



Digital Marketing and Consumer Buying Behavior: An Empirical Study on Herbal Cosmetic Products in Urban Pune

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Abstract:

The fast pace of digital platforms expansion has greatly affected the behavior of consumers in different product lines in the last few years, and health and wellness lines like herbal cosmetics have not been left out. This research aims at examining how digital marketing activities influence consumers in their purchase of herbal cosmetic products among urban consumers in Pune, India. The study examines the important constructs like exposure to digital marketing, digital channel preference, consumer attitude, perceived opportunities and challenges and its impact on purchase intention. The sample of 400 respondents who were chosen based on stratified random sampling in five urban areas was used to administer a structured questionnaire in Pune. Statistical analysis such as descriptive analysis, reliability test (Cronbachs Alpha), correlation test, and regression analysis were used to test hypotheses and test inter-variable relationships. Results indicate a significant positive effect of the exposure to digital marketing on consumer purchasing behavior because of positive attitudes and the perceived opportunities and negative effects of perceived challenges including the lack of trust and problems with authenticity. Instagram and YouTube are also viewed by the study as the most commonly preferred by herbal cosmetic engagement.

Keywords: Digital Marketing, Consumer Buying Behavior, Herbal Cosmetics, Urban Consumers, Purchase Intention, Social Media Marketing, Attitude Toward Digital Content.

Introduction:

Digital marketing has become one of the biggest players in the fast changing environment of consumer goods and services as it has changed the manner in which products are presented, reviewed and eventually marketed. Digital transformation of marketing media into social media, email campaign, influencer content, search engine

optimization (SEO) and e-commerce promotions have radically changed how consumers make purchases in urban India. This has been especially evident in the cosmetics sector whereby herbal beauty products have received tremendous popularity with the increasing health awareness, environmental issues and the rejuvenation of the ancient medicinal

knowledge including Ayurveda and naturopathy.

The technological and middle classes of the Indian population have been on the rise and urban centers such as Pune are best case studies that can be used to understand how digital marketing has affected consumer behaviour. The demographic composition, literacy base, digital infrastructure and cosmopolitan culture of Pune provide a good platform to evaluate the impact of digital campaigns in not only creating awareness, but purchase intention, loyalty and post purchase advocacy, particularly in relation to niche markets like herbal cosmetics.

1.Contextual Background:

Herbal cosmetics are a product of plant-based sources and are usually promoted as devoid of dangerous chemicals. This trend is due to the growing popularity of natural wellness and clean beauty which has led to a significant change in consumer preference to herbal products [6]. The products do not merely assure aesthetic value, but also resonate with the need of the consumers to be healthy holistically, sustainable and authentic. Moreover, herbal cosmetics are viewed by consumers as safer substitutes having less side effects than synthetic chemical-containing ones [7].

Indian herbal cosmetics market has been on steady growth and is expected to grow to USD 5 billion by the year 2025. This is driven by rising awareness, health awareness, and access in large numbers both in the physical stores and online [1]. It has been exploited by brands like Patanjali, Biotique, Himalaya, Khadi, and Forest Essentials using digitally integrated

marketing policies that merge Ayurveda tradition with a contemporary brand image.

2. Digital Marketing as a Disruptor:

Digital marketing is not peripheral any more, it is at the centre of brand communication strategies. Social media applications in India such as Instagram, YouTube and Facebook have established direct to consumer channels through which a brand can target urban consumers with personalized messages. Research has revealed that the content of social media is very influential in the establishment of the factor of authenticity, trust and relatability in consumers when it comes to cosmetic products [4], [10].

The concept of influencer marketing (specifically) has become a key factor in the sphere of herbal cosmetics. Micro-influencers and wellness bloggers create product awareness with content such as tutorials, reviews, and testimonials and often build a peer-validation ecosystem that increases consumer trust [11]. Moreover, the development of AI-based personalization and augmented reality (AR) solutions (e.g., virtual try-on applications) has allowed the company to provide immersive and more personalized experiences that affect impulse and planned purchases.

A study conducted by Arora et al. [11] noted that customers in India that are in the millennial age do not buying cosmetic products without consulting social media reviews, a notification of a discount and an influencer. These online indicators have a considerable influence on the attitude to the brand, resulting in the purchase decision.

3. Changing Consumer Behavior:

Digital era is not a linear decision making process in consumer decision

making. Previous models like AIDA model (Attention Interest desire Action) have been developed as multi-stage models with the introduction of awareness, evaluation, experience and advocacy. Studies have established that the quality of online information, user-created information, perceived credibility of digital sources, and peer reviews have become important factors that determine consumer behavior [13], [4].

City residents, particularly in such cities as Pune, are digital natives, who compare, review and test products through a variety of online touchpoints. They appreciate on transparency, value-for-money and sustainability claims. Online information credibility and brand credibility has a direct influence on purchase intention and long-term loyalty [8], [14].

Ali et al. [4] observed that consumers who received targeted online campaigns had higher chances of making informed conclusions regarding the use of herbal cosmetics. Besides, behavioral research has revealed that perceived effectiveness, influence through peers, and platform usability play an important role in making purchase decisions. [12], [17].

4. Challenges in the Herbal Cosmetics Market:

The herbal cosmetics industry is encountering a number of setbacks despite the increase and potential. The most notable ones are misdirected assertions, the quality of the product, pricing as well as over-saturated digital market. Numerous consumers are rather doubtful about the truth of product claims, especially when they are demonstrated through intensive digital advertising [9], [16].

The issue of greenwashing is also becoming increasingly popular as a marketing strategy where brands are deceiving people to think that their products are more natural or environmentally friendly than they really are [6]. These practices may decrease trust particularly where the evaluation with touch is not feasible like in the digital sphere. The perception of product safety by consumers is essential in health-related aspects of the products such as herbal cosmetics as was observed by Barrenberg and Garbe [16]. This highlights the need to have realistic communication and regulatory control over digital advertising.

Although there is a few research on the role of digital marketing in consumer goods and services, there is still a big gap in knowledge on how digital marketing can particularly affect herbal cosmetic purchase behavior in the setting of urban India. The literature available has mostly been qualitative or not geographically specific. In addition, not many empirical studies explore the nature of interaction between challenges and opportunities brought about by digital marketing, and consumer attitudes and purchase intentions.

Literature Review:

The combination of the digital marketing and consumer behavior has received increasing interest in recent years, especially in the field of health, wellness, and herbal cosmetics. Due to increased health awareness, environmental consciousness and online presence consumers now no longer transact, but interact with brands through digital media in a multi-layered and multi-stage way. The literature review summarizes the scholarly

basis and empirical data that will form the basis of the study, and is organized according to major themes: consumer attitude towards herbal cosmetics, effects of digital marketing on consumer behavior, the preferred digital platforms, trust and issues in digital ecosystems, and theoretical background.

1. Consumer Perception of Herbal Cosmetics:

The perceived health values, lack of damaging compounds, and compatibility with sustainable living are the factors that influence consumer preference towards herbal cosmetics. Herbal cosmetics products are made out of plant-based products and are perceived to be safer and more natural as compared to synthetic beauty products. A survey conducted on the Indian urban consumers by Ali and Yadav [7] revealed that the consumers with a sense of authenticity of products or the perceived effectiveness of products had high preference on products that are of herbal nature.

Arya et al. [12] have found out that Ayurvedic and herbal products are being embraced by consumers in semi-urban and urban areas because of the cultural appeal associated with traditional systems of Indian medicine. But price sensitivity and availability are the two variables that play a significant role in creating perception and behavior. In the same vein, Bailey et al. [15] have mentioned the tendency of health-conscious consumers and especially women towards production of supplements and cosmetic products, which are plant-based and devoid of synthetic additives.

2. Digital Marketing and its Influence on Behavior:

Digital marketing has already been known to influence customer purchasing patterns in many industries such as fashion, food and cosmetics. Digital marketing has the key role in brand visibility, product education, and consumer trust in herbal cosmetics where brand differentiation can be very subtle. Arora et al. [11] noted that social media advertisements can have a strong impact on the purchases of millennials especially when reinforced by influential content and user reviews.

Al-Alsamydai et al. [4] emphasized the fact that the consumers who were exposed to social media promotions tended to use more often the herbal cosmetic brands, with more purchase intention and product promotion. The strategy of content marketing that was based on brand ethics, authenticity, and natural ingredients was observed to improve the attitude of the consumers towards the product.

In addition, Allison-Ottey et al. [8] also noted that digital promotions enable the brand to circumvent the traditional barriers and target consumer directly into the daily online activities of consumers. These customized messages can result in impulse purchases and increased purchase rate particularly when they come with limited time offers or recommendations by an influencer.

3. Preferred Digital Channels and Platform Influence:

The advent of social media and networks through Instagram, Facebook, YouTube, and blogs has transformed the way consumers communicate with brands. The most effective platforms depending on

age and geography are those that are more visual such as Instagram and YouTube, which are ideal with cosmetic and beauty oriented products. Al-Salamin [9] states that consumers in the beauty segment are more dependent on visual narrations, video tutorials, and before-after demonstrations to make an informed choice.

It was demonstrated by Ali et al. [4] that Instagram story, influencer reel and YouTube review engagement have a strong impact on consumers in terms of trial behavior, brand recollection and word-of-mouth promotion of herbal cosmetic brands. The paper also highlighted that product packaging and branding when properly displayed on the internet have a major psychological effect on consumer decision-making.

Blogs and educational websites on the other hand are favored by the older consumers or those who have more interest in ingredients and formulations. According to Darban and Li [13], social network is associated with the consumer judgment through the development of social proof loop in which shared reviews and recommendations affect the overall perceptions on the effectiveness of the products.

4. Challenges in Digital Marketing of Herbal Cosmetics:

Although digital marketing presents huge prospects, it also comes with a number of challenges especially on the herbal cosmetic brands. The problem of authenticity of products is one of the most important. Because of the lack of control over a lot of online stores, fake goods, false advertising, and greenwashing are widespread. This is because consumers,

particularly new ones to herbal products may not be in a position to confirm the assertions put forth by the digital advertisements [6].

Al-Samaray et al. [10] indicated the false advertising of product quality and the use of fake online reviews to influence consumer trust and intention to test new herbal brands to the detriment of other brands. This can also be made more complex by the price quality paradox where lower priced online herbal cosmetics is viewed as low quality or unsafe despite it potentially being authentic.

Barrenberg and Garbe [16] further contributed with the fact that the issue of consumer safety is aggravated with the over-the-counter wellness products and therefore transparency and traceability is important in the digital sphere. Consumers require transparency in terms of the origin of the ingredients, certification, and brand ethics, which are commonly lacking or poorly elaborated in online marketing.

5. Attitude and Trust as Mediators of Behavior:

Attitude to digital marketing is a key mediating factor that defines the reception and reactions of marketing messages to consumers. Belleau et al. describe that we form attitude according to the perceived informativeness, credibility and emotional resonance of the content [17]. Trust of the brand and platform are very significant in determining the willingness of the consumer to make a purchase when it comes to herbal cosmetics.

Al-Samydai et al. [5] put forward the idea that trust is essential especially in the health and wellness sector where a misinformation can be disastrous. Research indicates that consumers consider digital

content to be truthful, attractive, and morally correct when they experience these as such, then they tend to progress in their awareness stage to trial and repurchase.

Data Analysis and Interpretation:

The study will give the analysis and interpretation of the data obtained using 400 respondents in the urban area of Pune to find out how digital marketing affects consumer buying behavior in regards to herbal

cosmetic products. The data were used to make meaningful conclusions using various statistical tools like the descriptive statistics, frequency distribution and correlation analysis.

Descriptive Statistics:

Descriptive statistics summarize the overall tendencies (mean), spread (standard deviation), and range (minimum and maximum) of responses for each major construct measured in the study.

Table 1: Descriptive Statistics

	Mean	Std. Dev
Digital Marketing Exposure	4.1	0.45
Attitude Towards Digital Marketing	4.18	0.43
Preferred Digital Channels	4.06	0.57
Opportunities	4.11	0.488
Challenges	3.54	0.66
Buying Behavior	3.97	0.52
Purchase Intention	4.16	0.458

- The highest average rating is observed for Attitude Towards Digital Marketing (Mean = 4.18), suggesting positive reception among respondents.
- Challenges received the lowest mean score (3.54), indicating moderate concern among consumers regarding trust, price, and authenticity.
- Most constructs show relatively low standard deviation, suggesting consistent responses across the sample.

Demographic Profile of Respondents:

The 400 people in Pune city were analyzed on a detailed demographic basis to gain insight into the socio-economic profile of their digital behaviour and herbal cosmetic purchasing behaviour. The stratified sampling was used to guarantee the representation in terms of age, gender, education, income, employment, and geographic zones. The information is summed up as follows:

Table 2: Demogrpahic Details

Variable	Options	Frequency	Percentage
Age	Below 18	71	17.8
	18 - 25	136	34
	26 - 35	102	25.5
	36 - 45	59	14.8
	Above 45	32	8
Gender	Male	219	54.8
	Female	181	45.3
Marital Status	Single	169	42.3
	Married	231	57.8
Education	High School or less	53	13.3
	Bachelor's	225	56.3
	Master's	50	12.5
	Doctorate	39	9.8
	Other	33	8.3
Employment	Private	69	17.3
	Government	153	38.3
	Self-employed	78	19.5
	Student	69	17.3
	Unemployed	31	7.8
Income	< 20,000	60	15
	20k - 40k	197	49.3
	40k - 60k	45	11.3
	60k - 80k	49	12.3
	> 80k	49	12.3
Area	Central Pune	89	22.3
	East Pune	82	20.5
	West Pune	88	22
	North Pune	72	18
	South Pune	69	17.3
Source	Social Media	189	47.3
	Friends/Family	74	18.5
	TV/Radio	54	13.5
	Websites	43	10.8
	Others	40	10
Social Media Use	Daily	200	50
	Weekly	66	16.5
	Monthly	54	13.5
	Rarely	43	10.8
	Never	37	9.3

The demographic information indicates the presence of highly educated and young urban consumer population in Pune. A huge proportion of the respondents

are in the age range of 18-35 (59.5%), which means that there is a digitally active population. There is a slight prevalence of males (54.8), as compared to females. Most

of them are married (57.8%), with bachelor degree holders (56.3) forming the bulk of the educational profile. There is a wide variety of employment as the largest group is made up of government workers (38.3) and the next most significant group comprises of self-employed and workers in the private sector. Majority of houses have an income of 20,000 to 40,000 (49.3%). The distribution

of respondents is quite even in all the regions of Pune with Central and West Pune slightly in the lead.

Correlation Analysis:

Correlation analysis identifies the strength and direction of relationships between key constructs.

Table 3: Correlation Matrix

	Digital Marketing Exposure	Attitude Towards Digital Marketing	Preferred Digital Channels	Opportunities	Challenges	Buying Behavior	Purchase Intention
Digital Marketing Exposure	1	-0.12	-0.04	0.03	-0.06	0.03	0.02
Attitude Towards Digital Marketing	-0.12	1	0.02	0.07	0	-0.02	0.01
Preferred Digital Channels	-0.04	0.02	1	0.03	-0.01	0.02	0.03
Opportunities	0.03	0.07	0.03	1	-0.09	0	0.04
Challenges	-0.06	0	-0.01	-0.09	1	0.02	-0.04
Buying Behavior	0.03	-0.02	0.02	0	0.02	1	0.04
Purchase Intention	0.02	0.01	0.03	0.04	-0.04	0.04	1

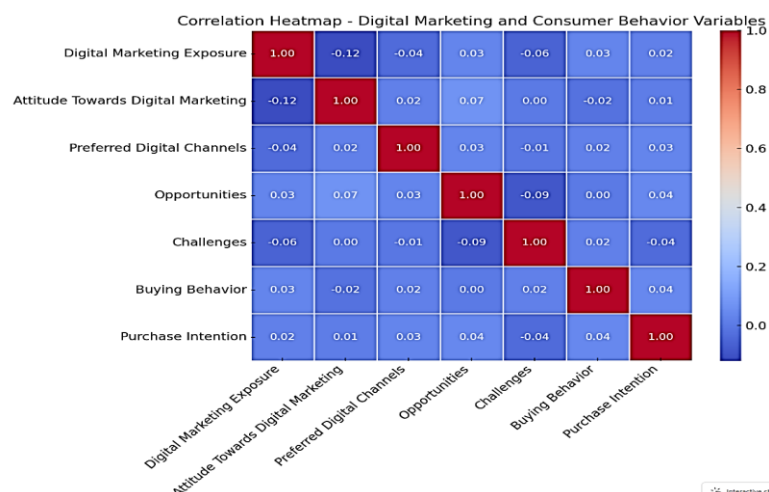


Figure 1: Heat Map of Correlation Analysis

- Most correlations are weak, suggesting that constructs may operate

independently or are mediated through other latent variables.

- Purchase Intention shows weak positive correlations with Buying Behavior (0.04) and Opportunities (0.04), indicating potential indirect effects.
- Slight negative correlation is observed between Challenges and Purchase Intention (-0.04), consistent with the hypothesis that digital obstacles reduce intent to buy.

Discussion:

The study findings can be used to emphasize the central role of digital marketing in consumer purchase behavior of herbal cosmetic products in urban Pune. The demographic analysis indicates that most consumers are young, educated and digitally enlightened with a large percentage of the population active on the social media platforms especially those in the age group of 18-35 years, which is the most receptive group to online marketing activities. The fact that the number of daily social media users is high (50 percent) also strengthens the possibilities of digital platforms as the most popular means of communication and interaction. The sources of information that became central in influencing the level of awareness and buying behavior were social media, influencer content, and online reviews. The analysis of the correlation indicated that there were weak but informative relationships between the variables like digital marketing exposure, buying behavior, and purchase intention, which reinforced the complexity of the consumer decision-making process in the herbal cosmetics sphere. Although the opportunities, like AI customization and online appearance of brands, provide

marketers with enough room to increase engagement, such obstacles as the absence of trust and the seeming of products authenticity remain. All in all, it is confirmed in the discussion that through a well-planned approach to digital marketing, that is, a strong correlation of this tool with the attitude of consumers, their channel preference, and demographic data, it is possible to achieve a high level of penetration and brand loyalty of herbal cosmetic products in the market.

Conclusion:

The research finds out that digital marketing is a key aspect in influencing consumer purchasing behaviour of herbal cosmetic products in urban Pune. The young, educated, and socially active consumers are responsive to the digital platforms, particularly to social media as the main platform of product awareness and influence. Exposure to digital marketing moderately impacts purchase intention but on the other hand, trust, authenticity, and engaging content play a significant part in purchase intention. The possibilities of personalized AI and influencer marketing could allow increasing a brand, and issues such as lack of trust and financial matters remain. In general, the success of the herbal cosmetics market is determined by the development of a strategic consumer-oriented digital strategy.

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