



# Impact of Digital Marketing Channels on Consumer Buying Behaviour: An Empirical Study of Himachal Pradesh

Jayant Sharma<sup>1</sup>, Prof. Kulwant Singh Pathania<sup>2</sup>

<sup>1</sup>(Assistant Professor, GDC Jainagar, Solan, India)

<sup>2</sup>(Professor, Department of Commerce, Himachal Pradesh University, Shimla, India)

## Abstract

The rapid expansion of digital marketing has increased the number of channels through which consumers engage with brands. As a result, consumer buying behaviour has become more complex and increasingly influenced by specific digital platforms. The present study examines the impact of different digital marketing channels on consumer buying behaviour using an Exploratory Factor Analysis approach. Primary data were collected from consumers in selected districts of Himachal Pradesh through a structured questionnaire measured on a five-point Likert scale, and 633 valid responses were used for analysis. The suitability of the data for factor analysis was confirmed through reliability testing, the Kaiser-Meyer-Olkin measure, and Bartlett's Test of Sphericity. Principal Component Analysis with Varimax rotation was applied to identify the underlying dimensions influencing consumer responses. The results revealed nine distinct factors associated with major digital marketing channels, including mobile marketing, social media, search engines, content marketing, referral and influencer marketing, email communication, affiliate platforms, and AI-enabled tools. The findings indicate that consumer buying behaviour is shaped by the combined influence of multiple digital channels rather than reliance on any single medium. The study contributes empirical evidence from a regional context and offers useful insights for marketers seeking to design integrated and effective digital marketing strategies.

**Keywords:** Digital Marketing Channels, Consumer Buying Behaviour, Exploratory Factor Analysis, Online Marketing, Himachal Pradesh

## 1. Introduction

Digital marketing refers to marketing activities carried out through digital and internet-enabled platforms with the objective of reaching, engaging, and influencing consumers effectively. It involves the use of online channels such as websites, social media platforms, search engines, mobile applications, and electronic communication tools to promote products, communicate value, and build long-term customer relationships. In marketing literature, the terms digital marketing, online marketing, and e-marketing are often used interchangeably, as they describe marketing practices conducted through digital technologies and networked environments (Strauss & Frost, 2014). Digital marketing functions through multiple channels, including social media marketing, search engine optimization and marketing, email and referral marketing, content marketing, mobile marketing, influencer marketing, and emerging technology-driven interfaces, each of which influences consumer behaviour at different stages of the buying process. Social media platforms support interaction and peer influence, search engines shape information search and evaluation, email and referral marketing strengthen trust through personalized communication, content marketing assists informed decision-making, mobile marketing enhances convenience, and recent advances such as influencer engagement and artificial intelligence enable greater personalization and discovery (Buttle, 1998; Sen, 2005; Voramontri & Klieb, 2019; Ramesh & Vidhya, 2019; Abdelkader, 2023). The importance of digital marketing lies in its ability to provide continuous access, personalized communication, and multiple touchpoints that influence consumer decisions in competitive markets. Consumer buying behaviour refers to the actions and decision-making processes

through which individuals select, purchase, use, and evaluate products or services to satisfy their needs and wants, and it explains how consumers think, feel, and respond to marketing efforts (Schiffman & Wisenblit, 2019). In digital environments, online consumer buying behaviour reflects how these processes are transformed through websites, mobile applications, and online marketplaces, where decisions are shaped by digital interfaces rather than physical settings, increasing access to information, comparison, and convenience (Kamat & Kamat, 2020).

## 2. Review of Literature

Existing literature indicates that consumer buying behaviour in digital environments is influenced by a range of digital marketing channels, each affecting decision-making in different ways. Research on social media marketing highlights its effectiveness in generating product awareness, facilitating interaction, and shaping purchase decisions through peer communication, content engagement, and recommendations shared within online networks, rather than relying solely on surface-level indicators such as follower counts or brand mentions (Pradiptarini, 2011; Prasath & Yoganathen, 2018). Search engine-based channels, including search engine optimization and search engine marketing, influence consumer behaviour by enhancing brand visibility during information search, with consumer trust in organic results and exposure to paid advertisements affecting brand recall and consideration sets differently (Sen, 2005). Email marketing has been shown to function as an interactive communication tool that supports relationship building by enabling personalized messaging, continuous dialogue, and monitoring of consumer engagement beyond immediate sales outcomes, although response levels may vary across age groups and campaign frequency (Hasouneh & Alqeed, 2010). Referral marketing, on the other hand, plays a distinct role by strengthening consumer confidence through interpersonal recommendations, as consumers are more likely to trust and act upon referrals received from friends, peers, and social connections when evaluating unfamiliar brands (Prasath & Yoganathen, 2018). Content marketing contributes to informed decision-making by reducing information asymmetry through blogs, videos, tutorials, and product demonstrations, thereby influencing consumer engagement across pre-purchase, purchase, and post-purchase stages (Kannan & Li, 2017). Mobile marketing extends digital influence by offering convenience, real-time access, and location-based engagement, although its impact may differ across stages of the buying decision process and consumer segments (Omar & Atteya, 2020). Influencer and celebrity-driven promotions have been found to shape attitudes and purchase intentions, particularly among younger consumers, by enhancing credibility and social validation within digital platforms (Mallik & Rao, 2017). Recent studies further emphasize the growing importance of artificial intelligence-enabled channels such as recommendation systems, chatbots, and virtual assistants in improving personalization, efficiency, and customer experience, while also raising considerations related to trust and ethical use of consumer data (Chintalapati & Pandey, 2021; Abdelkader, 2023). Research on affiliate and performance-based marketing suggests that the effectiveness of digital channels depends strongly on execution quality, as poorly managed digital marketing initiatives can negatively influence consumer perceptions and long-term brand value (Aswani et al., 2018). Overall, prior studies confirm that consumer buying behaviour in digital contexts is shaped by multiple, distinct digital marketing channels, underscoring the need for channel-specific and integrated empirical analysis.

## 3. Research Gap

Previous studies have examined the role of individual digital marketing channels such as social media marketing, search engine marketing, email marketing, content marketing, mobile marketing, influencer marketing, and artificial intelligence-based tools in influencing consumer buying behaviour. However, most of these studies focus on specific channels or platforms separately, which limits a complete understanding of how different digital marketing channels work together to shape consumer decisions. There is also limited empirical research that uses multivariate techniques such as Exploratory Factor Analysis to identify and group the underlying dimensions of digital marketing channels. This gap is more evident in regional contexts, where differences in digital access, usage patterns, and consumer preferences may affect the impact of various channels. Therefore, there is a need for an integrated study that examines the combined influence of multiple digital marketing channels on consumer buying behaviour. The present study addresses this gap by applying Exploratory Factor Analysis to analyze the impact of various digital marketing channels on consumer buying behaviour in Himachal Pradesh.

## 4. Need and Scope of the Study

The growing use of digital marketing across multiple channels has significantly changed the way consumers receive information and make purchase decisions, creating a need to understand how different digital marketing channels influence buying behaviour. While businesses increasingly invest in social media, search engines, email communication, content platforms, mobile applications, and technology-driven tools, consumer responses to these channels may vary across regions. The present study is limited to selected districts of Himachal Pradesh, namely Kangra, Mandi, Kinnaur, and Lahaul and Spiti, representing both the most populated and the least populated districts of the state in order to

capture regional diversity in consumer responses. The scope of the study focuses on examining the impact of various digital marketing channels on consumer buying behaviour in the digital environment. Primary data were collected from consumers belonging to diverse demographic and socio-economic backgrounds to ensure balanced representation. By defining clear geographical boundaries and concentrating on channel-specific influences, the study offers a focused understanding of how different digital marketing channels shape consumer buying behaviour in Himachal Pradesh.

## 5. Research Objectives

1. To examine the impact of different digital marketing channels on consumer buying behaviour.
2. To identify the underlying dimensions of digital marketing channels influencing consumer buying behaviour using Exploratory Factor Analysis.
3. To derive managerial insights for improving channel-specific digital marketing strategies in Himachal Pradesh.

## 6. Research Methodology

The present study adopts an empirical research design to analyze the impact of different digital marketing channels on consumer buying behaviour. The study is based primarily on primary data collected from consumers residing in four selected districts of Himachal Pradesh through a structured questionnaire. The study area was chosen to represent both the most populated and the least populated districts of the state in order to capture regional diversity in consumer responses. A multi-stage sampling approach was used to obtain a balanced and representative sample, resulting in 633 valid responses considered for analysis. The questionnaire was designed to collect demographic information and to measure consumer perceptions regarding the influence of various digital marketing channels on buying behaviour, with all statements rated on a five-point Likert scale. Secondary data from books, research articles, journals, and reports were consulted to support the conceptual framework of the study. Exploratory Factor Analysis was applied as the primary analytical technique to identify the underlying dimensions of digital marketing channels influencing consumer buying behaviour.

## 7. Results and Discussion

This section presents the results of the empirical analysis conducted to examine the impact of different digital marketing channels on consumer buying behaviour. The findings are analysed and interpreted using appropriate statistical techniques in order to understand consumers' responses to various digital marketing channels and their influence on purchase decisions. The discussion highlights key patterns and insights related to channel effectiveness and consumer perceptions, providing a basis for managerial interpretation and further analysis.

### 7.1 Descriptive Statistical Analysis of the Impact of Digital Marketing Channels on Consumer Buying Behaviour

Table 1 presents the descriptive statistical results for statements measuring the impact of different digital marketing channels on consumer buying behaviour based on responses from 633 consumers using a five-point Likert scale. The mean scores indicate that certain digital marketing channels, particularly social media and technology-driven platforms, exert a stronger influence on consumer buying behaviour. The highest mean value is observed for the statement related to product awareness created through social media advertising (Mean = 4.12), highlighting the role of social media in helping consumers discover new products. This is followed by statements associated with AI-based personalized shopping experiences (Mean = 3.87) and visually attractive email marketing communication (Mean = 3.84), underscoring the importance of personalization and presentation in influencing consumer engagement. Interactive digital tools also show a notable influence, as reflected by higher mean values for interest-based social media advertisements (Mean = 3.80) and the usefulness of chatbots in addressing consumer queries (Mean = 3.78). In contrast, comparatively lower mean values are reported for statements related to paid search advertising and referral-based influence, with consumers showing less agreement with clicking on paid search advertisements (Mean = 2.85), recalling brands from search engine advertisements (Mean = 2.98), and making purchase decisions based on direct referrals from friends (Mean = 2.96), suggesting that these channels have a relatively weaker impact on buying behaviour. The standard deviations ranged from 0.83 to 1.24, showing moderate variation in responses, which indicates that although many respondents share similar views, some differences exist due to personal experiences and individual preferences. In general, the descriptive analysis shows that social media marketing, AI-based personalization, and visually appealing digital communication have a strong influence on consumer

engagement and purchase decisions, whereas paid search advertisements and direct referrals exert a comparatively lower impact. These results provide an initial understanding of consumer responses and form a suitable basis for the next stage of factor analysis, which aims to identify the key dimensions through which different digital marketing channels shape consumer buying behaviour.

**Table 1: Descriptive Statistical Analysis of the Impact of Digital Marketing Channels on Consumer Buying Behaviour**

Statements	Mean	SD	N
Social media ads make me aware of products I wouldn't know about otherwise.	4.12	0.85	633
Recommendations from my social media connections influence my purchase decisions.	3.68	0.93	633
I often click on social media ads that reflect my interests and preferences.	3.80	0.96	633
Engaging with brands on social media makes me more likely to purchase from them.	3.64	0.91	633
I trust brands more when they have a strong social media presence.	3.66	1.05	633
I feel that social media enhances my overall shopping experience.	3.74	1.08	633
I often click on the top search results when looking for products online.	3.12	1.08	633
I trust websites that appear on the first page of search results.	3.01	1.20	633
I often remember brands that I see in search engine advertisements.	2.98	1.24	633
I usually click on paid ads when searching for products online.	2.85	1.21	633
I trust the products advertised through search engine marketing.	3.64	0.97	633
I pay more attention to emails that are well-designed and visually attractive.	3.84	0.99	633
I feel more connected to brands that send me regular marketing emails.	3.39	1.11	633
Referral marketing makes me feel more confident about trying unfamiliar brands.	3.57	0.97	633
I am more likely to purchase a product when referred to me by a friend.	2.96	1.08	633
Discounts offered through referrals encourage me to try new products.	3.24	1.09	633
I find informative blog posts helpful when researching products.	3.73	.96	633
I prefer brands that provide how-to guides or tutorials on their products.	3.27	1.07	633
I am influenced by product demonstrations in video ads.	3.49	1.05	633
I am influenced by promotional banners and advertisements displayed on websites.	3.27	1.13	633
I prefer brands that send me promotional offers through mobile platforms (SMS, in-app messages).	3.30	1.17	633
I find it easier to complete a purchase on my mobile device than on a desktop.	3.40	1.09	633
I am influenced by the design and functionality of mobile apps when making purchasing decisions.	3.54	1.00	633
Location-based offers sent to my mobile device encourage me to shop.	3.26	1.03	633
I find it easier to explore and purchase new products through mobile apps compared to other channels.	3.07	1.07	633
I trust recommendations from influencers I actively engage with on various social media platforms.	3.44	0.96	633
I often discover new products through influencer content.	3.65	0.83	633
I am influenced to buy a product when celebrities promote it on digital platforms.	3.39	0.92	633

I often share or discuss products I see promoted by influencers with friends or family.	3.70	0.91	633
Affiliate reviews play a significant role in my purchasing decisions.	3.68	1.01	633
I often discover new products through AI-driven suggestions on e-commerce platforms.	3.67	0.94	633
I feel more engaged with digital platforms that use AI to provide personalized shopping experiences.	3.87	0.87	633
I find virtual assistants (e.g., voice assistants like Alexa or Google Assistant) helpful for finding product information.	3.43	0.90	633
I find chatbots helpful for answering my questions about products or services.	3.78	0.84	633

Source: - Data collected through questionnaire.

## 7.2 Reliability Statistics for the Impact of Different Digital Marketing Channels on Consumer Buying Behaviour

Table 2 reports the reliability results for the statements used to assess the impact of different digital marketing channels on consumer buying behaviour. Internal consistency of the scale was examined using Cronbach's Alpha, which is commonly employed to evaluate the reliability of questionnaire items. The analysis yielded a Cronbach's Alpha value of 0.908 for the 33 items included in this section, indicating a very high level of reliability. This result confirms that the statements used in the study are highly consistent in capturing consumer perceptions related to various digital marketing channels, including social media marketing, search engine marketing, email marketing, referral marketing, content marketing, mobile marketing, and AI-driven communication tools. The strong internal consistency of the scale supports the suitability of these items for further statistical analysis, including factor analysis.

**Table 2: Reliability Statistics for the Impact of Different Digital Marketing Channels on Consumer Buying Behaviour**

Cronbach's Alpha	No. of Items
0.908	33

## 7.3 KMO and Bartlett's Test for the Impact of Digital Marketing Channels on Consumer Buying Behaviour

Table 3 presents the results of the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity, which were used to assess whether the data were appropriate for factor analysis. The KMO value obtained for the dataset is 0.839, indicating a good level of sampling adequacy and suggesting that the variables share sufficient common variance to support factor extraction. This value confirms that the sample size is adequate and that meaningful underlying structures can be identified through factor analysis. Bartlett's Test of Sphericity further supports this suitability, as the test produced a chi-square value of 8778.247 with 528 degrees of freedom and was found to be statistically significant at the 0.000 level. The significant result indicates that the correlation matrix differs from an identity matrix, confirming the presence of adequate correlations among the variables. Taken together, these results demonstrate that the dataset is well suited for conducting factor analysis to examine the impact of different digital marketing channels on consumer buying behaviour.

**Table 3: KMO and Bartlett's Test for the Impact of Digital Marketing Channels on Consumer Buying Behaviour**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.839
Bartlett's Test of Sphericity	Approx. Chi-Square	8778.247
	df	528
	Sig.	.000

#### 7.4 Communalities of the Impact of Digital Marketing Channels on Consumer Buying Behaviour

The communalities presented in Table 4 were examined to assess how effectively each statement contributes to the overall factor structure derived through Principal Component Analysis. Communality values represent the proportion of variance in each variable that is accounted for by the extracted factors, with higher values indicating stronger representation within the factor solution. At the initial stage, all variables were assigned a communality value of 1.000, reflecting the assumption that their total variance was available for explanation. After factor extraction, the revised communalities reveal the actual share of variance explained by the retained factors. The results indicate that most statements exhibit extraction values above 0.60, demonstrating an adequate level of explanation and confirming that the majority of variables are well represented within the factor structure. Several items display particularly strong communalities, including engagement with AI-based personalized shopping platforms (0.784), trust in websites appearing on the first page of search results (0.728), and the influence of referral-based discounts on trying new products (0.707), suggesting that these aspects play a significant role in explaining consumer responses to digital marketing channels. Even items with relatively lower communalities, such as celebrity-endorsed digital promotions (0.507) and trust in products advertised through search engine marketing (0.564), remain above the commonly accepted threshold of 0.50, indicating that they still contribute meaningfully to the factor solution. Overall, the communalities confirm that all included statements are relevant and suitable for identifying the underlying dimensions of digital marketing channels influencing consumer buying behaviour.

**Table 4: Communalities of the Impact of Digital Marketing Channels on Consumer Buying Behaviour**

Statements	Initial	Extraction
Social media ads make me aware of products I wouldn't know about otherwise.	1.000	0.630
Recommendations from my social media connections influence my purchase decisions.	1.000	0.535
I often click on social media ads that reflect my interests and preferences.	1.000	0.625
Engaging with brands on social media makes me more likely to purchase from them.	1.000	0.629
I trust brands more when they have a strong social media presence.	1.000	0.605
I feel that social media enhances my overall shopping experience.	1.000	0.635
I often click on the top search results when looking for products online.	1.000	0.704
I trust websites that appear on the first page of search results.	1.000	0.728
I often remember brands that I see in search engine advertisements.	1.000	0.680
I trust the products advertised through search engine marketing.	1.000	0.564
I pay more attention to emails that are well-designed and visually attractive.	1.000	0.679
I feel more connected to brands that send me regular marketing emails.	1.000	0.602
Referral marketing makes me feel more confident about trying unfamiliar brands.	1.000	0.661
I am more likely to purchase a product when referred to me by a friend.	1.000	0.640
Discounts offered through referrals encourage me to try new products.	1.000	0.707
I find informative blog posts helpful when researching products.	1.000	0.636
I prefer brands that provide how-to guides or tutorials on their products.	1.000	0.626
I am influenced by product demonstrations in video ads.	1.000	0.663
I am influenced by promotional banners and advertisements displayed on websites.	1.000	0.626
I prefer brands that send me promotional offers through mobile platforms (SMS, in-app messages).	1.000	0.546
I find it easier to complete a purchase on my mobile device than on a desktop.	1.000	0.690
I am influenced by the design and functionality of mobile apps when making purchasing decisions.	1.000	0.676

Location-based offers sent to my mobile device encourage me to shop.	1.000	0.650
I find it easier to explore and purchase new products through mobile apps compared to other channels.	1.000	0.646
I trust recommendations from influencers I actively engage with on various social media platforms.	1.000	0.644
I often discover new products through influencer content.	1.000	0.648
I am influenced to buy a product when celebrities promote it on digital platforms.	1.000	0.507
I often share or discuss products I see promoted by influencers with friends or family.	1.000	0.613
Affiliate reviews play a significant role in my purchasing decisions.	1.000	0.644
I often discover new products through AI-driven suggestions on e-commerce platforms.	1.000	0.655
I feel more engaged with digital platforms that use AI to provide personalized shopping experiences.	1.000	0.784
I find virtual assistants (e.g., voice assistants like Alexa or Google Assistant) helpful for finding product information.	1.000	0.655
I find chatbots helpful for answering my questions about products or services.	1.000	0.598

**Extraction Method: Principal Component Analysis.**

### 7.5 Total Variance Explained for the Impact of Digital Marketing Channels on Consumer Buying Behaviour

To examine the underlying structure of variables related to the impact of digital marketing channels on consumer buying behaviour, Principal Component Analysis was applied. The results presented in Table 5 indicate the proportion of total variance explained by the extracted components. Based on the Kaiser criterion, nine components were retained, as each recorded an eigenvalue greater than one. Collectively, these nine components account for 64.033 percent of the total variance, suggesting that a substantial amount of information contained in the original 33 statements is effectively summarized by the factor solution. Following rotation, the individual contribution of each component was more evenly distributed, with the first component explaining 8.833 percent of the variance, followed by the second (8.777 percent), third (8.599 percent), and fourth (8.285 percent). The remaining components contributed 7.604 percent, 6.496 percent, 6.334 percent, 4.745 percent, and 4.359 percent of the variance respectively. The relatively balanced contribution of all nine components indicates that consumer responses to digital marketing channels are shaped by multiple dimensions rather than being driven by a single dominant influence. Overall, the results confirm the multidimensional nature of digital marketing channel effects, reflecting the combined influence of social media engagement, search engine presence, email and referral communication, content and mobile marketing, and AI-based personalization on consumer buying behaviour.

**Table 5: Total Variance Explained for the Impact of Digital Marketing Channels on Consumer Buying Behaviour**

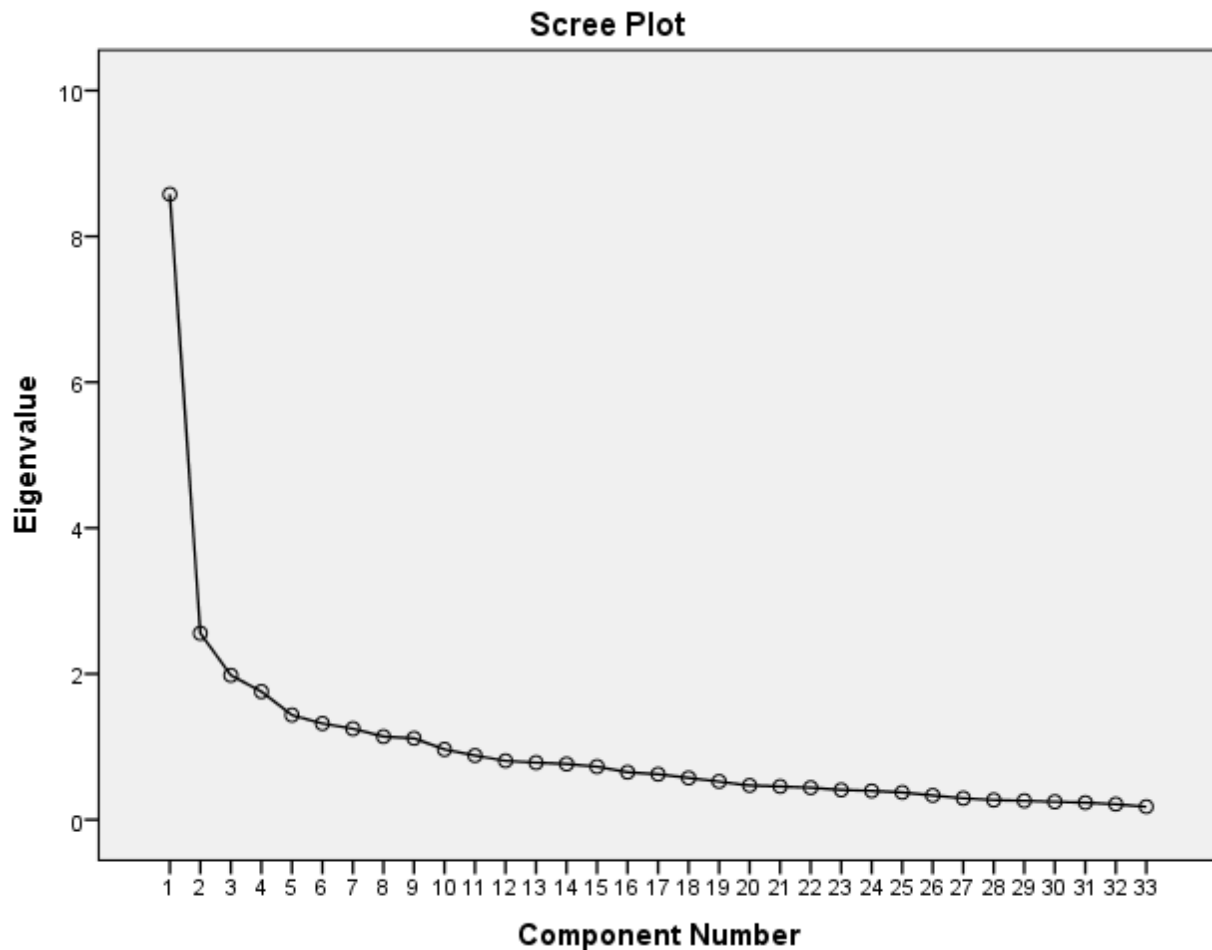
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.577	25.991	25.991	8.577	25.991	25.991	2.915	8.833	8.833
2	2.557	7.749	33.741	2.557	7.749	33.741	2.896	8.777	17.61
3	1.980	6.001	39.742	1.980	6.001	39.742	2.838	8.599	26.21
4	1.757	5.325	45.067	1.757	5.325	45.067	2.734	8.285	34.494
5	1.435	4.349	49.416	1.435	4.349	49.416	2.509	7.604	42.099
6	1.319	3.998	53.414	1.319	3.998	53.414	2.144	6.496	48.595
7	1.248	3.782	57.196	1.248	3.782	57.196	2.09	6.334	54.929

8	1.140	3.454	60.650	1.140	3.454	60.650	1.566	4.745	59.674
9	1.117	3.383	64.033	1.117	3.383	64.033	1.439	4.359	64.033
10	0.964	2.921	66.954						
11	0.880	2.667	69.621						
12	0.807	2.446	72.067						
13	0.783	2.372	74.439						
14	0.765	2.317	76.756						
15	0.728	2.205	78.961						
16	0.651	1.973	80.935						
17	0.625	1.893	82.828						
18	0.573	1.736	84.564						
19	0.524	1.587	86.151						
20	0.469	1.422	87.572						
21	0.456	1.381	88.953						
22	0.439	1.331	90.284						
23	0.409	1.238	91.522						
24	0.396	1.199	92.720						
25	0.374	1.133	93.854						
26	0.332	1.007	94.861						
27	0.294	0.892	95.753						
28	0.270	0.818	96.572						
29	0.260	0.788	97.359						
30	0.246	0.744	98.104						
31	0.235	0.712	98.816						
32	0.212	0.644	99.460						
33	0.178	0.540	100.000						

**Extraction Method: Principal Component Analysis.**

### 7.6 Scree Plot for the Impact of Digital Marketing Channels on Consumer Buying Behaviour

Figure 1 illustrates the scree plot depicting the eigenvalues associated with all components extracted through factor analysis. The plot displays the variance explained by each component in descending order, showing a sharp reduction in eigenvalues after the initial components, followed by a gradual flattening of the curve. This visible change in slope, often referred to as the elbow point, indicates that a limited number of components account for a substantial share of the total variance in the data. Although the scree plot visually suggests fewer dominant components, the final decision regarding factor retention was guided by the Kaiser criterion, which recommends retaining components with eigenvalues greater than one. Accordingly, nine components were retained for further analysis. These retained components collectively explain a meaningful proportion of the total variance and align well with the conceptual framework of the study. Together, they provide a basis for identifying the key dimensions through which different digital marketing channels, including social media platforms, search engines, mobile-based communication, influencer activity, and AI-enabled personalization, influence consumer buying behaviour in the digital environment.



**Figure 1: Scree Plot for the Impact of Digital Marketing Channels on Consumer Buying Behaviour**

### 7.7 Component Matrix for the Impact of Digital Marketing Channels on Consumer Buying Behaviour

Table 6 presents the initial component matrix obtained from Principal Component Analysis, showing how the 33 statements included in the study are associated with the nine extracted components through their respective factor loadings. These loadings indicate the degree to which each statement is related to the underlying components. In the unrotated matrix, many statements exhibit moderate to high loadings on more than one component, suggesting shared variance across multiple dimensions. Such cross-loadings are commonly observed at the preliminary stage of factor analysis, as the components have not yet been clearly separated. Statements related to mobile marketing convenience, influencer engagement, social media interaction, search engine visibility, and AI-driven personalization tend to load across different components, reflecting the interconnected nature of digital marketing channels in shaping consumer behaviour. For example, items associated with ease of mobile-based purchasing and brand visibility through search engines show strong associations with the initial component, indicating that convenience and online exposure may jointly influence consumer responses. Similarly, statements reflecting social media engagement and enhanced shopping experience load across multiple components, implying that social media affects buying behaviour through overlapping elements such as trust, interaction, and brand familiarity. While the unrotated component matrix offers valuable insight into the overall relationships among variables, interpretation at this stage remains limited due to overlapping loadings. As a result, this matrix primarily serves as a preparatory step for factor rotation, which redistributes variance more clearly across components without altering the total variance explained. The subsequent rotated matrix provides a clearer structure, enabling meaningful interpretation and identification of distinct dimensions representing the impact of different digital marketing channels on consumer buying behaviour.

**Table 6: Component Matrix for the Impact of Digital Marketing Channels on Consumer Buying Behaviour**

Statements	Component								
	1	2	3	4	5	6	7	8	9
I find it easier to explore and purchase new products through mobile apps compared to other channels.	0.739	-0.165	-0.260	0.014	0.003	0.035	0.047	0.011	-0.029
I often remember brands that I see in search engine advertisements.	0.667	0.053	-0.202	-0.304	-0.025	0.139	-0.211	0.172	-0.064
I trust websites that appear on the first page of search results.	0.662	0.079	-0.143	-0.304	0.109	0.147	-0.290	0.232	-0.010
I prefer brands that provide how-to guides or tutorials on their products.	0.634	-0.173	-0.252	0.049	-0.095	-0.217	0.228	0.067	-0.122
I am influenced by promotional banners and advertisements displayed on websites.	0.620	-0.161	-0.276	0.239	-0.101	0.092	0.095	0.232	-0.036
Location-based offers sent to my mobile device encourage me to shop.	0.614	-0.131	-0.434	0.051	0.073	-0.071	0.125	-0.185	0.072
I prefer brands that send me promotional offers through mobile platforms (SMS, in-app messages).	0.601	0.016	-0.040	-0.172	-0.064	0.334	0.103	-0.155	0.053
I am influenced by product demonstrations in video ads.	0.583	-0.313	-0.171	0.273	-0.160	-0.001	0.059	0.180	-0.245
I often click on the top search results when looking for products online.	0.583	-0.031	-0.073	-0.472	0.124	-0.023	-0.247	0.205	-0.130
I trust recommendations from influencers I actively engage with on social media.	0.581	-0.216	0.290	-0.196	0.177	-0.134	0.077	-0.260	0.116
I am influenced to buy a product when celebrities promote it on digital platforms.	0.555	-0.079	0.337	-0.004	0.032	-0.013	-0.044	-0.262	-0.088
Discounts offered through referrals encourage me to try new products.	0.555	0.417	0.132	-0.040	-0.396	-0.027	-0.035	-0.035	0.217
I feel that social media enhances my overall shopping experience.	0.543	0.366	-0.028	0.225	0.282	-0.104	0.199	-0.081	0.134
I am more likely to purchase a product when referred to me by a friend.	0.529	0.310	0.107	-0.160	-0.443	-0.050	-0.094	-0.093	0.105
Engaging with brands on social media makes me more likely to purchase from them.	0.522	0.413	-0.086	0.221	0.127	-0.107	-0.311	-0.048	-0.046
I find informative blog posts helpful when researching products.	0.506	-0.265	-0.053	0.324	-0.125	-0.254	-0.095	0.211	-0.262
I am influenced by the design and functionality of mobile apps when making purchasing decisions.	0.503	-0.322	-0.220	0.200	-0.059	0.134	0.107	-0.048	0.442
I often share or discuss products I see promoted by influencers with friends or family.	0.485	-0.327	0.084	0.023	-0.054	-0.467	0.056	-0.081	0.182
I find it easier to complete a purchase on my mobile device than on a desktop.	0.478	-0.318	-0.416	-0.174	-0.131	0.171	0.043	-0.305	0.123
Referral marketing makes me feel more confident about trying unfamiliar brands.	0.446	0.357	0.280	-0.187	-0.369	-0.183	0.013	0.082	0.210
I often discover new products through influencer content.	0.442	-0.190	0.351	-0.053	0.087	-0.384	-0.039	-0.301	-0.208
Social media ads make me aware of products I wouldn't know about otherwise.	0.420	0.200	0.043	0.225	0.402	0.185	0.035	-0.278	-0.295
I trust brands more when they have a strong social media presence.	0.401	0.463	0.056	0.072	0.344	0.108	0.100	0.248	0.142

I feel more connected to brands that send me regular marketing emails.	0.402	0.460	0.158	-0.036	-0.206	-0.029	0.343	-0.091	-0.183
Recommendations from my social media connections influence my purchase decisions.	0.406	0.418	-0.101	0.339	0.157	0.005	-0.085	-0.189	-0.044
I often discover new products through AI-driven suggestions on e-commerce platforms.	0.296	-0.378	0.555	0.131	-0.142	0.224	-0.119	0.119	-0.032
I feel more engaged with digital platforms that use AI to provide personalized shopping experiences.	0.312	-0.276	0.457	0.266	0.172	0.275	0.164	0.215	0.390
I trust the products advertised through search engine marketing.	0.431	-0.102	0.143	-0.512	0.245	-0.029	-0.006	0.087	-0.127
I find chatbots helpful for answering my questions about products or services.	0.332	-0.273	0.345	0.376	-0.128	0.017	-0.336	0.064	-0.138
Affiliate reviews play a significant role in my purchasing decisions.	0.358	-0.123	0.180	-0.196	0.423	-0.296	0.225	0.297	0.159
I find virtual assistants (e.g., voice assistants like Alexa or Google Assistant) helpful for finding product information.	0.429	-0.175	0.263	-0.128	-0.010	0.527	0.082	-0.207	-0.168
I often click on social media ads that reflect my interests and preferences.	0.424	0.236	-0.006	0.276	0.116	0.005	-0.498	-0.002	0.225
I pay more attention to emails that are well-designed and visually attractive.	0.370	0.360	0.144	0.102	-0.153	0.105	0.434	0.286	-0.276

**Extraction Method: Principal Component Analysis.**

**a. 9 components extracted.**

## 7.8 Rotated Component Matrix for the Impact of Digital Marketing Channels on Consumer Buying Behaviour

Table 7 presents the rotated component matrix obtained through Principal Component Analysis using Varimax rotation with Kaiser normalization. The rotation converged after 18 iterations, and nine components were retained based on eigenvalues exceeding one and their conceptual interpretability. Factor loadings of 0.50 and above were considered significant, and each statement was assigned to the component on which it exhibited the highest loading, resulting in a clear and interpretable factor structure. The extracted components collectively highlight the multidimensional nature of digital marketing channel influence on consumer buying behaviour. The first factor reflects the impact of mobile marketing, emphasizing consumer preference for convenience, ease of navigation, responsiveness, and location-based offers provided through mobile applications. The second factor captures the influence of social media marketing, indicating that brand engagement, peer interaction, and community presence on social platforms strongly shape consumer attitudes and purchase decisions. The third factor represents the effectiveness of search engine marketing, showing that visibility, credibility, and prominence in search results enhance consumer trust and brand recall during information search. The fourth factor relates to content marketing, highlighting the role of informative, educational, and visually engaging content such as blogs, videos, and tutorials in supporting consumer evaluation and confidence. The fifth factor reflects the influence of referral marketing, demonstrating that recommendations and referral-based incentives from known sources strengthen trust and reduce perceived risk. The sixth factor captures the impact of influencer marketing, where endorsements by digital personalities and celebrities affect perceptions of credibility and desirability. The seventh factor represents AI-driven marketing, indicating that personalized recommendations, chatbots, and voice-based assistance simplify decision-making and improve shopping experience. The eighth factor highlights engagement through email marketing, showing that well-designed and relevant email communication helps maintain ongoing brand relationships. The ninth factor reflects the credibility of affiliate marketing, where independent reviews and third-party evaluations play an important role in validating product quality and reducing uncertainty. Taken together, these nine factors demonstrate that consumer buying behaviour in digital environments is shaped by a combination of convenience, engagement, credibility, personalization, and technological support, reinforcing the need for an integrated, multi-channel digital marketing approach.

**Table 7: Rotated Component Matrix for the Impact of Digital Marketing Channels on Consumer Buying Behaviour**

Statements	Component								
	1	2	3	4	5	6	7	8	9
I find it easier to complete a purchase on my mobile device than on a desktop.	<b>0.756</b>	-0.042	0.230	0.133	0.039	0.128	-0.038	-0.052	-0.154
I am influenced by the design and functionality of mobile apps when making purchasing decisions.	<b>0.684</b>	0.092	-0.035	0.242	0.104	-0.021	0.227	-0.164	0.225
Location-based offers sent to my mobile device encourage me to shop.	<b>0.622</b>	0.252	0.160	0.324	0.024	0.178	-0.170	0.023	0.084
I find it easier to explore and purchase new products through mobile apps compared to other channels.	<b>0.508</b>	0.209	0.336	0.427	0.099	0.145	0.057	0.093	0.079
I prefer brands that send me promotional offers through mobile platforms (SMS, in-app messages).	<b>0.501</b>	0.154	0.328	-0.004	0.221	0.095	0.203	0.253	-0.037
Engaging with brands on social media makes me more likely to purchase from them.	0.004	<b>0.689</b>	0.201	0.202	0.247	0.078	-0.052	-0.042	-0.033
Recommendations from my social media connections influence my purchase decisions.	0.105	<b>0.688</b>	-0.025	0.102	0.132	0.052	-0.050	0.121	-0.046
I often click on social media ads that reflect my interests and preferences.	0.047	<b>0.619</b>	0.152	0.113	0.231	-0.028	0.181	-0.342	0.008
Social media ads make me aware of products I wouldn't know about otherwise.	0.123	<b>0.605</b>	0.114	0.019	-0.202	0.249	0.118	0.337	-0.070
I feel that social media enhances my overall shopping experience.	0.210	<b>0.599</b>	0.004	0.086	0.177	0.149	-0.066	0.222	0.341
I trust brands more when they have a strong social media presence.	-0.005	<b>0.522</b>	0.224	-0.047	0.151	-0.146	0.051	0.241	0.418
I often click on the top search results when looking for products online.	0.103	0.070	<b>0.778</b>	0.166	0.139	0.169	-0.009	-0.017	0.082
I trust websites that appear on the first page of search results.	0.211	0.258	<b>0.732</b>	0.169	0.196	-0.022	0.086	-0.028	0.076
I often remember brands that I see in search engine advertisements.	0.281	0.181	<b>0.675</b>	0.227	0.240	-0.009	0.034	0.041	-0.013
I trust the products advertised through search engine marketing.	0.057	-0.058	<b>0.619</b>	-0.025	0.017	0.336	0.050	0.130	0.202
I find informative blog posts helpful when researching products.	0.039	0.124	0.091	<b>0.747</b>	0.044	0.183	0.133	-0.024	0.012
I am influenced by product demonstrations in video ads.	0.291	0.075	0.140	<b>0.703</b>	0.004	0.066	0.187	0.137	-0.023
I am influenced by promotional banners and advertisements displayed on websites.	0.406	0.177	0.177	<b>0.579</b>	0.081	-0.106	0.135	0.124	0.109
I prefer brands that provide how-to guides or tutorials on their products.	0.380	0.062	0.174	<b>0.564</b>	0.129	0.216	-0.111	0.179	0.147
Referral marketing makes me feel more confident about trying unfamiliar brands.	-0.025	0.069	0.149	0.032	<b>0.763</b>	0.132	0.052	0.097	0.147
Discounts offered through referrals encourage me to try new products.	0.157	0.259	0.114	0.064	<b>0.760</b>	0.042	0.079	0.113	0.006
I am more likely to purchase a product when referred to me by a friend.	0.154	0.139	0.199	0.079	<b>0.715</b>	0.129	0.042	0.085	-0.121
I often discover new products through influencer content.	-0.019	0.094	0.104	0.192	0.090	<b>0.755</b>	0.108	0.020	0.020

I trust recommendations from influencers I actively engage with on social media.	0.297	0.084	0.231	0.000	0.134	<b>0.611</b>	0.219	0.025	0.236
I am influenced to buy a product when celebrities promote it on digital platforms.	0.151	0.216	0.164	0.089	0.177	<b>0.505</b>	0.320	0.118	-0.023
I often share or discuss products I see promoted by influencers with friends or family.	0.244	-0.041	0.002	0.366	0.214	<b>0.501</b>	0.026	-0.201	0.284
I often discover new products through AI-driven suggestions on e-commerce platforms.	-0.036	-0.117	0.077	0.187	0.086	0.193	<b>0.745</b>	0.008	0.001
I feel more engaged with digital platforms that use AI to provide personalized shopping experiences.	0.177	0.063	-0.083	0.027	0.009	0.010	<b>0.709</b>	0.017	0.488
I find chatbots helpful for answering my questions about products or services.	-0.105	0.155	0.001	0.411	0.063	0.198	<b>0.552</b>	-0.160	-0.140
I find virtual assistants (e.g., voice assistants like Alexa or Google Assistant) helpful for finding product information.	0.323	0.028	0.279	-0.089	-0.012	0.194	<b>0.515</b>	0.355	-0.187
I pay more attention to emails that are well-designed and visually attractive.	-0.076	0.143	0.059	0.258	0.284	-0.105	0.074	<b>0.681</b>	0.150
I feel more connected to brands that send me regular marketing emails.	0.021	0.210	0.021	0.049	0.451	0.156	-0.072	<b>0.567</b>	0.005
Affiliate reviews play a significant role in my purchasing decisions.	-0.002	0.008	0.282	0.103	-0.035	0.279	0.016	0.040	<b>0.688</b>

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 18 iterations.

## 8. Managerial Implications

The findings of the study offer valuable guidance for managers and digital marketers seeking to improve the effectiveness of digital marketing channels. The strong influence of mobile marketing highlights the need for businesses to prioritize mobile-friendly platforms, ensuring ease of navigation, fast loading, and seamless purchase processes to enhance convenience for consumers. The significant role of social media marketing suggests that brands should actively engage consumers through interactive content, consistent communication, and community-building efforts to strengthen trust and brand connection. The impact of search engine marketing indicates that improving online visibility through effective SEO and well-aligned paid search strategies can enhance credibility and brand recall during information search. The importance of content marketing underscores the need to invest in informative, visually appealing, and value-driven content that supports consumers throughout the decision-making process. Referral and influencer marketing results emphasize the power of social proof, indicating that marketers should encourage genuine referrals and collaborate with credible influencers to build authenticity and reduce perceived risk. The continued relevance of email marketing highlights the importance of personalized and well-designed communication to maintain long-term consumer relationships. Finally, the growing influence of AI-driven tools suggests that businesses should integrate personalized recommendations, chatbots, and automated assistance thoughtfully to improve efficiency and engagement while maintaining transparency and consumer trust. Overall, an integrated and balanced multi-channel digital marketing approach that combines convenience, credibility, personalization, and engagement is essential for influencing consumer buying behaviour effectively.

## 9. Conclusion

The present study analyzed the impact of different digital marketing channels on consumer buying behaviour using an Exploratory Factor Analysis approach. The findings confirm that consumer responses to digital marketing channels are multidimensional and shaped by a combination of mobile accessibility, social media engagement, search engine visibility, content quality, referral influence, influencer endorsements, email communication, and AI-driven personalization. The identification of nine distinct dimensions indicates that consumer purchase decisions in digital environments are influenced by multiple channels operating together rather than by any single marketing tool in isolation. The results further reveal that channels offering convenience, engagement, and personalized experiences tend to exert a stronger influence, while credibility, trust, and social validation continue to play a critical role in reducing perceived risk and supporting decision-making. By systematically identifying the underlying dimensions through which digital marketing channels affect consumer behaviour, the study contributes to the existing digital marketing literature and enhances

understanding of channel effectiveness in a regional context. Overall, the findings highlight the importance of adopting an integrated, multi-channel digital marketing strategy that balances technological efficiency, personalized communication, and trust-building mechanisms to effectively influence consumer buying behaviour and support long-term marketing success.

## 10.Limitations and Scope for Future Research

The study is limited to selected districts of Himachal Pradesh, which may restrict the generalization of the findings to other regions. It is based on cross-sectional primary data collected through a structured questionnaire and applies Exploratory Factor Analysis to identify key dimensions. Future research may extend the geographical scope, adopt a longitudinal design, and use advanced techniques such as Confirmatory Factor Analysis or Structural Equation Modelling to further validate and strengthen the findings.

## References

- Abdelkader, O. A. (2023). ChatGPT's influence on customer experience in digital marketing: Investigating the moderating roles. *Heliyon*, 9(8), e18770.
- Aswani, R., Kar, A. K., Ilavarasan, P. V., & Dwivedi, Y. K. (2018). Search engine marketing is not all gold: Insights from Twitter and SEOClerks. *International Journal of Information Management*, 38(1), 107-116.
- Buttle, F. A. (1998). Word of mouth: Understanding and managing referral marketing. *Journal of Strategic Marketing*, 6(3), 241-254.
- Chintalapati, S., & Pandey, S. K. (2021). Artificial intelligence in marketing: A systematic literature review. *International Journal of Market Research*, 64(1), 38-68.
- Hasouneh, A. B., & Alqeed, M. A. (2010). Measuring the effectiveness of e-mail direct marketing in building customer relationships. *International Journal of Marketing Studies*, 2(1), 48-64.
- Kamat, N., & Kamat, C. N. (2020). *Digital marketing*. Himalaya Publishing House.
- Kannan, P. K., & Li, H. A. (2017). Digital marketing: A framework, review and research agenda. *International Journal of Research in Marketing*, 34(1), 22-45.
- Mallik, R., & Rao, B. (2017). A study on the impact of digital marketing on youth buying behaviour with reference to Big Bazaar, Udupi. *International Journal of Management and Commerce Innovations*, 5(1), 245-252.
- Omar, A. M., & Atteya, N. (2020). The impact of digital marketing on consumer buying Decision Process in the Egyptian Market. *International Journal of Business and Management*, 15(7), 120-132.
- Pradiptarini, C. (2011). Social media marketing: Measuring its effectiveness and identifying the target market. *UW-L Journal of Undergraduate Research XIV*, 1-11.
- Prasath, P., & Yoganathen, A. (2018). Influence of social media marketing on consumer buying decision making process. *SLIS Student Research Journal*.
- Ramesh, M., & Vidhya, B. (2019). Digital marketing and its effect on online consumer buying behavior. *Journal of Services Research*, 19(2), 61-77.
- Schiffman, L. G., & Wisenblit, J. (2019). *Consumer behavior* (12th ed.). Pearson.
- Sen, R. (2005). Optimal search engine marketing strategy. *International Journal of Electronic Commerce*, 10(1), 9-25.
- Strauss, J., & Frost, R. (2014). *E-marketing* (7th ed.). Pearson Education.
- Voramontri, D., & Klieb, L. (2019). Impact of social media on consumer behaviour. *International Journal of Information and Decision Sciences*, 11(3), 209-233.