

# From Virality to Purchase Intention: How Instagram Marketing Shapes Cosmetic Buying Intentions among University Students in Karachi

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### Purpose

Instagram has been used for various marketing activities. This research investigates the impact of these activities on university students' intentions to purchase cosmetic brands. It evaluates the influence of brand awareness, social media content, viral marketing, influencer marketing, and engagement on the intention to make an online purchase.

### Methodology

Using a structured questionnaire, this quantitative cross-sectional survey collected data from business university students in Karachi. Various statistical procedures were applied, including multiple regression to test the proposed relationship.

### Findings

The regression model was statistically significant and explained 40.8% of the variance in the students' online purchase intentions. The three strongest predictors are viral marketing, social media content, and brand awareness. The influencer marketing had a non-significant positive effect, and engagement did not significantly predict purchase intention after controlling for other predictors.

### Conclusion

The study compared five Instagram marketing predictors within a single model. It showed that viral marketing, content quality, and brand awareness are stronger predictors of purchase intention than influencer marketing and general engagement among Karachi-based business university students.

## 1. Introduction

Extensive Internet usage led to the development of social media platforms. These have become the mainstay for organizations to communicate with their consumers. Organizations select these platforms based on their unique features and advantages. For example, cosmetic companies mostly use Instagram because it offers visual appeal and social representation. It enables cosmetic brands to help consumers compare shades, provide skin tutorials, share before-and-after videos, and use influencers to show their routines with their products (Chen, 2018; Dabbous & Barakat, 2020; Hossain et al., 2025). For young consumers, Instagram is more than a fun scrolling platform. They discover brands, evaluate products, track trends, engage with brands, and form purchase intent there.

Through marketing, brands encourage consumers to form purchase intent, a key topic in consumer behavior. Although not always resulting in purchases, it serves as a useful indicator (Ajzen, 1991; Alalwan, 2018). Research shows brands foster purchase intent by building brand awareness and involving users, such as through liking or commenting on posts (Cheung et al., 2020; Jamil et al., 2022; Yadav & Rahman, 2017).

Scholars now seek to understand a deeper relationship between marketing posts and how they shape purchase intent. There is added focus on underlying mechanisms. For example, researchers study how social media content, influencer credibility, electronic word of mouth, and viral marketing can shape purchase intent (An et al., 2025; Dwivedi et al., 2021; Lou & Yuan, 2019). However, these mechanisms may not work equally well for all consumers (De Veirman et al., 2017; Hudders et al., 2021). Brands must be careful when choosing a particular mechanism. Consumers process these signals differently, depending on their motivations and context. For instance, using an inauthentic influencer may work against a brand.

Based on the Elaborative Likelihood Model (ELM; Petty & Cacioppo, 1986), there is a distinction between central and peripheral persuasion mechanisms. This study tests five predictors together in a single model: brand awareness, engagement, influencer marketing, social media content, and viral marketing. Brand awareness and social media content operate through the central route. They rely on information quality, credibility, and thoughtful evaluation of product claims. Influencer and viral marketing use the peripheral route. These strategies draw strength from relationship cues, such as how popular the influencer is, peer validation of posts, or how networks are connected. The engagement construct adopts a hybrid position. A user is cognitively engaged but also follows the peripheral route. It is interesting to note how these predictors work within a single model to predict purchase intent. This approach allows us to test which mechanism carries more weight for the university student sample.

Cosmetic brands use Instagram to attract university students. These students actively use the platform, frequently make online purchases, are influenced by peers, and are mindful of their image. Nevertheless, fewer studies have been conducted in Pakistan than in the West. This study fills the gap, as cultural values, consumer skepticism toward cosmetic brands, and platform use differ in Pakistan. This study will make three contributions. First, it tests a multi-predictor model in an emerging-market context with limited prior research. Second, it allows for comparison between two important marketing strategies adopted by cosmetic companies: influencer marketing and viral marketing. Both of these strategies operate through the peripheral route. It remains to be seen which one dominates within a single model. Third, it provides practical guidance for cosmetic companies on the

importance of different strategies for developing purchase intentions among university students in Pakistan.

## **2. Literature Review and Hypotheses Development**

### **2.1. Theoretical Framework**

#### **2.2.1. The Elaboration Likelihood Model**

This study uses the Elaboration Likelihood Model (ELM: Petty & Cacioppo, 1986) to explain how users develop purchase intentions. The ELM postulates that individuals process communication through two routes: central and peripheral. The central route requires more cognitive effort, such as evaluating advertised content, arguments, and information quality. The peripheral route uses supportive cues, like attractiveness, emotional appeal, popularity among peers, and peers' validation, which require less cognitive processing.

Instagram marketing activates both routes in the cosmetic industry. When a consumer evaluates or compares two products by reading their content, watching the application tutorial, or investigating claims, they adopt the central route. When a consumer follows trends, is impressed by influencers, accepts viral content as social proof, or makes comments, they are engaged in the peripheral route. ELM thus explains and provides a theoretical basis for predicting the persuasion routes of Instagram marketing. It also explains the different effectiveness content may have, depending on the customers' motivation and ability to elaborate.

However, engagement holds a hybrid position. Engagement involves both cognitive and peripheral routes: when users actively consider a product's information, it reflects cognitive engagement, whereas simply observing and responding to aggregate engagement metrics (such as likes, comments, etc.) represents peripheral engagement.

#### **2.2.2. Instagram Marketing and Purchase Intention**

Instagram is an interactive platform, unlike traditional advertising, that encourages two-way interaction: users not only receive content but also actively communicate by liking, commenting, sharing, and responding to stories, reels, and influencer posts. This reciprocal engagement differentiates Instagram from older marketing channels (Voorveld et al., 2018; Yadav & Rahman, 2017).

Several dimensions evaluate the effectiveness of social media marketing. These include informativeness, entertainment, interactivity, trend alignment, customization, and electronic word of mouth (Seo & Park, 2018; Yadav & Rahman, 2017). These facets enhance consumers' brand knowledge and engagement. They also help develop purchase intention (Cheung et al., 2020; Jamil et al., 2022). When evaluating cosmetic marketing, research shows that social media signals impact perceived quality, trust, and consumers' buying decisions (An et al., 2025; Hossain et al., 2025; Ngo et al., 2025).

Consumers' intent or commitment to buy a product reflects purchase intention. Scholars have studied many elements that can influence this, including the extent of information available, trust in a brand or familiarity with it, electronic word of mouth, and ease of purchase (Alalwan, 2018; Erkan & Evans, 2016). Instagram offers many features that can help cosmetic brands shape user perception, such as tutorials, reviews, and user-generated content.

### 2.2.3. Brand Awareness and Purchase Intention

Consumers recognize or recall a product when they are aware of its brand, using this as a shortcut to develop purchase intent when they cannot try a product online. A well-known brand feels safer and more reliable than an unknown brand, so established brands more easily foster purchase intention. Brand awareness, supported by ELM's central route, fills the information gap caused by the lack of direct product testing.

Instagram marketing builds brand awareness through repeated exposure, a consistent visual identity, and influencer involvement (Dabbous & Barakat, 2020; Godey et al., 2016; Seo & Park, 2018). Brand awareness is associated with brand recognition, equity, and positive consumer responses (Kim & Ko, 2012; Zollo et al., 2020). This is crucial for cosmetic brands because the stakes for consumers, especially students, are personal. Cosmetic products impact personal appearance and social meaning. Unfamiliar brands struggle to shape perceptions—not because of quality, but due to lack of familiarity, which may send a negative signal. Brand awareness encourages a positive attitude toward purchase and boosts consumer confidence.

**H1: Brand awareness positively influences students' online purchase intention toward cosmetic brands**

### 2.2.4. Social Media Content Quality and Purchase Intention

Social media content quality goes beyond high-definition visuals. It also depends on the richness and usefulness of the information in an Instagram post (Alalwan, 2018; Dabbous & Barakat, 2020). Drawing on the elaboration likelihood model (ELM), specifically its central route, social media content gives users valuable details, such as a product's benefits, how to use it, and its features. For cosmetic products, this includes showing different shades in natural light, listing ingredients, and making product comparisons. These decision-making details matter more than aesthetics.

High-quality social media content increases awareness and purchase intention (Dabbous & Barakat, 2020). When content combines information with personalization, engagement strengthens (Cheung et al., 2020), which promotes purchase intention and action. Content is a major predictor of purchase intention (Alalwan, 2018) because it helps fill the gap for consumers who cannot test products in person. In this sense, content serves as a virtual test unit, letting users evaluate products through the information provided.

**H2: The influence of social media content positively affects students' online purchase intention toward cosmetic brands**

### 2.2.5. Viral Marketing and Purchase Intention

Social media offer users the opportunity to share or repost content they like, creating a snowballing effect that can make content viral (Berger & Milkman, 2012; Dobeles et al., 2007). For instance, Instagram facilitates virality through Reels, trending challenges, and user-generated content that effectively convey the brand message. Viral marketing adopts ELM's peripheral route of persuasion. It does not require explicit examination of the content; it wins people's hearts over cogent reasoning. Importantly, it depends on peer validation and the urgency of the trend, both of which increase potential purchase intent.

Viral marketing is different from influencer marketing. While people in influencer marketing are famous celebrities, people in viral marketing are unknown peers who are not paid to promote the product. This shift from celebrity to peer endorsement is important, as when thousands of people agree on the specific benefits or uses of a product, especially a

cosmetic product, it creates credibility, influence, and social presence that can drive purchase intention (Chu & Kim, 2011; Erkan & Evans, 2016). In other words, virality creates a norm acceptable to everyone.

This difference in influence is especially pronounced among university students, where peer group conformity is a norm that is actively monitored. Here, the real currency is virality or a trend that students follow. As a result, a product used and shared by many carries more weight than an influencer they have never met in person. Thus, viral content may outperform both influencer appearances and brand-initiated posts in developing purchase intention.

**H3: Viral marketing positively influences students' online purchase intention toward cosmetic brands.**

**2.2.6. Influencer Marketing and Purchase Intention**

Brands often involve social media personalities, the influencers, who have their own follower base, to promote their products through reviews, demonstrations, and tutorials, so that the sponsored posts appear like a personal recommendation (Hudders et al., 2021; Vrontis et al., 2021). This persuasion mechanism uses the ELM peripheral route, in which consumers do not evaluate the content but are attracted to the influencer's popularity and identify with them (Ki & Kim, 2019; Lou & Yuan, 2019; Sokolova & Kefi, 2020).

Influencer marketing depends heavily on whether the influencer appears authentic, on whether the brand-influencer pairing makes intuitive sense, and on whether consumers have not grown tired of the sheer volume of sponsored content flooding their social media feeds, making this marketing style very fragile. If these conditions exist for a particular post, skepticism grows and persuasion effects decline (De Veirman et al., 2017; Hudders et al., 2021; Leung et al., 2022). University students are less influenced by influencer marketing, making them a tough audience to reach. Because they are digitally savvy, university students can discern authenticity from paid promotions and dislike brands that overuse influencer marketing.

**H4: Influencer marketing positively influences students' online purchase intention toward cosmetic brands**

**2.2.7. Engagement and Purchase Intention**

Engagement encompasses a wide spectrum of cognitive and affective involvement, depending on why the person interacted in the first place (Cheung et al., 2020; Voorveld et al., 2018). The involvement includes many activities, such as liking a post, saving a tutorial, or commenting on the content. From a theoretical ELM perspective, it involves both central and peripheral routes. When a consumer hunts for information in the comment section and engages cognitively as they read, they are adopting a central path. On the other hand, when a consumer likes a post by tapping a heart insignia because the reel was aesthetically pleasing, they are adopting a peripheral route.

Since engagement takes both routes, it complicates the prediction of purchase intention. Consumers' hedonic scrolling resembles purchase-motivated browsing, making engagement-related data difficult to interpret. This is why this construct is included in the current model, because its direct effect on purchase intention may shrink to insignificance in the presence of other strong predictors competing for variance.

**H5: Engagement positively influences students' online purchase intention toward cosmetic brands.**

### 3. Methodology

#### 3.1. Research Design

For this explanatory research, we have adopted a quantitative cross-sectional design to examine the relationship between five Instagram marketing predictors and purchase intention. The design is appropriate because it assesses the relative predictive power of multiple factors simultaneously and is a widely accepted approach in social media marketing and consumer behavior research (Alalwan, 2018; Bell et al., 2022; Jamil et al., 2022)

#### 3.2. Population and Sampling

We purposively collected data from private university students in Karachi enrolled in a business program. The sample selection is appropriate because the students in this category use Instagram extensively and are subjected to virality, influencer marketing, and digital brand messaging (Chen, 2018; Djafarova & Rushworth, 2017). They also represent an important segment for cosmetic brands. Two screening questions were included: whether the respondent was a business university student and whether they had prior online shopping experience. Of 230 initial responses, 207 met the criteria and were retained for analysis (Etikan et al., 2016). However, the study acknowledges that purposive sampling limits generalizability.

#### 3.3. Sample Size

The sample size ( $n = 207$ ) exceeds the 138 responses required by the G\*Power a priori power analysis for a five-predictor multiple regression with a medium effect size, 5% significance, and 95% power (Faul et al., 2009). Thus, the study provides adequate statistical power for the analyses.

#### 3.4. Measures

A structured questionnaire was designed, incorporating items from established scales used in prior social media marketing and consumer behavior studies. Table 1 presents the list for all six scales and their items, along with their sources. Each construct was measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). We calculated composite scores to tap a single underlying construct (Hair et al., 2019).

**Table.1. Scale Items by Construct**

Construct	Item Text	Conceptual Source
Brand Awareness	Cosmetics brand awareness is easier to achieve through social media.	Yadav and Rahman (2017); Godey et al. (2016)
	Cosmetic brands I see on social media are easier to remember.	
	Social media ads increase my awareness of cosmetic brands.	
	I recognize cosmetic brands more quickly because of their social media presence.	

Construct	Item Text	Conceptual Source
Social Media Content	Social media content makes it easier to compare different cosmetic brands. Social media content is more useful than traditional advertising (e.g., TV, newspapers). I avoid cosmetic brands with uninteresting social media content. Cosmetic brand's social media content inspires me to make a buying decision.	Cheung et al. (2020); Dabbous and Barakat (2020)
Viral Marketing	Viral marketing messages about cosmetic brands provide valuable information. I find viral marketing content related to cosmetic brands to be entertaining. I trust the source of viral marketing messages about cosmetic brands. After viewing viral marketing content, I am more likely to purchase a cosmetic product.	Erkan and Evans (2016); Berger and Milkman (2012)
Influencer Marketing	I follow influencers specifically to learn about new cosmetic brands or products. Ads promoted by influencers on a cosmetic brand's social media are interesting to me. The influencer marketing for cosmetic brands is trustworthy. Influencer marketing is a reliable approach for promoting cosmetic brands.	Lou and Yuan (2019); Sokolova and Kefi (2020)
Engagement	I get engaged through social media in cosmetic brand activities. I feel positive about cosmetic brands that actively respond to comments/messages. I enjoy discussing topics with other users on a cosmetic brand's social media page. The expression of opinions is easy on social media of cosmetic brands.	Cheung et al. (2020); Voorveld et al. (2018)
Purchase Intention	I make better purchasing decisions after using a brand's social media. Using social media increases my interest in buying cosmetic products. I have purchased a product solely because it went viral on social media. I prefer buying from cosmetic brands that maintain active social media marketing over those that do not.	Alalwan (2018); Erkan and Evans (2016)

**Source: Author's own elaboration**

### 3.5. Common Method Bias

The procedural measures were implemented to address common method bias that may arise when data are collected from respondents via a single survey (Podsakoff et al., 2013). First, we maintained anonymity by not collecting respondents' identity information. Second, we placed the predictor and outcome items in separate sections without labeling them. Third, we used clear and unambiguous questionnaire items. Fourth, we randomized item order. Fifth, we conducted Harman's single-factor statistical test, which showed that a single factor accounted for 31.4% of the total variance, well below the 50% threshold. This suggests that common method bias does not account for most of the variance and that the responses are valid measures. However, we acknowledge that the steps taken are not a definitive solution and are conservative.

### 3.6. Data Analysis Strategy

SPSS 27.0 was used for all analyses. Cronbach's alpha was computed to assess internal consistency. Descriptive statistics summarized respondent profiles and construct scores. Pearson correlations examined bivariate relationships. Multiple regression analysis was then used to test the unique contribution of each predictor to purchase intention, while holding the other four constant. Variance inflation factor values were checked to assess multicollinearity.

Using SPSS 27.0, we summarized the respondents' profiles and construct scores. Data was checked for missingness and multivariate outliers. Cronbach's Alpha was used to assess internal consistency. Multiple regression analysis tested the unique contribution of each predictor to purchase intention. Variance inflation factor (VIF) values were checked for multicollinearity.

## 4. Result and Discussion

### 4.1. Sample Profile

Table 2 shows the demographic breakdown. The sample was predominantly female (n = 62.5%), which is more representative, as cosmetics are primarily used by females in Pakistan. Age ranged from 19 to 31 years or older, with 32.4% in the 27-30 year age bracket. Most respondents were full-time working individuals (28.5 %), and made monthly online purchases (44.4%).

### 4.2. Reliability and Descriptive Statistics

Table 3 presents descriptive statistics and Alpha estimates. Alpha ranged from .708 (influencer marketing) to .816 (viral marketing), indicating acceptable internal consistency (Nunnally, 1978). The sample's mean score on various constructs ranged from 4.02 to 4.25, indicating a generally positive perception of Instagram-based cosmetic marketing among university students. Sample Profile

### 4.3. Correlational Analysis

The Pearson correlation matrix (Table 4) shows statistically significant positive correlations of all five predictors with purchase intention. Viral marketing ( $r = .590$ ) showed the strongest correlation, followed by social media content ( $r = .548$ ), influencer marketing ( $r = .478$ ), brand awareness ( $r = .456$ ), and engagement ( $r = .382$ ). Intercorrelations among predictors were positive and significant ( $r = .471$  to  $.736$ ). Although the correlation between viral marketing and social media content was notably high (.736), VIF values for all predictors ranged from 1.76 to 2.77, which is well within acceptable limits and indicates that multicollinearity is not a major concern in the regression model. We discussed the conceptual distinction further in the limitations.

**Table.2.Demographic Profile of Respondents**

Variable	Category	n	%
Gender	Female	135	65.2
	Male	72	34.8
Age	19 to 22 years	58	28.0
	23 to 26 years	58	28.0
	27 to 30 years	67	32.4
	31 years or older	24	11.6

Variable	Category	n	%
Primary source of income	Full-time job	59	28.5
	Parental/family support	54	26.1
	Part-time job	39	18.8
	Freelancing/side hustles	35	16.9
	Scholarships/grants	20	9.7
Monthly cosmetics spending	Less than Rs. 1,000	39	18.8
	Rs. 1,000 to Rs. 2,000	32	15.5
	Rs. 2,001 to Rs. 5,000	43	20.8
	Rs. 5,001 to Rs. 10,000	47	22.7
	Rs. 10,000 or above	46	22.2
Online shopping frequency	Daily	22	10.6
	Weekly	45	21.7
	Monthly	92	44.4
	Rarely	48	23.2

Note: N = 207.

Source: Author's own elaboration

**Table.3.Descriptive Statistics and Reliability Analysis**

Construct	Items	M	SD	$\alpha$
Brand awareness	4	4.25	0.73	.784
Social media content	4	4.15	0.78	.795
Viral marketing	4	4.07	0.84	.816
Influencer marketing	4	4.06	0.76	.708
Engagement	4	4.10	0.78	.756
Purchase intention	4	4.02	0.88	.799

Note: Responses measured on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree).  $\alpha$  = Cronbach's alpha. Higher scores indicate stronger agreement.

Source: Author's own elaboration

**Table.4.Correlations among Study Variables**

Variable	1	2	3	4	5	6
1. Brand awareness	-					
2. Social media content	.467**	-				
3. Viral marketing	.525**	.736**	-			
4. Influencer marketing	.471**	.541**	.638**	-		
5. Engagement	.607**	.490**	.522**	.645**	-	
6. Purchase intention	.456**	.548**	.590**	.478**	.328**	-

Note: \*\*p < .01. N = 207.

Source: Author's own elaboration

#### 4.4. Multiple Regression Analysis

Multiple regression analysis was conducted with all five predictors entered simultaneously. The overall model was statistically significant [Table 5:  $F(5, 201) = 27.75, p < .00$ ] and explained 40.8% of the variance in purchase intention ( $R^2 = .408, \text{adjusted } R^2 = .394$ ).

Among the five predictors, three constructs were identified as the most significant predictors of purchase intentions. Viral marketing was the strongest predictor ( $\beta = .286, p = .002$ ). It was followed by social media content ( $\beta = .210, p = .011$ ) and brand awareness ( $\beta = .187, p = .010$ ). Influencer marketing showed a positive but non-significant effect ( $\beta = .144, p = .074$ ). Engagement ( $\beta = -.077, p = .339$ ) was not statistically significant. The results suggest that, in the presence of brand awareness, social media content, and viral marketing, engagement may actually suppress consumers' purchase intentions. This is contrary to the general perception that brands treat likes and comments as reliable indicators of commercial activity.

**Table.5. Multiple Regression Analysis Predicting Online Purchase Intention**

Predictor	B	SE	$\beta$	t	p	95% CI
Brand awareness	.224	.086	.187	2.597	.010	[.054, .393]
Social media content	.237	.092	.210	2.570	.011	[.055, .419]
Viral marketing	.299	.094	.286	3.164	.002	[.113, .485]
Influencer marketing	.167	.093	.144	1.794	.074	[-.016, .350]
Engagement	-.087	.090	-.077	-0.959	.339	[-.264, .091]

Note:  $N = 207$ .  $R = .639$ ,  $R^2 = .408$ ,  $Adjusted R^2 = .394$ ,  $F(5, 201) = 27.75$ ,  $p < .001$ . Dependent variable = purchase intention.  $\beta$  = standardized regression coefficient. CI = confidence interval.

Source: Author's own elaboration

#### 4.5. Hypotheses Summary

Table 6 summarizes the Hypotheses 'results. Of the five hypotheses, only three are supported. Brand Awareness (H1), social media content (H2), and viral marketing (H3) significantly predicted purchase intention. However, influencer marketing and engagement did not reach significance in the current model.

**Table.6. Summary of Hypotheses Testing**

Hypothesis	Predicted Relationship	$\beta$	p	Result
H1	Brand awareness → Purchase intention	.187	.010	Supported
H2	Social media content → Purchase intention	.210	.011	Supported
H3	Viral marketing → Purchase intention	.286	.002	Supported
H4	Influencer marketing → Purchase intention	.144	.074	Not Supported
H5	Engagement → Purchase intention	-.077	.339	Not Supported

Note: Hypotheses evaluated at  $p < .05$  significance threshold.

Source: Author's own elaboration

## 5. Discussion

Social media platforms serve as primary channels for organizations to communicate with customers, leveraging each platform's unique features and advantages. Cosmetic companies particularly favor Instagram due to its marketing tools that facilitate product promotion and foster purchase intent among users. Guided by the Elaboration Likelihood Model, this study investigates how five Instagram marketing factors predict purchase intentions among business university students in Karachi. The results indicate that only three predictors—viral marketing, social media content, and brand awareness—are statistically significant. In contrast, influencer marketing and engagement do not demonstrate statistical significance. The following discussion addresses the theoretical and practical implications of these findings.

### 5.1. The Dominance of Viral Marketing

Viral marketing emerged as the strongest predictor in the current model ( $\beta = .286$ ). According to the Elaboration Likelihood Model (ELM) (Petty & Cacioppo, 1986), viral marketing operates through the peripheral route and demonstrates that other marketing signals are less effective when considered simultaneously within a single model. When individuals share, participate in challenges, or follow trends related to a specific cosmetic post, these actions function as automatic endorsements that do not require extensive cognitive evaluation. The widespread engagement by many users serves as a persuasive cue, encouraging further endorsement within personal networks and thereby facilitating the product's virality.

These findings are consistent with electronic word-of-mouth research, which indicates that information disseminated by peers enhances credibility and provides social validation

(Chu & Kim, 2011; Erkan & Evans, 2016), thereby fostering purchase intent. Notably, when marketing content increases emotional valence (Berger & Milkman, 2012), posts tend to spread more rapidly and extensively. Posts featuring beauty transformations, product reveals, and application challenges within the cosmetic industry exhibit these characteristics. Such posts are visually engaging, easily shareable, and each share serves as an implicit endorsement, contributing to their virality.

A significant finding is that viral marketing outperformed influencer marketing. Although both strategies utilize the peripheral route of the ELM and do not require consumers to engage in cognitive evaluation, they differ structurally. Viral marketing involves voluntary peer endorsement by a large number of individuals, while influencer marketing is inherently linked to brand-driven endorsement. Existing research demonstrates that single-source peripheral cues are more susceptible to authenticity skepticism compared to voluntary peer endorsement (De Veirman et al., 2017; Hudders et al., 2021). This distinction contributes meaningfully to the literature on competing persuasive mechanisms.

## 5.2. Social Media Content and Brand Awareness

Social media content quality emerged as the second significant predictor ( $\beta = .210$ ). According to the Elaboration Likelihood Model (ELM) (Petty & Cacioppo, 1986), clear and informative content reduces uncertainty by engaging consumers through the central route. Furthermore, informative and engaging content enhances brand knowledge and increases the likelihood of purchase (Dabbous & Barakat, 2020; Cheung et al., 2020). For cosmetic companies, providing accurate and detailed information is crucial, as product use directly impacts consumers' skin and appearance. Consumers seek information not only about colors, shades, and textures, but also about expected results. In this context, consumers cognitively evaluate the information provided, which influences their purchase intentions.

Brand awareness constituted the third significant predictor ( $\beta = .187$ ). Through the central route of the Elaboration Likelihood Model (Petty & Cacioppo, 1986), familiarity with a brand increases consumer confidence, reduces perceived risk, and enhances purchase intent (Godey et al., 2016; Zollo et al., 2020). Consumers tend to be cautious regarding unfamiliar brands, as negative purchase outcomes can have direct and visible consequences. Conversely, familiarity with a brand reduces perceived risk and increases purchase confidence.

## 5.3. Non-significant Findings: Influencer Marketing and Engagement

Influencer marketing produced a non-significant result ( $\beta = .144$ ,  $p = .074$ ), representing a theoretically notable outcome in the present study. Although the bivariate correlation with purchase intention was substantial ( $r = .478$ ), this effect was not retained in the regression model. These findings indicate that the variance attributed to influencer marketing is largely accounted for by other predictors, such as viral marketing. From a practical perspective, the data imply that influencer marketing's effectiveness is primarily due to the content and shareability of posts, rather than the influencer-consumer relationship itself. Another explanation for the lack of significance is influencer fatigue, defined as the audience's sense of exhaustion, skepticism, or disengagement resulting from excessive exposure to commercial or inauthentic influencer content. Prior research demonstrates that influencer marketing can diminish the persuasive impact of sponsorship and commercial intent on consumer perceptions (De Veirman et al., 2017; Hudders et al., 2021; Leung et

al., 2022). Consumers are more likely to purchase a product when they feel a personal connection to it or perceive the influencer as credible (Sokolova & Kefi, 2020). In the absence of these conditions, influencer content may generate engagement without fostering genuine purchase interest.

Engagement was also found to be non-significant ( $\beta = -.077$ ,  $p = .339$ ) in this study, providing further insight. Engagement metrics, which typically include likes, comments, shares, and bookmarks, reflect user interaction with online content. However, these metrics do not necessarily correspond to purchase intentions, as users may engage with content for reasons such as alleviating boredom, seeking entertainment, or enhancing social visibility. The transition from engagement to actual purchase is influenced by additional factors, including trust, the strength of the brand relationship, and satisfaction with previous purchases (Jamil et al., 2022; Voorveld et al., 2018). Therefore, while engagement may be necessary for increasing brand visibility, it alone is insufficient to drive purchase intention.

The two non-significant results do not undermine the study; instead, they offer a meaningful contribution. The observation that influencer marketing and engagement do not achieve statistical significance in the presence of viral marketing challenges the assumption that these factors are primary predictors of purchase intent. This finding calls into question the practice of cosmetic companies hiring influencers without considering the influencer's authenticity or the nature of the paid relationship. Furthermore, the results indicate that actual purchases are influenced less by engagement metrics and more by the extent to which content is shared within peer networks.

## 6. Conclusion

This study evaluated five distinct Instagram marketing strategies to assess their impact on purchase intent among business university students in Karachi, Pakistan. Viral marketing emerged as the strongest predictor, followed by social media content and brand awareness. In contrast, influencer marketing and engagement metrics did not demonstrate a significant effect on purchase intent. The findings indicate that peer-driven content, such as viral marketing, is more persuasive than other strategies, although brands lack direct control over its dissemination. These results underscore the importance for cosmetic brands to carefully evaluate content prior to posting, as virality can influence brand perception both positively and negatively. Investing in an understanding of the types of content students are likely to share positively within their networks may yield benefits for cosmetic brands. Furthermore, the study challenges the prevailing assumption that influencer marketing and engagement metrics are reliable indicators for increasing or estimating user purchase intent. The present findings contribute to the expanding body of evidence on social media marketing in Pakistan and highlight the necessity for nuanced research on consumer behavior in digital markets.

### 6.1. Theoretical Implications

This study offers two theoretical contributions. First, it extends research on the Elaboration Likelihood Model (ELM) of persuasion within social media contexts. The findings indicate that viral marketing, which employs the peripheral route, can outperform marketing strategies utilizing the central route when both routes are present in a single context. Previous ELM studies have typically treated these routes as sequential or separate. The present study suggests that both routes can operate simultaneously, with the peripheral route prevailing among individuals who are more adept at using digitized products, such as university students.

Second, this study contributes to the expanding literature on influencer marketing effectiveness. The results demonstrate that influencer marketing is not inherently effective on social media, particularly when the target audience is digitally savvy. The findings assert that influencer marketing effectiveness is contingent upon additional factors, including influencer-audience fit, the influencer's authenticity, and the extent of commercial disclosure. Future research should examine these moderating conditions.

## **6.2. Practical Implications**

This study provides actionable recommendations for cosmetic brands seeking to engage university students on Instagram. Brands are encouraged to create viral content that is easily shareable, such as reels, beauty challenges, before-and-after product demonstrations, and peer tagging. Emphasizing student culture is essential, as university students have distinct lifestyles and preferences compared to the general user base. Developing specialized products tailored to students, which they are likely to share within their peer networks, may further enhance engagement.

Brands should prioritize concise content delivery to efficiently build students' confidence. This objective can be met through product demonstrations, ingredient explanations, and tutorials tailored to various skin types. Such content reduces purchase uncertainty and increases the likelihood of product adoption among students.

Sustained efforts to enhance brand recognition are particularly important for local brands. Maintaining a consistent visual identity across Instagram posts fosters positive brand associations and can increase future purchase intentions.

Companies should carefully assess influencer marketing strategies. Rather than relying on high-profile celebrities, brands are advised to collaborate with micro-influencers who maintain authentic relationships with student communities and are likely to be more effective. Emphasis should be placed on authenticity, unscripted content, and ensuring a strong alignment between the influencer and the product.

Brands are advised not to rely solely on traditional engagement metrics to assess purchase intent. Alternative indicators, including saved posts, direct message inquiries, and discount code usage, provide more accurate measures of purchase intent.

## **6.3. Limitations and Future Research**

Although this study yielded meaningful results, several limitations remain. Purposive sampling was used to recruit business university students, which aligned with the research question but restricted generalizability. Employing probability sampling and testing the model with a broader population would enhance external validity.

The cross-sectional design employed in this study allows for the identification of associations but does not establish causality. Future research should utilize longitudinal or experimental designs to examine the effects of various Instagram marketing strategies on purchase intent.

While common method bias was partially addressed, it was not entirely eliminated. Incorporating multi-source data and behavioral measures, such as actual purchase records, could further mitigate this bias.

A high correlation between viral marketing and social media content ( $r = .763$ ) was observed, which is not fully explained. This may indicate shared variance between constructs or participant difficulty in distinguishing between items. Future studies should investigate whether content quality serves as a causal antecedent of virality using alternative research designs.

This study examined only direct effects and did not include potential mediators. Influencer marketing and engagement may exert indirect effects on purchase intent. Future research should incorporate mediators such as brand trust or electronic word of mouth to provide a more comprehensive understanding.

Finally, this study focused exclusively on Instagram as the social media platform. Future research should examine additional platforms, such as Facebook, TikTok, and Pinterest, to validate the current findings and extend the model to new contexts.

### Author Contributions

The first author conceptualized, modeled, wrote, and edited the manuscript. The second and third authors conceptualized, modeled, and conducted the statistical analysis. The three individual contributors collected data, proofread, and formatted the document.

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### Conflicts of Interest

No conflict of interest

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