

From Follower to Consumer: Analyzing How Internet Celebrity Attributes Shape Brand Attitudes and Purchase Intentions across Different Socio-Economic Strata

Muhammad Asim Ali Khan¹, Hammad Zafar², Sheikh Muhammad Fakhar E Alam Siddiqui³

¹Karachi University Business School, University of Karachi, Pakistan,
ORCID: <https://orcid.org/0009-0008-7511-5888>, Email: asim.ali.khan@live.com

²Karachi University Business School, University of Karachi, Pakistan,
ORCID: <https://orcid.org/0009-0000-1067-1439>, Email: hammad.zafar@uok.edu.pk

³Assistant Professor, Karachi University Business School, University of Karachi, Pakistan,
ORCID: <https://orcid.org/0009-0000-1073-5623>, Email: fakhrealam@uok.edu.pk

Abstract

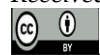
The rapid expansion of the online influencer economy has transformed digital marketing by creating new opportunities to influence consumer purchasing behavior, particularly in emerging markets such as Pakistan. This study investigates the impact of Internet celebrity attributes on consumers' purchase intention by integrating the Stimulus-Organism-Response (S-O-R) framework and Persuasion Theory. A cross-sectional quantitative research design was employed, and data were collected from 400 Pakistani digital consumers. The proposed model was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS. The findings reveal that four Internet celebrity attributes professionalism, credibility, interactivity, and attractiveness positively and significantly influence consumers' attitudes toward endorsed brands, with attractiveness emerging as the strongest predictor. Brand attitude was found to fully mediate the relationship between celebrity attributes and purchase intention, confirming its central role in the persuasion process. Furthermore, digital literacy significantly moderated the relationship between brand attitude and purchase intention, indicating that consumers with higher digital literacy respond more effectively to influencer marketing. However, perceived risk did not significantly moderate purchase intention, likely due to the widespread acceptance of Cash on Delivery (COD) in Pakistan. The study contributes to theory by validating the applicability of persuasion theories within an emerging digital economy and provides practical implications for digital marketers regarding influencer selection and strategies to enhance consumers' digital literacy for more effective marketing outcomes.

Keywords: Internet Celebrity Attributes, Purchase Intention, Brand Attitude, Digital Literacy, Perceived Risk, Influencer Marketing, PLS-SEM, Cash on Delivery, S-O-R Framework, Pakistani E-commerce.

Introduction

“The past decade has borne witness to a shift in the marketing landscape from traditional, firm-generated mass communication to distributed social commerce” (Alalwan, 2018). Influencer marketing through live-streaming has become a priority for firms worldwide (B. Tian et al.,

Received 13 March 2026; Revised 05 April 2026; Accepted 11 April 2026; Published (online) 19 April 2026



Attribution 4.0 International ([CC BY 4.0](https://creativecommons.org/licenses/by/4.0/))

Corresponding Author Email: asim.ali.khan@live.com

DOI: <https://doi.org/10.69671/socialprism.3.2.2026.141>

2023). For example, reports indicate that more than 60% of North American retailers already utilize influencers for their campaigns (eMarketer, 2019). Similarly, the live-streaming selling activity has turned into an important retail channel in both Chinese and Asian markets due to the tremendous number of internet users (C. Liu et al., 2020). In fact, at the center of this development are the so-called “internet celebrities” who have acquired extraordinary popularity and social capital in terms of having millions of followers on various online platforms (Schouten, Janssen, & Verspaget, 2020). Notably, internet celebrities represent a significant change from traditional media celebrities in that they engage their audiences in a two-way parasocial interaction by being more authentic and entertaining (Djafarova & Rushworth, 2017).

Problem Statement

Although a substantial volume of research has been devoted to influencer marketing in recent years, little is known about how specific traits of internet celebrities affect purchase intentions among emerging digital markets. Other than affecting customers’ attitudes toward the brand, influencers also have a tremendous ability to stimulate the customer’s buying behavior during the live stream (Ma, 2021; C. Liu et al., 2020). Sales volume data from multiple modern live streams corroborate this point, illustrating millions of sales made after the influencer’s call during the live stream (Ma, 2021; Taillon et al., 2020). Given the appearance of such influencers and the massive sales volumes during the live stream, several crucial marketing-related questions arise for the marketing managers, brand managers, and scholars (Ma, 2021).

Research Gap Analysis

A comprehensive review of the literature on social commerce, influencer marketing, and consumer psychology reveals several important research gaps that this study addresses. First, most previous studies have been conducted in developed economies where e-commerce infrastructure and digital payment systems are well established, limiting the generalizability of findings to emerging markets such as Pakistan, where Cash on Delivery (COD) remains the dominant transaction method and consumer behavior differs significantly. Second, although the Stimulus-Organism-Response (S-O-R) framework has been widely applied to explain the influence of Internet celebrity attributes on brand attitude and purchase intention, limited research has integrated persuasion theories with technology-related constructs to explain consumer behavior in emerging digital economies. By incorporating Digital Literacy and Perceived Risk from the Technology Acceptance Model (TAM), this study extends the theoretical boundary of the S-O-R framework and examines how technological competencies and perceived uncertainties shape persuasive outcomes. Third, prior research provides inconsistent evidence regarding the relative importance of Internet celebrity attributes, particularly Attractiveness and Professionalism, in influencing consumer purchase intentions within mobile-first social media environments such as Instagram and TikTok. Therefore, this study compares the effects of these attributes in the Pakistani context, offering both theoretical advancement and practical insights into influencer marketing in emerging digital economies.

Research Objectives

Finding the variables impacting online customer behavior in the Pakistani influencer economy is the main goal of the current study. Thus, the research objectives can be defined as follows:

1. To evaluate how Internet celebrities' professionalism, credibility, attractiveness, and interactivity affect consumers' attitudes about brands (Zhao et al., 2024).
2. To ascertain how Customer Attitude Toward Brand directly affects Consumer Purchase Intention (Zhao et al., 2024).
3. To assess how, in the Pakistani context, digital literacy influences the relationship between consumer purchase intention and attitude toward a brand.
4. To assess how Perceived Risk influences the link between Customer Attitude Toward Brand and Consumer Purchase Intention.

Research Questions

In alignment with the stated objectives, this research seeks to answer the following fundamental questions based heavily on persuasion theory principles:

1. To what extent do specific Internet Celebrity Attributes (Professionalism, Credibility, Interactivity, and Attractiveness) affect consumers' attitudes toward endorsed brands in Pakistan?
2. How significantly does a positive Customer Attitude Toward Brand achieve the goals of traditional brand building, and thereby influence actual Consumer Purchase Intention?
3. In what ways does a consumer's level of Digital Literacy moderate the transition from possessing a positive brand attitude to executing an online purchase intention?
4. In what ways does the local e-commerce ecosystem's perceived risk influence the correlation between consumer purchase intention and customer attitude toward a brand?

Literature Review

This chapter reviews the relevant literature and research studies concerning the key aspects of influencer marketing, which have been considered for this study's conceptual framework. The chapter focuses on understanding the underlying theories about consumer behavior tendencies towards online commerce, wherein internet celebrities play a significant role as opinion leaders encouraging informational social influence among consumers (Gnambs & Batinić, 2013; Ouvrein et al., 2021). The chapter also highlights the independent variables, including the four key dimensions of internet celebrities identified in the literature (F. Liu et al., 2020). Besides the independent variables, the chapter examines the mediating function of Customer Attitude Toward the Brand as put out by Bartsch et al. (2016) and Mitchell & Olson (1981). The chapter also considers the moderating constraints of Digital Literacy and Perceived Risk in developing the theoretical model. Thus, the chapter provides the rationale for developing the conceptual framework and the hypotheses that will be tested in this study.

Theoretical Framework

Persuasion Theory

To investigate the ways internet influencers could affect the consumers' purchasing behaviors in the context of the persuasion theory, it is critical to understand what persuasion in marketing and psychology refers to. According to (Dotson and Hyatt, 2000), persuasion is "an attempt to cause a change in attitude or a change in intended or overt behavior toward some object or toward

some purpose.” In the context of influencer marketing, it means that the influencers attempt to persuade their audiences’ attitudes and behaviors toward a specific product, service, or company, increasing the likelihood that the target population would buy the suggested item. Persuasion theory explains the phenomenon of influencer marketing perfectly because the influencers’ characteristics impact the way their audiences perceive the promoted products and services (Masuda et al., 2022).

Professionalism

Professionalism is defined in the academic literature as the extent to which information provided by a given source is correct, accurate, and highly reliable to the receiver (Bristor, 1990). Professionalism in the context of livestreaming commerce is demonstrated by the influencer's level of expertise about the promoted products and their practical experience (Racherla & Friske, 2012). At the same time, it has been established that this quality is directly linked to an individual's overall social influence in a specific community or network (Treadway et al., 2011).

Credibility

While professionalism primarily focuses on technical competence, credibility is a psychological concept that emphasizes trust. Credibility is defined as the level of confidence that the communicator's message is completely objective and free of self-interest on the part of the sender of information (Goldsmith et al., 2000). Indeed, if Internet influencers' customers perceive them as highly credible sources, this means that these people have a significantly high level of integrity, belief, and honest knowledge of a particular topic (Erdogan, 1999). Conversely, credibility is an empirical evaluation of the degree of reliability of a specific communicative information source (Sparkman & Locander, 1980).

Interactivity

Interactivity, within the context of a live-stream show, is deemed as the extent to which bi-directional communication between the web influencer and the audience, be it online or offline, takes place (L. Wang et al., 2021). In contrast to a one-way reading experience offered by any traditional e-commerce site, a live-stream viewing experience seamlessly enables continuous information exchange, which in turn elevates the sense of social presence of the audience (Zhao et al., 2024).

Attractiveness

The physical and personal attractiveness of the influencer has traditionally been recognized as the most crucial factor in conducting a highly successful product endorsement campaign (Carroll, 2008). Attractiveness in the context of live streaming services may be defined as the ability of the internet influencer to attract customers to view, pay continuous attention to, and follow him or her while watching the live performance due to their physical appearance, body image, personal charisma, talent, and skills (L. Wang et al., 2021).

Customer Attitude Toward Brand

The attitude towards the brand is generally recognized as one of the key concepts in marketing literature and has been studied extensively in the scientific community. According to Mitchell &

Olson (1981), attitude toward the brand is a psychological phenomenon that reflects a person's global and relatively enduring evaluation of the brand. In consumer behavior research and behavioral psychology, a customer's attitude toward the brand is believed to be one of the most important predictors of their behavior towards the brand, namely, their intention to purchase (Bartsch et al., 2016).

Hypotheses Series 1: Influencer Attributes and Brand Attitude

H1a: Customers' perceptions of the brand are positively impacted by live-stream influencers' professionalism (Zhao et al., 2024).

H1b: Consumer perception of the brand is positively impacted by live-stream influencers' credibility (Zhao et al., 2024).

H1c: Customers' perceptions of the brand are positively impacted by live-stream influencers' interaction (Zhao et al., 2024).

H1d: Customers' perceptions of the brand are positively impacted by live-stream influencers' attractiveness (Zhao et al., 2024).

Consumer Purchase Intention

According to Moslehpour et al. (2021) and Zheng (2021), e-commerce marketing and contemporary psychology continue to focus heavily on the rigorous academic study of online client purchase intention. Purchase intention has been defined as a key independent variable that determines the degree of a consumer's willingness to perform an item-specified response (Ajzen, 1991; Ullah et al., 2025). From researchers' perspective, measuring purchase intention actively assists in obtaining a precise description of the target population compared to analyzing actual buying behavior, which can be affected by several external factors beyond a researcher's control (Day, 1976; Ullah et al., 2025).

The Mediating Function of Consumer Perception of a Brand

Although Internet influencers have the critical success conditions needed to quickly boost sales, it usually takes a long psychological process to move from an inactive viewer to a paying customer; therefore, a powerful psychological bridge is needed. A customer's extremely positive attitude toward a particular brand will significantly increase their overall level of engagement with that brand (Zhao et al., 2024). When the general level of a customer's involvement with the brand is extremely high, their basic understanding of brand attributes will explode rapidly (Zhao et al., 2024). As a consequence, they will begin to actively use the obtained brand information to address their own concerns and formulate the purchasing criteria during the live stream (Zhao et al., 2024). Therefore, their purchasing desire will be greatly and substantially enhanced (Zhao et al., 2024).

Hypotheses Series 2: Intention to Purchase and Mediation

- **H2:** Consumer Purchase Intention is positively and significantly impacted by Customer Attitude Toward Brand (Zhao et al., 2024).

- **H3:** The link between Internet Celebrity Attributes and Consumer Purchase Intention is substantially mediated by Customer Attitude Toward Brand (Zhao et al., 2024).

The Moderating Role of Digital Literacy

A crucial theoretical extension of the present study is the recognition that psychological intent is never manifested in isolation but is instead modulated by key user capabilities (Ullah et al., 2025). As the extant literature on the Technology Acceptance Model (TAM) has demonstrated, mere access to the given technology is not sufficient for ensuring that a consumer will successfully realize a desired socioeconomic outcome, such as completing an online purchase (Davis, 1989; Ullah et al., 2025). To engage with sophisticated IT systems, including e-commerce platforms, in a manner that facilitates achieving one's goals, an individual needs to possess a certain level of digital literacy (Davis, 1989; Ullah et al., 2025).

Hypothesis Series 3: Moderation by Digital Literacy

- **H4:** The link between Customer Attitude Toward Brand and Consumer Purchase Intention is strongly moderated by digital literacy, with customers with greater levels of digital literacy experiencing a stronger positive association (Ullah et al., 2025).

The Moderating Role of Perceived Risk

Apart from technical competence, the sense of risk presents itself as the last barrier to moderating consumer behavior in the framework of the Pakistani digital economy (Ullah et al., 2025). In essence, shopping via online platforms eliminates the possibility for consumers to directly inspect products prior to purchase. Therefore, the process of buying goods involves the consumer in an additional stage of psychological uncertainty beyond the typical product evaluation (Featherman & Pavlou, 2003). In academic literature pertaining to digital commerce, the term perceived risk covers a set of negative expectations associated with completing a transaction (Featherman & Pavlou, 2003; Lăzăroiu et al., 2020). Specifically, such risks concern the potential dangers of sharing personal information, fraudulent intentions on the seller's end, and overall mistrust in the reliability of a particular e-commerce environment (Ullah et al., 2025). In essence, risk perception is a summary of the consumer's anxieties regarding an online transaction and its ability to jeopardize them on personal and financial levels. The risk levels in Pakistani digital commerce are particularly noteworthy in this regard, as the general level of consumer trust in the system is severely compromised within the country.

Hypothesis Series 4: Moderation by Perceived Risk

- **H5:** The link between Customer Attitude Toward Brand and Consumer Purchase Intention is considerably moderated by Perceived Risk, and this positive association is actively weakened by increasing perceived risk (Ullah et al., 2025).

Research Methodology

Research Design

This chapter presents a highly detailed description of the specific methods applied in the study of the influencer economy in Pakistan. The chapter describes the research philosophy related to the

present research, discusses the research design, population and sampling, and survey instrumentation. Additionally, the chapter presents the data analysis techniques used by the researchers to test the hypotheses developed in the study, including structural equation modeling based on variance (PLS-SEM). The study is guided by the positivist research philosophy.

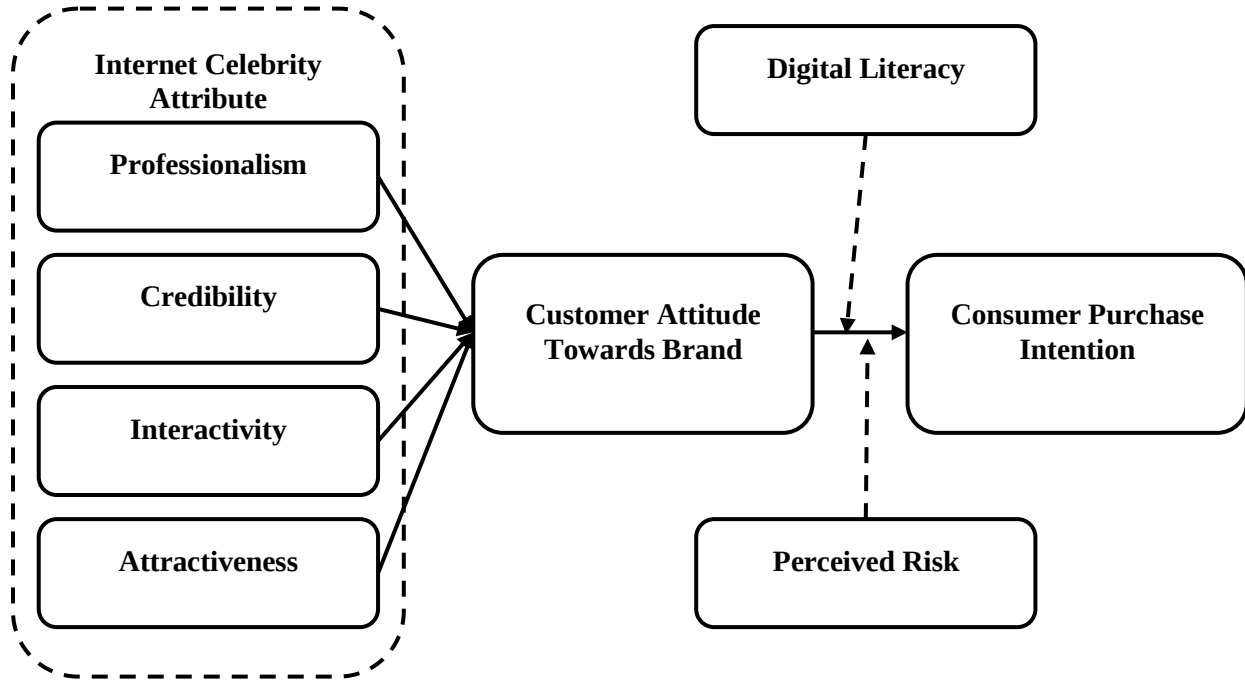


Figure 1 Conceptual Framework

To effectively execute this rigorous philosophy, a causal and explicitly quantitative research approach was adopted. A quantitative research design is exceptionally appropriate for interrogating the phenomena of digital e-commerce because it allows for the rapid collection of relevant numerical data from a large sample, providing statistical reliability (Ullah et al., 2025). The use of a strictly causal design is justified by the need to establish a mathematical correlation between the independent variables (Professionalism, Credibility, Interactivity, and Attractiveness) of the celebrity influencers and the dependent variables of brand attitude and purchase intent (Zhao et al., 2024).

Population, Sampling, and Data Collection

The primary target population for this empirical study comprises social media and smartphone users in Pakistan who seek to follow online influencers and have experience with online shopping. Pakistanis' e-commerce environment is particularly worthy of exploration as a substantial portion of the country's overall digital economy is currently growing at an unprecedented level. Specifically, the value of macro transactions in Pakistan is anticipated to reach \$10.89 billion by 2024 (Ullah et al., 2025). Such a promising opportunity is facilitated by both technologies and behaviors, as over 80% of internet users engage exclusively on mobile devices, which is comparable to global tendencies (Ullah et al., 2025; eMarketer, 2019).

Due to the large, dispersed, and diverse nature of this potential sample, a convenience sampling strategy was chosen for this study. This non-randomized, non-probability based approach is particularly common and justified in e-commerce, live streaming, and information technology studies (Ali et al., 2019; Zhao et al., 2024). This approach ensured the ability to recruit participants who are actively engaged with digital platforms, influencers, and online shopping right now and are willing to contribute to the research. Using convenience sampling allowed for maximizing demographic group diversity while targeting a large population. Additionally, as is common within this scope of research, a self-administered survey method was chosen (Ali et al., 2019). Similar to how many East Asian social commerce analyses were conducted (Zhao et al., 2024), the link to the online survey was shared and spread across various online systems, media, networks, and groups in order to reach the target populations of high, medium, and low activity levels of engagement.

The sample size can be seen as adequate given the choice of population to interview. Thus, the selection of 400 participants was based on the overall appeal and availability of online influencers in Pakistan and sufficient representativity of the larger populations of social media and smartphone users. As a convenient, though time-consuming mode of data collection, an online survey was distributed across various digital platforms and networks as a link. The overall large target population was prioritized for this study given the potential demographic diversity. Therefore, a convenience sample was selected. With both genders and age brackets being well represented within the final dataset, an adequate understanding of the larger populations of social commerce in Pakistan can be achieved based on this dataset.

Questionnaire Design and Scale Description

The main survey instrument was split into sections to ensure content validity of the proposed conceptual model. The items included in the measurement scales were adopted from the leading works in the field and were adjusted to reflect the context of the Pakistani social commerce business environment. In addition, the items included in the measures used a 5-point Likert response format to indicate levels of agreement or disagreement with particular statements (1 – Strongly Disagree; 5 – Strongly Agree). The choice of the 5-point Likert scale was justified by its wide application as a proven effective tool for quantitative survey research (Ullah et al., 2025; Ali et al., 2019).

Table of Variables, Model Roles, and Reference Literature

Table 1: Variables, Model Roles, and Reference Literature

Variable	Role in Model	Reference Paper
Professionalism	Independent Variable	Zhao et al. (2024)
Credibility	Independent Variable	Zhao et al. (2024)
Interactivity	Independent Variable	Zhao et al. (2024)
Attractiveness	Independent Variable	Zhao et al. (2024)
Customer Attitude Toward Brand	Mediating Variable	Zhao et al. (2024)
Consumer Purchase Intention	Dependent Variable	Zhao et al. (2024)
Digital Literacy	Moderating Variable	Ullah et al. (2025)
Perceived Risk	Moderating Variable	Featherman & Pavlou (2003)

Customer Attitude Toward Brand was measured using a 3-item semantic differential scale adopted from McCormick (2016). The original items were based on the attitude and meaning measurement framework proposed by Osgood et al. (1957). In turn, the final 3-item Customer Purchase Intention scale was adopted from Dodds et al. (1991). It was noted that this particular set of items was specifically designed to measure the degree of commitment to perform a specific behavior (in this case, purchase) following the influencer purchase (Zhao et al., 2024; Dodds et al., 1991).

Analytical Strategy: PLS-SEM

The proposed conceptual framework was tested using Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS Software. The PLS-SEM technique is a variance-based structural modeling approach that has gained considerable popularity and recognition among scientists for its powerful multivariate analysis capabilities in complex consumer behavior models that include mediation and moderation effects (Ullah et al., 2025). Unlike covariance-based structural equation modeling (CB-SEM) analysis procedures (e.g., AMOS), PLS-SEM is primarily used for theory testing and prediction research in an environment of highly complex economic structures (Zhao et al., 2024). At the same time, the data processing method was selected due to the strict statistical requirements for input information (Hair et al., 2010). Therefore, the study used a highly reliable two-stage data evaluation procedure recommended by leading authors (Hair et al., 2016).

Data Analysis and Results

This chapter provides the empirical findings and statistical analysis on the primary data gathered specifically for this study. The paper aims to reveal the behavioral mechanism by which internet celebrity characteristics affect purchase intention in the context of the Pakistani online economy. Therefore, the chapter explores the mediation process of customer attitude toward the brand and investigates the boundary conditions and moderators of the proposed relationships, namely digital literacy and local perceived risk. In line with the current practice in social commerce research, testing such complex phenomena requires advanced computational techniques to guarantee the accuracy of obtained results (Zhao et al., 2024).

Demographic Profile of Respondents

A total of 400 valid responses were collected from active social media and e-commerce users across Pakistan. Understanding the demographic makeup of these respondents is crucial, as it provides context for the digital consumption behaviors and risk perceptions analyzed in this study.

As detailed in Table 4.1, the sample demonstrates a highly balanced gender distribution, comprising 52.25% male and 47.75% female respondents. The age profile heavily reflects the youth-driven nature of the influencer economy, with the majority of respondents falling under the age of 35 (31.50% aged 18–24, and 27.50% aged 25–34). Furthermore, the sample is highly educated; 41.00% hold a Bachelor's degree and 20.75% possess a Master's degree, ensuring a strong cognitive capacity to navigate digital platforms and evaluate online information.

Geographically, the respondents are concentrated in major macroeconomic urban centers—predominantly Karachi (33.50%), Lahore (27.00%), and Islamabad (18.75%)—which are the primary hubs for digital commerce infrastructure in Pakistan. In terms of digital engagement, YouTube (28.25%) and Instagram (24.00%) emerged as the most frequently used platforms for following influencers. The sample also reflects an active online shopping culture, with 41.75% shopping occasionally (a few times a month) and 31.50% shopping frequently (weekly or more).

Table 2: Demographic Profile of Respondents (N = 400)

Demographic Variable	Category	Frequency	Percentage (%)
Gender	Male	209	52.25
	Female	191	47.75
Age Group	18–24	126	31.50
	25–34	110	27.50
	35–44	62	15.50
	45–54	50	12.50
	55+ years	52	13.00
Education Level	High School / Intermediate	98	24.50
	Bachelor's	164	41.00
	Master's	83	20.75
	Doctorate (Ph.D.)	43	10.75
	Other	12	3.00
City	Karachi	134	33.50
	Lahore	108	27.00
	Islamabad	75	18.75
	Peshawar	46	11.50
	Other	37	9.25
Most Used Social Media Platform (for Influencers)	YouTube	113	28.25
	Instagram	96	24.00
	TikTok	83	20.75
	Facebook	56	14.00
	X (formerly Twitter)	52	13.00
Online Shopping Frequency	Frequently (weekly+)	126	31.50
	Occasionally (few times/month)	167	41.75
	Rarely (few times/year)	94	23.50
	Never	13	3.25

Measurement Model Assessment (Outer Model)

The first stage of the PLS-SEM analysis involves evaluating the measurement model (the outer model) to ensure that the survey items reliably and accurately measure the theoretical constructs they are intended to represent. This assessment includes testing for indicator reliability, internal consistency reliability, and convergent validity.

Indicator Reliability (Outer Loadings)

Indicator reliability determines the extent to which an individual item (question) accurately reflects its designated latent variable. In PLS-SEM, this is evaluated by examining the outer loadings of each item. The standard academic threshold requires outer loadings to be ≥ 0.708 , indicating that the construct explains more than 50% of the indicator's variance.

As presented in Table 3 all measurement items exhibited robust outer loadings well above the 0.70 threshold. The lowest recorded loading was 0.766 (PR1), and the highest was 0.954 (PR3). Because all items successfully met the strict retention criteria, no indicators were removed from the model. This confirms excellent indicator reliability across all independent, mediating, moderating, and dependent variables.

Table 3: Outer Loadings (Indicator Reliability)

Construct	Items	Outer Loadings
Professionalism (P)	P1	0.893
	P2	0.908
	P3	0.891
	P4	0.918
Credibility (C)	C1	0.881
	C2	0.870
	C3	0.889
Interactivity (I)	I1	0.931
	I2	0.939
	I3	0.920
Attractiveness (A)	A1	0.939
	A2	0.944
	A3	0.939
	A4	0.940
Customer Attitude Toward Brand (CA)	CA1	0.881
	CA2	0.897
	CA3	0.890
Consumer Purchase Intention (PI)	PI1	0.925
	PI2	0.918
	PI3	0.929
Digital Literacy (DL)	DL1	0.880
	DL2	0.879
	DL3	0.884
	DL4	0.893
	DL5	0.882
Perceived Risk (PR)	PR1	0.766
	PR2	0.784
	PR3	0.954
	PR4	0.861
	PR5	0.824

Internal Consistency Reliability

Internal consistency reliability evaluates whether the multiple items measuring a specific construct yield consistent scores. This study utilized three metrics to assess internal consistency: Cronbach's Alpha, Composite Reliability (ρ_a), and Composite Reliability (ρ_c). The widely accepted threshold for these values is ≥ 0.70 .

As shown in Table 3 all constructs demonstrated high internal consistency. Cronbach's Alpha values ranged from 0.854 (Credibility) to 0.957 (Attractiveness). Similarly, the Composite Reliability (ρ_c) scores ranged from 0.911 (Credibility) to 0.969 (Attractiveness). These results confidently establish that the survey scales used to measure the Pakistani digital shopper sample are highly reliable.

Convergent Validity

Convergent validity measures the degree to which a latent construct explains the variance of its underlying indicators. This is assessed using the Average Variance Extracted (AVE). An acceptable AVE value must be ≥ 0.50 , indicating that the construct explains more than half of the variance of its items on average.

Table 3 illustrates that the AVE values for all constructs significantly exceed the 0.50 threshold. The AVE scores ranged from 0.706 (Perceived Risk) to 0.885 (Attractiveness). This confirms strong convergent validity for the measurement model, allowing the analysis to proceed to the evaluation of discriminant validity.

Table 4: Construct Reliability and Convergent Validity

Latent Constructs	Cronbach's Alpha	Composite Reliability (ρ_a)	Composite Reliability (ρ_c)	Average Variance Extracted (AVE)
Professionalism (P)	0.924	0.930	0.946	0.815
Credibility (C)	0.854	0.857	0.911	0.774
Interactivity (I)	0.922	0.922	0.951	0.865
Attractiveness (A)	0.957	0.957	0.969	0.885
Customer Attitude (CA)	0.868	0.869	0.919	0.792
Purchase Intention (PI)	0.915	0.915	0.946	0.854
Digital Literacy (DL)	0.930	0.930	0.947	0.781
Perceived Risk (PR)	0.921	1.417	0.923	0.706

Discriminant Validity

Discriminant validity ensures that each latent construct in the conceptual model is empirically distinct from the other constructs, meaning that the measurement items correlate more strongly with their own designated construct than with any other construct in the model.

In modern PLS-SEM analysis, the Heterotrait-Monotrait (HTMT) ratio of correlations is recognized as the most robust and precise metric for evaluating discriminant validity. A standard conservative threshold dictates that HTMT values should be below 0.85, although a more lenient threshold of 0.90 is often considered acceptable for conceptually similar constructs.

As presented in Table 4.4, the HTMT ratios were extracted to evaluate the discriminant validity among all independent, mediating, moderating, and dependent variables, as well as the interaction terms (DL x CA and PR x CA). The majority of the HTMT values fall well below the strict 0.85 threshold, indicating strong construct separation. For instance, the ratio between Credibility (C) and Attractiveness (A) is 0.434, and between Digital Literacy (DL) and Credibility (C) is 0.570.

Table 5: Discriminant Validity – Heterotrait-Monotrait Ratio (HTMT)

Construct	A	C	CA	DL	I	P	PI	PR	DL x CA	PR x CA
A										
C	0.434									
CA	0.898	0.759								
DL	0.843	0.570	0.862							
I	0.699	0.043	0.546	0.251						
P	0.035	0.910	0.406	0.251	0.326					
PI	0.957	0.635	0.979	0.858	0.670	0.230				
PR	0.086	0.480	0.104	0.385	0.765	0.650	0.038			
DL x CA	0.419	0.293	0.521	0.104	0.692	0.062	0.505	0.513		
PR x CA	0.043	0.530	0.213	0.404	0.516	0.597	0.109	0.788	0.360	

Structural Model Assessment (Inner Model)

Following the successful validation of the measurement model, the second phase of the PLS-SEM analysis involves evaluating the structural model (the inner model). This stage tests the theoretical framework by assessing the magnitude and statistical significance of the hypothesized paths. A bootstrapping procedure with 5,000 resamples was applied to generate the standard errors, T-statistics, and P-values necessary for hypothesis testing. The significance level was set at 5% ($p < 0.05$).

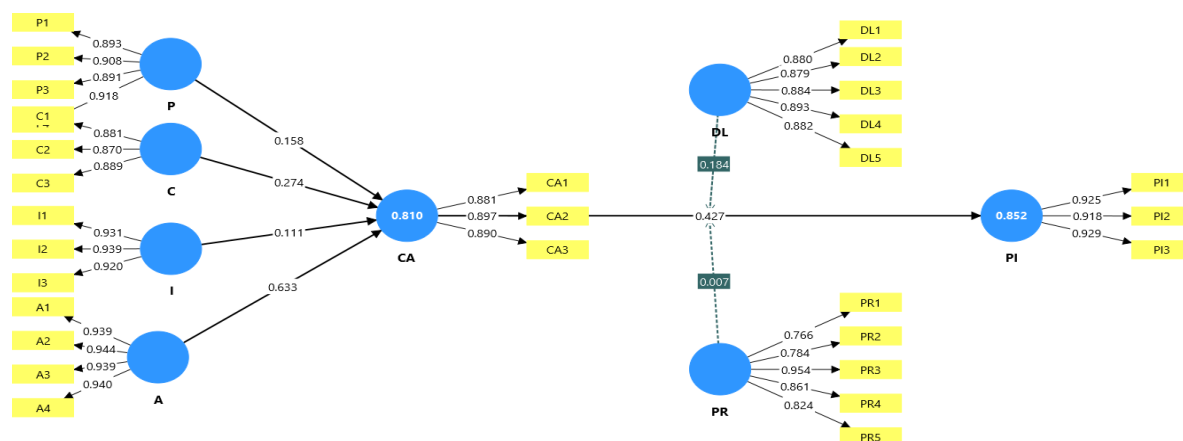


Figure 2: PLS-SEM Structural Model Output

Direct Effects Testing

The direct relationships between the independent variables (Internet Celebrity Attributes) and the mediating variable (Customer Attitude Toward Brand), as well as the relationship between the mediator and the dependent variable (Consumer Purchase Intention), were analyzed.

Table 6: Path Coefficients and Significance (Direct Effects)

Path	Original Sample (β)	Standard Deviation	T-Statistics	P-Values	Hypothesis Status
Professionalism $\rightarrow$ Customer Attitude (P $\rightarrow$ CA)	0.158	0.049	3.207	0.001	Supported
Credibility $\rightarrow$ Customer Attitude (C $\rightarrow$ CA)	0.274	0.051	5.322	0.000	Supported
Interactivity $\rightarrow$ Customer Attitude (I $\rightarrow$ CA)	0.111	0.032	3.477	0.001	Supported
Attractiveness $\rightarrow$ Customer Attitude (A $\rightarrow$ CA)	0.633	0.037	17.252	0.000	Supported
Customer Attitude $\rightarrow$ Purchase Intention (CA $\rightarrow$ PI)	0.427	0.046	9.282	0.000	Supported

Based on the empirical results:

- **H1a (Professionalism):** The path from Professionalism to Customer Attitude Toward Brand is positive and significant ($\beta = 0.158$, $T = 3.207$, $p = 0.001$). Thus, H1a is **supported**.
- **H1b (Credibility):** The effect of Credibility on Customer Attitude Toward Brand is highly significant ($\beta = 0.274$, $T = 5.322$, $p = 0.000$). Thus, H1b is **supported**.
- **H1c (Interactivity):** Interactivity positively influences Customer Attitude Toward Brand ($\beta = 0.111$, $T = 3.477$, $p = 0.001$). Thus, H1c is **supported**.
- **H1d (Attractiveness):** Attractiveness exhibits the strongest positive effect on Customer Attitude Toward Brand among all attributes ($\beta = 0.633$, $T = 17.252$, $p = 0.000$). Thus, H1d is **strongly supported**.
- **H2 (Brand Attitude to Purchase Intention):** The direct effect of Customer Attitude Toward Brand on Consumer Purchase Intention is positive and highly significant ($\beta = 0.427$, $T = 9.282$, $p = 0.000$). Thus, H2 is **supported**.

Because the independent variables significantly impact the mediator (CA), and the mediator significantly impacts the dependent variable (PI), the conditions for mediation are met, providing statistical support for **H3**.

Moderation Analysis

This study proposed two moderating variables Digital Literacy (DL) and Perceived Risk (PR) that interact with Customer Attitude Toward Brand (CA) to influence Consumer Purchase Intention (PI). Moderation is evaluated by analyzing the interaction terms (DL x CA and PR x CA).

Table 7: Moderating Effects Testing

Path (Interaction Term)	Original Sample (β)	Standard Deviation	T-Statistics	P-Values	Hypothesis Status
Digital Literacy Moderation (DL x CA $\rightarrow$ PI)	0.184	0.063	2.932	0.003	Supported
Perceived Risk Moderation (PR x CA $\rightarrow$ PI)	0.007	0.047	0.144	0.886	Not Supported

H4 (Moderating Role of Digital Literacy): The interaction term between Digital Literacy and Customer Attitude has a positive and significant effect on Purchase Intention ($\beta = 0.184$, $T = 2.932$, $p = 0.003$). This indicates that higher levels of digital literacy strengthen the positive relationship between brand attitude and purchase intention. Therefore, H4 is **supported**.

H5 (Moderating Role of Perceived Risk): The interaction term between Perceived Risk and Customer Attitude is not statistically significant ($\beta = 0.007$, $T = 0.144$, $p = 0.886$). This suggests that within this specific sample, perceived risk does not significantly alter the strength of the relationship between a consumer's brand attitude and their intent to purchase. Therefore, H5 is **rejected**.

Discussion

This chapter aims to present a thorough discussion and conclude the results derived from the statistical study conducted in Chapter 4. The chapter will demonstrate the relationship between internet social star attributes, such factors that promote a purchase intention among local consumers in Pakistan. The arguments made in this chapter are based on the results of the PLS-SEM analysis and the provided background information about Persuasion Theory and the S-O-R Model. The discussion section will address the key points presented by each hypothesis, including the critical assessment of the obtained path coefficients. In addition, this section will highlight the most critical aspects of the theoretical background, such as the persuasion hierarchy levels, the mediating role of brand attitudes, and the impact of both the digital divide and local buying processes. Moreover, this chapter will comment on the study's theoretical contributions and practical implications, as well as the research limitations and suggest further research directions.

The initial core dimension central to testing the conceptual framework concerned the very basis of influencer marketing, namely, that distinctiveness of information sources utilizing the popularity of an internet celebrity who influences the audience through creating certain external stimuli (S) leading to positive modification of internal cognitive and affective evaluation (O), measured as the level of consumer attitude towards the brand. Testing this assumption via PLS-SEM revealed that all four attributes had a positive and significant effect on the level of Customer At-

titude Toward Brand, thus partially supporting all four initially advanced hypotheses (H1a, H1b, H1c, H1d). Nevertheless, the relative impact varied considerably, which is evident from the weights and β coefficients, which highlights the importance of understanding the peculiarities of each component of influencer marketing in the context of the Pakistani market.

The analysis of the structural model provided ample evidence that the transition from passive viewing to active purchasing behavior is not a simple matter but rather a complex process requiring a stable psychological bridge. As Hypothesis 2 proposed, a positive attitude toward the brand on the part of the customer positively and significantly affects the level of consumer purchase intention. This statement received consistent empirical support, as indicated by the high path coefficient ($\beta = 0.427$, $T = 9.282$, $p = 0.000$). Moreover, as the results show, brand attitude is a crucial mediator of the relationship between the external environment (i.e., a combination of attributes of an internet celebrity) and the consumer in terms of purchase intentions, which validates Hypothesis 3.

A particularly unique contribution of this localized study was the theoretical extension of purchase decision mechanisms by introducing Digital Literacy as moderating boundary condition in the psychological link between attitude and purchase intention. More specifically, Hypothesis 4 proposed that a consumer's digital literacy would moderate the association between their attitude towards the brand and the purchase intention, which was indeed supported by the results. Indeed, a positive and statistically significant coefficient for the interaction term was observed ($\beta = 0.184$, $T = 2.932$, $p = 0.003$).

The findings perfectly encapsulate the essence of the much talked about but understudied phenomenon of a digital divide prevalent in the Third World countries such as Pakistan. Rooted in the underlying principles of the Technology Acceptance Model (TAM), the current study adds to a growing body of literature that continues to empirically demonstrate that access to technology and readiness to engage with its basic features is not equal among populations (Davis, 1989; Ullah et al., 2025). For instance, while it is safe to say that in Pakistan, the internet penetrates virtually all corners of society (Ullah et al., 2025) and access to it is mostly via mobile phones, the same cannot be said about digital literacy.

Perhaps the most surprising, perplexing, and theoretically enlightening finding of this empirical research was the complete lack of support for Hypothesis 5. It was expected, based on both general e-commerce acceptance theories and risk mitigation frameworks, that Perceived Risk would act as a significant negative moderator of the relationship between brand attitude and purchase intention. After all, severe consumer concerns about fraudulent schemes, data privacy breaches, deceptive business practices, and delivery disruptions have long been recognized as key impediments to online purchasing behavior (Featherman & Pavlou, 2003; Lăzăroiu et al., 2020). However, as demonstrated by the PLS-SEM results, Perceived Risk did not show any meaningful influence whatsoever on the studied relationship ($\beta = 0.007$, $T = 0.144$, $p = 0.886$).

A closer inspection of the peculiarities of the Pakistani online market context helps explain this surprising result.

Limitations of the Study

Although the quantitative study described in this paper provides valuable insights into the mechanisms of the consumer market in Pakistan, there are significant limitations to this research that should be noted to adequately interpret these findings and guide future investigations (Creswell & Creswell, 2017). Firstly, the study uses cross-sectional designs to gather the attitudes and behaviors of the sampled respondents at a particular moment (Ali et al., 2019). This approach is convenient and common in market research, but it cannot allow the researchers to completely establish long-term cause-and-effect relationships between the investigated variables (Fink et al., 2020). Consumers' opinions about unreliable online systems and internet influencers change constantly, and a cross-sectional study may not always capture these changes accurately at a particular point (Fink et al., 2020). For example, the overall level of digital literacy among consumers can be different at the beginning and after a year due to training and practice (Fink et al., 2020).

Future Research Directions

The identified limitations of the undertaken study and the obtained positive results contribute to a significant number of valuable suggestions for further global research in the sphere of social commerce (Zhao et al., 2024). To begin with, in order to address the first limitation associated with the nature of the conducted analysis, the following future studies should implement a longitudinal design to investigate the selected groups of consumers over an extended period of time (Fink et al., 2020). More specifically, observing the development of a respondent's digital literacy skills and measuring the changes in the levels of his/her susceptibility to an influencer's attributes and perceived risk in social commerce will allow the researchers to add valuable insights to the existing S-O-R model (Jacoby, 2002). In addition, it is essential for future scholars to conduct large-scale comparative research to measure the differences between urban and rural populations (Qureshi et al., 2021).

Conclusion

This thorough academic study accurately identifies the key mechanisms that fuel the ever-growing internet influencer economy fueled by Pakistan's consumer market. By building upon the well-established Persuasion Theory (Dotson & Hyatt, 2000; Masuda et al., 2022) and the Stimulus-Organism-Response (S-O-R) behavioral framework (Mehrabian & Russell, 1974; Jacoby, 2002), the paper confirms that an internet celebrity's attractive personality successfully acts as a stimulus (\$\$\$) that transforms a consumer's attitude toward the advertised brand at \$O\$, which subsequently shapes their likelihood to perform an actual buying behavior at \$R\$ (Zhao et al., 2024). In the context of today's vibrant visual world, the study found that Attractiveness and Credibility are most appealing factors, outperforming such parameters as Professionalism and Interactivity (L. Wang et al., 2021).

Beyond that, this research also made a significant contribution to the existing body of scholarly work on influencer marketing by identifying the key structural limitation of the persuasive process described above. It was found that a consumer's overall positive attitude towards the advertised product or service alone is insufficient to transform their intentions into actual behavior. Instead, the researchers confirmed that a buyer's degree of Digital Literacy mediates the entire

process (Davis, 1989; Ullah et al., 2025). Altogether, this study accurately captures the essence of a digitally savvy Pakistani consumer who is most influenced by visual factors, has limited transactional digital capabilities, and is highly wary of online scams. Yet at the same time, the presence of such a safety measure as Cash on Delivery eliminates many of their concerns (Featherman & Pavlou, 2003; Ullah et al., 2025).

Reference

1. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
2. Akdevelioglu, D., & Kara, S. (2020). An international investigation of opinion leadership and social media. *Journal of Research in Interactive Marketing*, 14(1), 71-88.
3. Al-Emadi, F. A., & Yahia, I. B. (2020). Ordinary celebrities related criteria to harvest fame and influence on social media. *Journal of Research in Interactive Marketing*, 14(2), 195-213.
4. Alalwan, A. A. (2018). Investigating the impact of social media advertising features on customer purchase intention. *International Journal of Information Management*, 42, 65-77.
5. Ali, T., et al. (2019). Effects of socioeconomic characteristics on online purchase intention among Malaysians. *Journal of Asian Finance, Economics and Business*, 6(4), 281-289.
6. Audrezet, A., De Kerviler, G., & Moulard, J. G. (2020). Authenticity under threat: When social media influencers need to go beyond self-presentation. *Journal of Business Research*, 117, 557-569.
7. Bartsch, F., Diamantopoulos, A., Paparoidamis, N., & Chumpitaz, R. (2016). Global brand ownership: The mediating roles of consumer attitudes and brand identification. *Journal of Business Research*, 69, 3629-3635.
8. Brislin, R. W. (1980). Translation and content analysis of oral and written materials. In H. C. Triandis & J. W. Berry (Eds.), *Handbook of Cross-Cultural Psychology* (Vol. 2, pp. 389-444). Allyn & Bacon.
9. Bristor, J. M. (1990). Enhanced explanations of word of mouth communications the power of relations. *Research in Consumer Behavior*, 4(1), 51-83.
10. Carroll, A. (2008). Brand communications in fashion categories using celebrity endorsement. *Journal of Brand Management*, 17(2), 146-158.
11. Chen, T. Y., Yeh, T. L., & Lee, F. Y. (2021). The impact of internet celebrity characteristics on followers impulse purchase behavior: The mediation of attachment and parasocial interaction. *Journal of Research in Interactive Marketing*, 15(3), 483-501.
12. Chetoui, Y., Benlafqih, H., & Lebdaoui, H. (2020). How fashion influencers contribute to consumers' purchase intention. *Journal of Fashion Marketing and Management*, 24(3), 361-380.
13. Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
14. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.

15. Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982-1003.
16. Day, G. S. (1976). Assessing the effects of information disclosure requirements. *Journal of Marketing*, 40(2), 42-52.
17. Djafarova, E., & Rushworth, C. (2017). Exploring the credibility of online celebrities' Instagram profiles in influencing the purchase decisions of young female users. *Computers in Human Behavior*, 68, 1-7.
18. Dodds, W. B., Monroe, K. B., & Grewal, D. (1991). Effects of price, brand, and store information on buyers' product evaluations. *Journal of Marketing Research*, 28(3), 307-319.
19. Dotson, M. J., & Hyatt, E. M. (2000). Religious symbols as peripheral cues in advertising: A replication of the elaboration likelihood model. *Journal of Business Research*, 48(1), 63-68.
20. eMarketer. (2019). *What retailers need to know about influencer marketing*. eMarketer.
21. Erdogan, B. Z. (1999). Celebrity endorsement: A literature review. *Journal of Marketing Management*, 15(4), 291-314.
22. Featherman, M. S., & Pavlou, P. A. (2003). Predicting e-services adoption: A perceived risk facets perspective. *International Journal of Human-Computer Studies*, 59(4), 451-474.
23. Filieri, R., Acikgoz, F., Li, C. Y., & Alguezaui, S. (2022). Influencers'organic" persuasion through electronic word of mouth: A case of sincerity over brains and beauty. *Psychology & Marketing*, 40(2), 347-364.
24. Fink, M., Koller, M., Gartner, J., Floh, A., & Harms, R. (2020). Effective entrepreneurial marketing on Facebook—A longitudinal study. *Journal of Business Research*, 113, 149-157.
25. Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
26. Gnambs, T., & Batinic, B. (2013). The roots of interpersonal influence: A mediated moderation model for knowledge and traits as predictors of opinion leadership. *Applied Psychology*, 62(4), 597-618.
27. Goldsmith, R. E., Lafferty, B. A., & Newell, S. J. (2000). The impact of corporate credibility and celebrity credibility on consumer reaction to advertisements and brands. *Journal of Advertisement*, 29(3), 43-54.
28. Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2010). *Multivariate Data Analysis* (7th ed.). Prentice Hall, Englewood Cliffs.
29. Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage publications.
30. Harman, H. H. (1967). *Modern factor analysis*. University of Chicago Press.
31. Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Publications.
32. Hossain, M. A., et al. (2019). E-commerce adoption in developing countries: A comprehensive systematic literature review. *Journal of Global Information Management*, 27(3), 1-25.

33. Hughes, C., Swaminathan, V., & Brooks, G. (2019). Driving brand engagement through online social influencers: An empirical investigation of sponsored blogging campaigns. *Journal of Marketing*, 83(5), 78-96.
34. Ismagilova, E., Slade, E., Rana, N. P., & Dwivedi, Y. K. (2020). The effect of characteristics of source credibility on consumer behaviour: A meta-analysis. *Journal of Retailing and Consumer Services*, 53, 101736.
35. Jacoby, J. (2002). Stimulus-organism-response reconsidered: An evolutionary step in modeling (consumer) behavior. *Journal of Consumer Psychology*, 12(1), 51-57.
36. Keeling, K., McGoldrick, P., & Beatty, S. (2010). Avatars as salespeople: Communication style, trust and intentions. *Journal of Business Research*, 63(8), 793-800.
37. Kelman, H. C. (1961). Processes of opinion change. *Public Opinion Quarterly*, 25(1), 57-78.
38. Khamis, S., Ang, L., & Welling, R. (2017). Self-branding, 'micro-celebrity' and the rise of social media influencers. *Celebrity Studies*, 8(2), 191-208.
39. Krishnamurthy, A., & Kumar, S. R. (2018). Electronic word-of-mouth and the brand image: Exploring the moderating role of involvement through a consumer expectations lens. *Journal of Retailing and Consumer Services*, 43, 149-156.
40. Lăzăroiu, G., Neguriță, O., Grecu, I., Grecu, G., & Mitran, P. C. (2020). Consumers decision-making process on social commerce platforms: Online trust, perceived risk, and purchase intentions. *Frontiers in Psychology*, 11, 1-7.