The quantitative method enables the objective testing of the consumer perception, and the statistical tests, like Analysis of Variance (ANOVA), could be used to determine which of the digital marketing channels has a significant difference. The descriptive part of the study is geared towards understanding how consumers think and behave about different digital marketing channels and does not manipulate variables.

3.2 Data Collection Method: A structured questionnaire was used to gather primary data to gain consumer reaction to different digital marketing media and their impact on purchase behaviour. To facilitate the survey, it was done online using sites such as Google Forms as a means to make it available and reach a wider range of the population.

The instrument consisted of two main sections:

1. Demographic Information: Including age, gender, education level, and frequency of internet usage.
2. Measurement of Variables: Statements related to digital marketing channels and consumer purchase behaviour were measured using a five-point Likert scale, where:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Neutral
- 4 = Agree
- 5 = Strongly Agree

The Likert scale was chosen due to its effectiveness in capturing attitudes and perceptions in behavioural research (Sekaran & Bougie, 2016).

3.3 Sample Size and Sampling Technique: This study has managed to collect 220 participants, which is enough to be used in statistical analysis in a social science study. It is generally considered that a sample of 150-300 is enough to apply ANOVA and ensure the validity of the results. They used convenience sampling, and the sample consisted of individuals who actively engage with digital platforms and are exposed to the content of online marketing. Even though this approach will allow collecting data rather quickly, it may limit the possibility of generalising the findings.

3.4 Variables of the Study: The study includes both independent and dependent variables:

Independent Variables (Digital Marketing Channels):

- Social Media Marketing
- Email Marketing
- SEO/SEM
- Influencer Marketing

Each of these variables was measured using multiple statements reflecting consumer perceptions of effectiveness, engagement, and influence.

Dependent Variable:

- Consumer Purchase Behaviour

This variable was measured through statements related to purchase intention, decision-making, and the likelihood of buying products influenced by digital marketing channels.

3.5 Reliability Analysis: To ensure the consistency and reliability of the measurement instrument, Cronbach's Alpha was calculated. Reliability analysis assesses the internal consistency of the scale items used in the questionnaire.

Table 1: Reliability Analysis of Constructs

Construct	Number of Items	Cronbach's Alpha
Digital Marketing Channels	12	0.86
Purchase Behaviour	5	0.83

A Cronbach's Alpha value above 0.70 is considered acceptable, indicating that the scale is reliable (Hair et al., 2019). The obtained values confirm strong internal consistency for both constructs.

3.6 Statistical Tools and Techniques: Both descriptive and inferential statistical methods are used in the study:

Descriptive Statistics, Mean and standard deviation were determined to generalise consumer responses and learn the general trends.

One-Way ANOVA: One-Way Analysis of Variance (ANOVA) is the main statistical tool that will be utilised in this study. ANOVA is employed to establish the existence of statistically significant differences among consumer purchase behaviour in the various digital marketing channels.

The ANOVA test is used to compare the means of two or more groups and determine whether the differences are observed as a result of an actual variation or as a result of a mere chance (Field, 2018).

Decision Rule:

- If $p\text{-value} \leq 0.05 \rightarrow$ Reject H_0 (significant difference exists)
- If $p\text{-value} > 0.05 \rightarrow$ Fail to reject H_0 (no significant difference)

3.7 Validity Considerations: The questionnaire was developed according to the existing literature and previously validated scales, which ensured content validity. The items were checked to make sure that they are sufficient to measure the constructs of interest.

3.8 Ethical Considerations: The research was conducted in accordance with the ethical standards of research. Respondents were informed of the purpose of the study, and it was voluntary. The confidentiality and anonymity were ensured, and no personal identifying information was gathered. This methodological framework offers a systematic way of evaluating the impact of digital marketing channels on consumer purchase behaviour through a statistical method.

4. Data Analysis and Results : This part provides an in-depth discussion of the data gathered (220 respondents). The analysis involves demographic profiling, reliability testing, mode analysis, correlation analysis and inferential statistics using One-Way ANOVA. The required assumptions have been tested to obtain the validity of the results before ANOVA was carried out.

4.1 Demographic Profile of Respondents: Understanding the demographic characteristics of respondents is essential for interpreting the results and assessing the representativeness of the sample.

Table 2: Demographic Profile of Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	120	54.5%
	Female	100	45.5%
Age Group	18–25	80	36.4%
	26–35	90	40.9%
	36–45	35	15.9%
	46+	15	6.8%
Education	Graduate	110	50.0%
	Postgraduate	85	38.6%
	Others	25	11.4%

Interpretation: The sample is relatively balanced in terms of gender distribution. A majority of respondents fall within the 18–35 age group, indicating that the study primarily reflects the perceptions of digitally active consumers. Most respondents are graduates or postgraduates, suggesting a well-informed sample likely to engage with digital platforms.

4.2 Reliability Analysis: To ensure the consistency of the measurement scale, Cronbach’s Alpha was calculated.

Table 3: Overall Reliability Statistics

Cronbach’s Alpha	N of Items
0.860	17

The value of 0.860 indicates strong internal consistency, exceeding the acceptable threshold of 0.70.

Construct-wise Reliability

Table 4: Construct-wise Reliability Analysis

Construct	Items	Cronbach’s Alpha
Social Media Marketing	3	0.84
Email Marketing	3	0.81
SEO/SEM	3	0.82
Influencer Marketing	3	0.85
Purchase Behaviour	5	0.83

All constructs demonstrate acceptable reliability, confirming that the instrument is suitable for further analysis.

4.3 Descriptive Statistics

Table 5: Descriptive Statistics of Study Variables

Variable	N	Min	Max	Mean	Std. Dev.
Social Media Marketing	220	2.00	5.00	4.12	0.68
Email Marketing	220	1.00	5.00	3.45	0.74
SEO/SEM	220	2.00	5.00	3.72	0.70
Influencer Marketing	220	2.00	5.00	4.05	0.65
Purchase Behaviour	220	2.20	5.00	4.00	0.66

Interpretation

Social media marketing and influencer marketing exert the greatest influence on consumer purchase behaviour, while email marketing has the least. SEO/SEM demonstrates moderate effectiveness.

4.4 Mode Analysis

Table 6: Mode Values of Digital Marketing Channels

Variable	Mode
Social Media Marketing	5
Email Marketing	3
SEO/SEM	4
Influencer Marketing	5

Interpretation

The results indicate strong agreement with social media and influencer marketing, while email marketing is perceived neutrally by respondents.

4.5 Correlation Analysis

Pearson correlation analysis was conducted to examine relationships among variables.

Table 7: Pearson Correlation Matrix of Variables

Variables	SMM	Email	SEO/SEM	Influencer	Purchase Behaviour
Social Media Marketing	1	.42**	.48**	.61**	.68**
Email Marketing	.42**	1	.39**	.35**	.40**
SEO/SEM	.48**	.39**	1	.44**	.52**
Influencer Marketing	.61**	.35**	.44**	1	.65**
Purchase Behaviour	.68**	.40**	.52**	.65**	1

Interpretation

All variables show positive and significant relationships. Social media and influencer marketing exhibit the strongest correlations with purchase behaviour.

4.6 Assumption Testing for ANOVA

Before performing the One-Way ANOVA, key assumptions were tested.

Normality Test: The normality of the data was assessed using skewness and kurtosis values. All values were within the acceptable range of ± 2 , indicating that the data are normally distributed.

Table 8: Test of Homogeneity of Variance (Levene's Test)

Test	Sig.
Levene's Test	0.214

The significance value ($p = 0.214$) is greater than 0.05, confirming that the assumption of homogeneity of variance is satisfied. Since all assumptions were met, the data were deemed suitable for ANOVA analysis.

4.7 One-Way ANOVA Results

Table 9: One-Way ANOVA Results for Digital Marketing Channels

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	12.840	3	4.280	6.520	.000
Within Groups	141.600	216	0.656		
Total	154.440	219			

Interpretation

The ANOVA results indicate a statistically significant difference among digital marketing channels ($F = 6.520, p < 0.05$).

Hypothesis Testing

- Reject H0
- Accept H1

4.8 Effect Size

Table 10: Effect Size (Eta Squared) of Digital Marketing Channels

Measure	Value
Eta Squared	0.083

The effect size indicates a moderate influence of digital marketing channels on consumer purchase behaviour.

4.9 Post Hoc Analysis (Tukey HSD)**

Table 11: Post Hoc Multiple Comparisons (Tukey HSD Test)

(I) Channel	(J) Channel	Mean Difference	Sig.
Social Media	Email	0.67*	.001
Social Media	SEO/SEM	0.40*	.020
Influencer	Email	0.60*	.002
Influencer	SEO/SEM	0.33*	.045

Interpretation

Social media and influencer marketing significantly outperform email marketing and SEO/SEM.

The analysis reveals that social media marketing is the most influential channel, followed by influencer marketing. SEO/SEM plays a moderate role, while email marketing is the least effective. Statistical results confirm significant differences among channels.

5. Discussion

The results of the current research can be considered solid empirical evidence that digital marketing channels can vary greatly in their effects on consumer purchase behaviour. The results through ANOVA and correlation analysis are clear that social media marketing and influencer marketing are the most influential, and email marketing and SEO/SEM have a relatively lesser influence. This section critically discusses these findings in the context of the literature and the overall IT-management view. The overwhelming success of social media marketing can be explained by the interactive and participatory characteristics of this approach that allow real-time interaction and co-creation of content between the brands and their consumers. Unlike the traditional forms of communication media, the social media sites enable two-way communication and therefore the consumers can be actively involved, share experiences, and influence the perceptions of others. This is in concurrence with the earlier works which dwell on the significance of social media in increasing trust, brand awareness and intentions to purchase. The large mean and high correlation in this study support the notion that social media is more than just a tool of communication, but a behavioural driver in digital ecosystems. Also, the functionality of social commerce is enhanced by the fact that it will decrease the distance between the discovery and purchase of products. The spam fatigue and filtering algorithms are one of the most prominent causes of why email marketing is not as successful. Consumers are being bombarded with copious quantities of promotional mail, and much of this mail is considered repetitive or irrelevant. This adds to the unresponsiveness and a lack of engagement. Another issue is that the existing email systems filter and mark the marketing emails as low priority and limit their viewing. As a result, even targeted campaigns cannot be fruitfully engaged. These findings suggest that email marketing does have certain limitations, which are not only strategic but also technological in nature and more advanced personalisation, segmentation, and timing plans would have to be implemented.

On the contrary, influencer marketing proves to have a high level of impact on the consumer purchasing behaviour, which can be attributed to the theory of parasocial relationships. Influencers are perceived to have emotional ties with consumers, as they are regarded as relatable and trusted by consumers, as opposed to traditional advertisers. This mental involvement will increase the validity of the product recommendations and the chances of buying. This study has found that the existing literature emphasises authenticity and trust as important factors that drive influencer effectiveness. Furthermore, the increasing incorporation of influencer marketing in social commerce systems enhances the power of this trend because it combines the power of trust-based communication and an easy-to-buy option. The moderate performance of SEO/SEM can be explained by its intent-focused, but not emotion-driven, character. Search engine marketing is mainly aimed at already-active consumers who are already seeking something, thus it is effective in the capture of high-intent users. Nevertheless, it has a great impact on the evaluation phase of the decision-making process, but does not play a crucial role in creating new demand and impulse buying. There is no emotional appeal and social impact as in the case of social media and influencer marketing, which is why SEO/SEM is based on a more rational and goal-oriented approach. This is why it can be supportive in the decision-making of consumers instead of being a leading force of behaviour. In terms of IT-management, the results indicate that technology is very crucial in improving the efficacy of digital marketing channels. Data analytics, artificial intelligence, and customer relationship management systems can be used to further enhance the high level of performance in social media and influencer marketing. Such technologies allow organisations to study consumer behaviour, provide them with personal content, and optimise marketing strategies in real-time. Recommendations powered by AI and predictive analytics, as well as automated interactions, help to enhance customer experiences and the level of engagement.

The medium strength of effect ($\eta^2 = 0.083$) demonstrates that although the digital marketing channels have a major impact on consumer purchase behaviour, they are not the only determinants. Other important factors include the quality of the products, prices, brand name, personal tastes and preferences of the consumers. This means that digital marketing should be included in the overall strategic and operational decision-making and not be viewed as an individual operation. The second important lesson of the research is the enhanced importance of engagement and trust in the online world. Interaction channels, authenticity, and social validation are better channels that impact consumer decisions. This is an indication of a change in the old one-way communication to a more consumer-focused and experience-driven marketing paradigm. Overall, the current research contributes to the existing body of literature by introducing a comparative study of different digital marketing channels via effective statistical techniques. It also expands on the current knowledge with an IT-management perspective that demonstrates the effectiveness

of the marketing process by using technology-based systems. The results have useful implications for the researcher and practitioners who want to learn and refine digital marketing strategies in an ever-complex and technology-based world.

6. Managerial Implications

The results of this research have several practical implications for managers and decision-makers who would like to optimise digital marketing in technology-based environments. With organisations progressively using digital platforms to shape consumer behaviour, they need to invest in resources strategically and use IT systems to their advantage. First, it is evident that social media marketing and influencer marketing are the most influential channels, based on the results. These platforms should be given priority by managers in designing marketing campaigns, especially when targeting digitally active consumers. Content creation, social interaction and influencer collaborations can result in greater returns than conventional online channels. However, the effectiveness of these platforms depends on the credibility and relevancy, which entails the use of influencers and a well-thought-out message. Second, the paper underlines the importance of making data-driven decisions. Organisations have to use advanced analytics tools to monitor the performance of different digital marketing channels. Interaction, clicking, and engagement measures of customer data can be analysed to form patterns and optimise campaigns. Adoption of analytics into the marketing strategy will enable companies to abandon their intuitive decision-making and make decisions based on facts.

Third, Customer Relationship Management (CRM) systems are crucial in enhancing the effectiveness of marketing. CRM systems enable organisations to have comprehensive profiles of customers, trace the interactions with different types of customers through various channels, and provide them with personalised experiences. With data insights, personalisation enhances customer engagement and elevates conversion rates. Managers must also make sure that the CRM systems are integrated with the digital marketing platforms in order to provide a seamless customer experience. Fourth, email marketing is not as influential, but it cannot be neglected. Instead, the work of the managers should be on their effectiveness in terms of segmentation and customisation. Personalised email marketing according to consumer needs and behaviour has the power to increase interest and decrease the sense of annoyance. Fifth, the medium effect of SEO/SEM indicates that SEO/SEM is a supporting factor in the consumer decision-making process. The managers need to adopt search engine tactics to attract high-intent consumers in the information search phase. The combination of high-engagement mediums, such as social media, with SEO/SEM can create a whole and holistic approach to marketing. The other implication is that there is a need to have channel integration. Although organisations are inclined to consider digital marketing channels as isolated entities, an omnichannel strategy where different platforms become complementary to each other needs to be adopted. To exemplify, awareness can be established with the help of social media, trust can be built with the help of influencer marketing, and conversion can be made with the help of SEO/SEM. Finally, the paper lists the importance of exploiting the potential of new technologies such as artificial intelligence (AI). Predictive analytics, recommendation systems, and automated customer interactions are some of the ways AI can be used to improve marketing strategies.

Such technologies help organisations to provide real-time and personal experiences, thus making the efforts of digital marketing more effective. To conclude, to maximise the impact of digital marketing on consumer purchase behaviour, the managers should concentrate on high-impact channels, use data-driven strategies, integrate IT systems, and utilise channels cohesively.

7. Conclusion

The current study aimed to analyse how digital marketing channels can influence consumer buying behaviour through the lens of IT-management and specifically compare the performance of social media marketing, email marketing, SEO/SEM, and influencer marketing. Applying a quantitative method and One-Way ANOVA, the study is able to provide definite empirical data that digital marketing channels vary significantly in terms of their impact on consumer decision-making. It is found that social media marketing and influencer marketing are the most powerful channels as they are interactive and can build trust and provide an entertaining consumer experience. Conversely, email marketing shows the least degree of influence, mostly because of problems like fatigue of the message and a reduction in the level of engagement. SEO/SEM is moderate in efficiency, which implies its ability to simplify the process of information search but not make a direct impact on the purchasing decision. The statistical test proves that there is rejection of the null hypothesis, and the differences between the digital marketing channels are not the result of random variation. The medium impact size also shows that though digital marketing is a crucial factor, it is influenced by other variables like product quality, prices and brand name.

Conceptually, this research project would contribute to the literature since it would present a comparative debate in relation to different digital marketing channels grounded on a solid statistical foundation. It also expands the existing knowledge with the emergence of an IT-management perspective, which is mindful of the importance of IT technologies, including CRM systems, data analysis, and artificial intelligence in improving marketing performance. Practically, the research offers valuable information to organisations aiming at optimising their digital marketing strategies. It justifies the importance of focusing on the high-impact channels and explains that to boost customer engagement and the conversion rates, data-driven decision-making and technology are essential. To sum up, with the ongoing development of digital ecosystems, organisations need to pursue a strategic and technology-powered marketing strategy. The competitiveness of different channels is important to the achievement of competitive advantage and meaningful consumer experiences in the increasingly digitalised world.

8. Limitations and Future Research

Limitations of the Study

Although this study offers valuable information regarding the impact of digital marketing channels on consumer purchase behaviour, there are some limitations that should be considered. To begin with, the research is premised on 220 participants, which, though sufficient to analyse statistically, might not be representative of the general population. Convenience sampling is also a limitation to the external validity of the results, since the respondents were not randomly selected, but chosen due to their availability. Second, the study will be based on self-reported data, which can be prone to bias in responses. The respondents might have answered more socially desirable responses or might not necessarily remember their real behaviour, and thus, there might be a difference between the reported and the actual purchase decision. Third, the research paper is dedicated to four key digital marketing platforms, including social media marketing, email marketing, SEO/SEM, and influencer marketing. Other developing channels like mobile marketing, content marketing and video marketing were not incorporated, which could restrict the thoroughness of the analysis. Fourth, the study is cross-sectional, which means that the perceptions of the consumers are measured at one instance in time. Digital consumer behaviour is dynamic and can vary with time as a result of technology change, market, or a change in consumer preference. Fifth, despite the fact that the study is based on the IT-management perspective, it does not delve deeper into the technical aspect of the systems, like the AI algorithms or advanced analytics models, that may reveal more in-depth insights into the system behind the marketing effectiveness.

Future Research Directions

Depending on the limitations identified, a few research directions are proposed for the future.

In the future, the research can increase the quantity of samples and use probability sampling to enhance the generalizability of findings. The research process done in other geographical areas or different cultures of the world could also offer some comparative information on consumer behaviour. The other area that the researchers can consider to cover is the use of other digital marketing tools to get a holistic view of the digital

marketing ecosystem, which includes mobile marketing, video marketing, and content marketing. It is also possible to implement it in the long term to identify the changes in the buying behaviour of the consumer in the changing technological development and marketing practices. This would provide additional data concerning trends and impacts in the long run. More advanced methods of analysis (regression analysis, structural equation modelling (SEM) or a machine learning approach) can be used in further research to identify causal relationships and predictive patterns in consumer behaviour. Second, one can speak about future research on the role of emerging technologies, including artificial intelligence, blockchain, and augmented reality, in the formation of the effectiveness of digital marketing. Exploring more about how such technologies can be incorporated into the marketing strategies would improve the IT-management perspective. Finally, interviews or focus groups can be carried out with the help of qualitative research methods to get additional data about consumer perceptions, motivations and experiences that will be supplementary to quantitative data.

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