Social media stars: how influencers shape consumer’s behavior on Instagram

Hamza Kaka Abdul Wahab
Accra Institute of Technology, Accra, Ghana and
Open University Malaysia, Kuala Lumpur, Malaysia

Faizan Alam
Dongbei University of Finance and Economics, Dalian, China, and

Eva Lahuerta-Otero
Universidad de Salamanca, Salamanca,
Spain and Instituto Multidisciplinar de Empresa, Salamanca, Spain

Abstract

Purpose – In today’s global and competitive e-commerce market spaces, social media influencers (SMIs) exert substantial influence on consumer behavior. This study aims to examine how electronic word of mouth (e-WOM), Instagram usage and the credibility of SMIs shape the dynamics of consumer purchase behavior (PB).

Design/methodology/approach – Information was gathered from 498 users in Ghana through judgmental sampling using SmartPLS 4.

Findings – The findings revealed that influencers’ credibility has a substantial impact on their followers’ parasocial interactions. As a promotional tool, Instagram plays a significant role in how followers perceive the credibility of influencers by modifying the associations between parasocial connections, e-WOM and consumer PB.

Research limitations/implications – The findings offer valuable information for marketing professionals looking to improve their advertising efforts by collaborating with influencers, along with unique perspectives on influencer dynamics in a diverse socioeconomic context, extending beyond conventional boundaries.

Originality/value – Through an examination of the complex mechanisms underlying social media influencer advertisements on an e-commerce platform, namely, Instagram, this research uncovered the essence of customer behavior in the digital era, including the human need for connection, authenticity and trust, thus contributing to the literature empirical data from Africa, a region often overlooked in academic studies.

Keywords Social media influencers, Electronic word of mouth, Parasocial relationship, Instagram, Purchase behavior

Paper type Research paper

© Hamza Kaka Abdul Wahab, Faizan Alam and Eva Lahuerta-Otero. Published in Spanish Journal of Marketing - ESIC. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at http://creativecommons.org/licences/by/4.0/legalcode

The authors thank the Spanish Ministry of Science and Innovation (PID2020-113469GB-I00), the Junta de Castilla y Leon and the European Regional Development Fund (Grant CLU-2019-03) for the financial support to the Research Unit of Excellence Economic Management for Sustainability (GECOS).

Dr Faizan Alam is also affiliated with International College, Dalian University, Dalian, China.
社交媒体明星：社交媒体名人如何塑造Instagram上消费者的行为

摘要
目的 — 在当今全球化且竞争激烈的电子商务市场中，社交媒体影响者对消费者行为有着重要的影响。本研究旨在探讨网络口碑、Instagram使用以及社交媒体影响者的可信度如何塑造消费者购买行为的动态变化。

方法 — 使用SmartPLS 4，通过判断抽样收集了来自加纳的498位用户信息。

发现 — 研究表明，影响者的可信度对其粉丝的准社会互动有着显著影响。作为一种推广工具，Instagram通过影响准社会关系、网络口碑和消费行为之间的关系，在粉丝感知影响者可信度方面发挥重要作用。

局限性 — 本研究通过深入剖析社交媒体影响者在Instagram等电子商务平台上进行广告活动的复杂机制，揭示了数字时代消费者行为的本质，其中包括人们对联系、真实性和信任的需求。此外，研究还提供了经常被学术界忽视的非洲地区的实证数据。

研究局限性和启示 — 研究结果为希望与其沟通的营销专业人士提供了宝贵的信息。本文超越传统界限，从不同的社会经济背景、不同文化背景以及不同地区提供了影响者动态的视角。

关键词 — 社交媒体影响者，网络口碑，准社会关系，Instagram，购买行为。

Resumen
Estrellas de las redes sociales: Cómo los influencers moldean el comportamiento del consumidor en Instagram

Resumen
Objetivo — En un mercado tan global y competitivo como el del comercio electrónico actual, los influencers en redes sociales ejercen una influencia sustancial en el comportamiento del consumidor. Este estudio examina cómo el boca a boca electrónico, el uso de Instagram y la credibilidad de los influencers en redes sociales dan forma a la dinámica del comportamiento de compra del consumidor.

Diseño/Metodología/Enfoque — Se recogió información de 498 usuarios en Ghana mediante muestreo de conveniencia y se testó el modelo utilizando SmartPLS 4.

Resultados — Los resultados revelaron que la credibilidad de los influencers tiene un impacto sustancial en las interacciones parasociales con sus seguidores. Como herramienta promocional, Instagram juega un papel significativo en la percepción de los seguidores sobre la credibilidad de los influencers, modificando las asociaciones entre las conexiones parasociales, el boca a boca electrónico y, finalmente, el comportamiento de compra del consumidor.

Originalidad — A través del estudio de los complejos mecanismos que subjacen en los anuncios y publicaciones de los influencers en Instagram, esta investigación desveló la esencia del comportamiento del cliente en la era digital, incluyendo la necesidad de conexión humana la conexión, la autenticidad y la confianza, contribuyendo así a la literatura con datos empíricos de África, una región a menudo pasada por alto en estudios académicos.

Limitaciones e implicaciones de la investigación — Los resultados ofrecen información valiosa para los profesionales del marketing que buscan mejorar sus esfuerzos publicitarios colaborando con influencers, junto con perspectivas únicas sobre la dinámica de éstos en un contexto socioeconómico diverso, más allá de los límites convencionales.

Palabras clave — Influencers en redes sociales, Boca a boca electrónico, Relación parasocial, Instagram, Comportamiento de compra.

Tipo de artículo — Trabajo de investigación

Introduction
Social media influencers (SMIs) have extensively reshaped the e-commerce environment by effectively engaging with followers and impacting customer behavior (Alam et al., 2022, 2024; Wahab et al., 2022). The increase in the usage of social media has brought about the emergence of SMIs and internet celebrities (Tao et al., 2019; Wahab et al., 2022; Wahab and Tao, 2019) who
are followed and worshiped by their followers and, as a result, are seen as key opinion leaders in society (Wahab et al., 2022). SMIs have large audiences on sites such as Instagram, YouTube, TikTok and X. The capacity to engage with millions of followers instantaneously empowers enterprises associated with them (Lacap et al., 2024). Over the years, SMIs have impacted the purchase behaviors (PBs) of their followers because of their rapport with them on social networking sites (SNSs). Influencers establish their brands by emphasizing truthfulness, transparency and relatability (Alam et al., 2022). To maintain viewership and entertainment, influencers constantly come up with new ideas and try out new cooperation possibilities, interaction strategies and content forms. In the e-commerce world, influencers use a wide range of marketing techniques to generate interactions, product-related conversations and purchases. These include paid advertisements, product promotions, influencer activities and collaborations with brands. SMIs are essential to the present e-commerce environment because they foster audience engagement, establish brand credibility, focus on specific markets, produce appealing material and propel creative marketing tactics (Alam et al., 2022). Although e-commerce is constantly changing, influencers will continue to play a significant role in how people behave and interact with brands in the electronic world (Hudders et al., 2021; Ooi et al., 2023; Shuqair et al., 2024).

Contrary to traditional celebrities, SMIs are ordinary individuals who became famous as a result of their online content, such as personal photos and videos (Tao et al., 2019). However, Jin et al. (2019) opined that an Instagram influencer is a user who has a considerable number of followers and creates content about lifestyle and fashion, thus monetizing their platform. Lacap et al. (2024) posited that the bond between influencers and followers on Instagram leads to emotional attachment and perceived trustworthiness, instigating an increase in the influencers’ credibility. Through their content, SMIs have become opinion leaders who influence their followers in the social media landscape (Wahab et al., 2022; Alam et al., 2022; Vrontis et al., 2021; Zhou et al., 2021). Their brand endorsements and reviews on SNSs, notwithstanding their daily activities on the platforms, instigate their followers’ intention to own the same brands or products, ultimately influencing followers’ PBs (Hwang and Zhang, 2018). Before digitalization, it was complicated for celebrities and their followers to interact because of barriers such as distance, social status and the media landscape (Tao et al., 2019). Social media popularity has made many platforms available for celebrities, facilitating easy interactions with their followers. In 2021, there were about 4.20 billion active social media users worldwide representing 53.6% of the world population (Boceva and Kiselicki, 2021). As of 2024, 5.04 billion people were estimated to be using social media platforms (SMPs) (Petrosyan, 2024).

In the social media landscape, Instagram has become one of the fastest-growing sites (Priya and Mohan, 2021) for online photos, with users exchanging images of their lives among themselves. Nevertheless, empirical research on IG immersion is limited (Sheldon and Bryant, 2016). People spend more time on Instagram than other SNSs, which highlights its importance (Sheldon and Bryant, 2016). A business apps analysis revealed that Instagram had more than 2.5 billion worldwide active users daily in 2023 (Iqbal, 2023). As of July 2022, over 2.2 million Instagram users were estimated in Ghana, accounting for 6.8% of the country’s population, with the majority of users being male (59.2%) (Statista-Ghana, 2022) and in the age group of 25–34 years (38%) (Napoleoncat, 2021).

Extensive studies can be found on SMIs in the literature (Tao et al., 2019; Wahab and Tao, 2019), some of which have examined SMIs’ role in establishing parasocial relationships (PSRs) with their audiences (Hwang and Zhang, 2018; Tao et al., 2019), their influence on purchase decisions and materialism (Wahab and Tao, 2019) and how their credibility affects purchase intention (Djafarova and Rushworth, 2017; Sokolova and Perez, 2021). Building on previous works on SMIs, this study focused on how SMIs influence their followers’ decision-making and
the crucial role that IG, as an SMP, plays in this relationship. Original survey data were collected on four highly followed and active Instagram influencers in Ghana: Hajia Bintu, Moesha Buodong, Kodwo Sheldon and Wo Damaya. Given the importance of SMI features in PSRs and of electronic word of mouth (e-WOM) on PBs, with Instagram playing a moderating role of Instagram, the following research questions were formed for this study:

**RQ1.** How do SMIs reflect their credibility and positively impact PBs on Instagram?

**RQ2.** Does the e-WOM of SMIs on Instagram affect their followers’ PBs?

**Theoretical underpinning**

**Source credibility theory**

The literature on marketing and communication includes extensive studies on the source credibility theory (Zha et al., 2018) and its application in social media settings to understand communication (Kapoor et al., 2020) between SMIs and their followers. Source credibility theory plays a crucial role in research on celebrity testimony (Lacap et al., 2024). Ever since the theory was propounded by Hovland and Weiss (1951), it has been used to examine celebrity testimonial advertising and celebrity endorsement. Perceived source credibility can originate from the source’s physical appearance, attractiveness, power and familiarity (Hovland and Weiss, 1951). Further, a source’s credibility influences the degree of persuasiveness of communication (Kapoor et al., 2020), which is dominant in the context of social media. This informed our decision to use the source credibility theory as the theoretical underpinning for this study.

**Hypotheses development**

The study model indicates that SMI credibility influences followers’ PSRs, e-WOM and PBs. Based on the model, we postulated that PSRs impact e-WOM, in turn influencing followers’ PBs and directly impacting the effect of social media influencers’ credibility (SMC) on PB. Further, we conceptualized Instagram immersion (IG) as moderating the relationships between SMI credibility and PSR, PB and e-WOM. Further, we posited indirect relationships between proposed variables.

**Social media influencers’ credibility and parasocial relationships**

SMIs influence their followers by building relationships with them (Alam et al., 2022; Lacap et al., 2024; Wahab and Tao, 2019). Their influence depends on how credible their followers perceive them to be compared to traditional celebrities. The one-sided nature of these relationships causes followers to imitate, admire and become obsessed with SMIs (McCutcheon et al., 2002). Despite the occurrence of PSRs, there is no face-to-face social engagement between influencers and their followers. Followers of SMIs usually form online communities that portray certain values, interests and beliefs shared by the group members and influencers (Nambisan and Watt, 2011). SMIs’ perceived credibility among their followers results in the formation of PSRs. Accordingly, the following hypothesis was formulated:

**H1a.** SMIs’ credibility positively influences their followers’ PSRs with them.

**Social media influencers’ credibility and electronic word of mouth**

SMIs interact with their followers on different SMPs, which is where their credibility comes into play. Followers can gain information directly from SMIs through SMPs (Hwang and Zhang, 2018). This is a feel-good factor, as followers believe that they have close personal relationships with the SMIs. SMIs manage to turn unknown brands into well-known brands through their
credibility and e-WOM endorsements (Hwang and Zhang, 2018). Celebrity endorsements are regarded as credible, leading to positive e-WOM for products and services (Kutthakaphan and Chokesamritpol, 2013). Therefore, we developed the following hypothesis:

\[ H1b. \text{ SMIs' credibility positively influences e-WOM.} \]

Social media influencers' credibility and purchase behavior

It has been established by scholars in the field of marketing that endorsements by influencers instigate significant positive attitudes toward brands and high PB rates compared to endorsements by non-influencers. With digitalization and the internet becoming ever-present in people's daily lives, SMIs have proven to be indispensable third-party endorsers. However, Lim et al. (2017) postulated that SMIs' source credibility does not positively impact followers' PBs, potentially because of a perceived lack of credibility regarding the endorsed brand. In contrast to the findings of Lim et al. (2017), SMIs' credibility has been shown to positively affect the credibility of endorsed brands (Nicolau and Santa-Maria, 2013). Further, the reputations and credibility of celebrities on SMPs have been found to impact their followers' product PBs (Sokolova and Kefi, 2020; Kim et al., 2015). Therefore, the following hypothesis was formulated:

\[ H1c. \text{ SMIs' credibility has a positive effect on followers' PBs.} \]

Parasocial relationships and electronic word of mouth

People who follow SMIs establish PSRs by liking and commenting on the content the SMIs create on SMPs (Wahab et al., 2022). SMPs instigate e-WOM when users create networks that consumers perceive to be credible and trustworthy sources of information (Chu and Kim, 2011). This could be due to the PSRs they have with SMIs. There are three ways of facilitating e-WOM on SMPs: through opinion seekers, opinion leaders and pass-along behavior (Alam et al., 2022; Chu and Kim, 2011; Yuan and Lou, 2020). Opinion leaders are SMIs who influence their followers through e-WOM because of the PSRs that their followers develop with them on SNSs. Considering this, we formed the following hypothesis:

\[ H2. \text{ PSRs have a positive effect on e-WOM.} \]

Parasocial relationships and purchase behaviors

According to Sokolova and Kefi (2020), PSRs with social media celebrities influence followers' PBs because of the latter's belief in the celebrities. This implies that a follower experiences internalization and affectivity when influenced to purchase a product (Sokolova and Kefi, 2020). In a comparison of traditional celebrities and digital celebrities on SNSs such as YouTube and Instagram, it was postulated that digital celebrities strongly impact their followers' PBs as a result of how trustworthy the celebrities are perceived to be (Djafarova and Rushworth, 2017). SMIs' PSRs with their followers increase when they open up and provide their personal and professional information on Instagram, in turn facilitating communication and interaction (Lacap et al., 2024). Further, SMIs' self-disclosure during their interactions with followers influences PSRs, whereas source trustworthiness positively impacts brand credibility and instigates PBs (Chung and Cho, 2017). With this backdrop, the following hypothesis was formulated:

\[ H3. \text{ PSRs involving SMI credibility positively impact PBs.} \]
The advent of social media gave rise to the phenomenon of e-WOM, which permits users to exchange information with their online friends (Erkan and Evans, 2016). Contrary to other online platforms, social media allows users to communicate and share their product-related experiences and opinions with their friends (Chu and Kim, 2011; Kozinets et al., 2010). Thus, e-WOM brings people from different geographical backgrounds together on the internet (Hennig-Thurau et al., 2004). This makes e-WOM an indispensable tool for product/service endorsement in online marketing (Zhang et al., 2010). When ascertaining how effective e-WOM is in influencing consumers’ behavioral intentions and attitudes, e-WOM communicators’ perceived credibility among their followers cannot be overemphasized (Erkan and Evans, 2016; Reichelt et al., 2014). Numerous researchers have found that e-WOM has a significant impact on the PBs of consumers (Karunamoorthy et al., 2021), making it a convenient tool for clearing consumers’ doubts about their purchase decisions (Hung and Li, 2007; Wu et al., 2014). Considering this, we formulated the following hypothesis:

**H4.** e-WOM of SMIs positively impacts followers’ PBs.

Mediating roles of parasocial relationships and electronic word of mouth
PSRs with SMIs play a crucial role in SNSs. PSRs on the relationship between SMI credibility and PB cannot be overlooked in today’s SNS landscape (Lacap et al., 2024). Yılmazoğan et al. (2021) stated that SMI credibility impacts followers because of the PSRs established between the parties involved. Considering SMIs’ characteristics, scholars have used source credibility to measure the influence of communicators on effective persuasive messages (McGuire, 2001). From the perspective of source credibility, prior studies have examined the influence of celebrity endorsements on consumers (Dwivedi et al., 2015). When considering influencer source credibility (Lou and Yuan, 2019), we expected PSRs to play a significant role in the relationship between SMIC and followers’ PBs. Therefore, we formulated the following hypothesis:

**H5.** PSRs mediate the relationship between SMIs’ credibility and followers’ PBs.

Social media has paved the way for the transformation of WOM to e-WOM, and the emergence of SMIs has been accompanied by millions of followers (Konstantopoulou et al., 2019). While e-WOM has long been regarded as an effective marketing tool (Zhang et al., 2010), the emergence of social media has given it a new dimension. Firms use Instafamous celebrities to endorse their brands through e-WOM because of their extensive online presence on the platform and how powerful Instagram is as an SMP. Notably, a typical user of SMPs spends approximately three hours online daily.

Lee and Watkins (2016) reported that consumers’ PSRs with vloggers positively affect their brand perceptions, which then impacts their PBs. This is because PSRs with Instafamous celebrities heighten consumers’ desire to own luxury goods that the celebrities possess (Hwang and Zhang, 2018) through e-WOM. Colliander and Dahlén (2011) posited that blogs lead to parasocial ties between bloggers and followers, which then encourage those followers to make purchases. With this in mind, we formed the following hypotheses:

**H6a.** e-WOM mediates the relationship between social media influencer credibility and PB.
**H6b.** e-WOM mediates the relationship between PSRs and PB.
Moderating role of Instagram immersion

SMPs are critical in the marketing activities of firms, opinion leaders (influencers) and opinion seekers (followers). They are essential platforms for creating PSRs (Chung and Cho, 2017), and Instagram is no exception. Customers are able to exchange messages with their favorite celebrities via social media, which makes them feel they have rapport with celebrities (Chung and Cho, 2017) through the PSRs formed. Moreover, grammatical and spelling mistakes in messages from celebrities on social media and the usage of first person (“I” and “we”) by the celebrities lead to followers feeling closer to them (Marwick and Boyd, 2011), ultimately breaking the barrier between the persona and spectator (Horton and Richard Wohl, 1956). In the digitalization age, celebrities’ impact on their followers regarding product/service advertisement is in the limelight, and celebrity endorsement has become prevalent on different online platforms (Djafarova and Rushworth, 2017).

Although previous studies have investigated how SNSs impact the behaviors of individuals in online communities, they have overlooked the moderating impact of IG on such behaviors (Ou et al., 2014). Further, online purchase decisions are gaining ground as a standard shopping approach as a result of the rapid shift from SNSs being basic tools for interaction, content sharing and information exchange to playing a crucial role in the media terrain (Agnihotri et al., 2012). As Instagram is a vital tool for interactions between users and their favorite celebrities, we posited that the IG effect would moderate the relationships between PSR and PB, e-WOM and PB and SMI credibility and PB. Therefore, the following hypotheses were formulated:

H7a. IG moderates the impact of PSRs on PB. The higher (lower) the level of IG, the more positive and strong (weak) the relationship between PSRs and PB.

H7b. IG moderates the impact of e-WOM on PB. The higher (lower) the level of IG, the more positive (negative) the relationship between e-WOM and PB.

H7c. IG moderates the impact of social media influencer credibility on PB. The higher (lower) the level of IG, the more positive (negative) the relationship between social media influencer credibility and PB.

Based upon the above hypotheses, we proposed the following framework (Figure 1).

Methods

Sampling procedure

The study sample comprised active social media users 18–35 years of age who had at least one favorite Instagram influencer listed in the study questionnaire and checked for updates on that person at least once a week. A cross-sectional survey was used to gather data between September 2022 and December 2022. Judgmental and snowball sampling techniques were used, and then an internet tool (Survey Planet) was used to generate a self-administered survey. The survey link was sent to the participants through WhatsApp, Facebook, Telegram and Snapchat. A total of 612 responses were received; 498 valid questionnaires were used for the data analysis after discarding 116 responses from respondents who were not followers of SMIs on Instagram. A power analysis using G*Power software was conducted to determine the sample size, and a series of power analyses showed that 498 responses were sufficient for this study (Prajapati et al., 2010).

Questionnaire design, scale description and statistical analysis techniques

We developed a questionnaire that would assess the reliability of SMIs, ascertain PSR and e-WOM and establish the moderating impact of IG and the PBs of followers of Instagram celebrities. A scale to measure SMI credibility was adapted from Rich’s (1997) study, PSR measures were obtained from Auter’s (1992) and Tao et al.’s (2019) works, e-WOM measures
were obtained from Hennig-Thurau et al.’s (2004) work, PB measures were obtained from Zeithaml et al.’s (1996) study and IG was measured using items from B. L. Rich et al.’s (2010) and Schaufeli et al.’s (2002) works. A five-point Likert scale was used to assess the questionnaire items. To test the hypothesized model, structural equation modeling (SEM) was performed using SmartPLS 4 and IBM SPSS version 24.0.

Demographic profile of respondents
The respondents were diverse in their demographic characteristics (see Table 1), including gender, marital status, education and age. The respondents’ ages ranged from 18 to 35. Most respondents were female (347), representing 69.7% of the sample, and the income level was less than 1,500 GHC for 87.8% of the participants. The majority of the respondents’ education level was graduated (49.8%). Further, 90.4% of the respondents were everyday social media users. The majority used Instagram and spent 1–2 h online daily (53.4%). Most respondents (38%) chose Hajia Bintu as their favorite social media celebrity on Instagram (Table 1).

Analysis of results
Common method bias test
We used the Harman’s single-factor test to determine the likelihood of common method bias among the variables (Harman, 1976), following Podsakoff et al. (2003) method of using varimax rotation. The results depicted 27.36% chance of bias for the model, which was less than 50% of the total variance among the items of the measurement scale and below the 40% threshold suggested by Harman (1976). Therefore, common method bias was not an issue affecting the data set for this study.

Measurement model analysis
Our analysis of the measurement model confirmed its convergent validity, internal consistency, item reliability and discriminant validity and the heterotrait–monotrait (HTMT) ratio of
The composite validity and Cronbach’s alpha values were above the cutoff point of 0.70 (Hair et al., 2010). The average extracted variance (AVE) was more significant than 0.50 for all constructs. All items loaded above 0.70, so the factor loadings were all retained (Hair et al., 2010). These indicated good composite validity and reliability (Avkiran, 2018). The results of the reliability and confirmatory analyses are given in Table 2.
We used the modern approach described by Henseler et al. (2015) to evaluate the discriminant validity of the variables and calculate the HTMT correlation ratio. The HTMT results for this study (see Table 3) were all under the cutoff point of 0.85, indicating that the discriminant validity result was devoid of any issues (Hair et al., 2017).

**Multicollinearity statistics**

Variance inflation factor (VIF) values were used to determine the likely multicollinearity issues among the constructs of interest in the conceptual models (Hair et al., 2017). The VIF values ranged from 1.236 to 2.265 (Table 2) and were below the threshold value of 5.0, suggesting that collinearity would not pose any problem for partial least structural (PLS) path model estimation (Hair et al., 2017). The inner VIF values were below 3.3, showing no problem with collinearity in the model (Tables 2 and 3).

**Coefficient of determination (R²), effect size (f²), predictive relevance (Q²) and model fit**

For the structural model, R² values were used to ascertain the overall explanatory power, Q² values were used to ascertain the predictive relevance and the path coefficient β-values and
$f^2$ values were used to ascertain the effect sizes of the latent variables and thus the exogenous and endogenous variables. We also computed the goodness of fit (GOF) value (Tenenhaus et al., 2005) to measure and analyze the effectiveness of the model fit. The GOF was confirmed by the calculated value of 0.47 (Table 4), which was above the previously established value of 0.36 (Wetzels et al., 2009) (Table 4).

**Results of hypothesis testing**

Table 5 and Figure 2 show the hypothesized direct, indirect and moderating impacts. We proposed four direct, three indirect and three moderating hypotheses in the current framework.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>IPMA Importance value</th>
<th>IPMA performance value</th>
<th>$f^2$</th>
<th>Effect size</th>
<th>$R^2$</th>
<th>$Q^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMIC</td>
<td>0.31</td>
<td>64.38</td>
<td>0.01</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SMIC → PB</td>
<td></td>
<td></td>
<td>0.03</td>
<td>Small</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SMIC → e-WOM</td>
<td></td>
<td></td>
<td>0.41</td>
<td>Large</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSR</td>
<td>0.31</td>
<td>59.18</td>
<td>0.26</td>
<td>Large</td>
<td>0.37</td>
<td>0.24</td>
</tr>
<tr>
<td>PSR → e-WOM</td>
<td></td>
<td></td>
<td>0.03</td>
<td>Small</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e-WOM</td>
<td>0.23</td>
<td>55.85</td>
<td>0.04</td>
<td>Small</td>
<td>0.45</td>
<td>0.31</td>
</tr>
<tr>
<td>e-WOM → PB</td>
<td>0.27</td>
<td>61.09</td>
<td>0.04</td>
<td>Small</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IG → PSR</td>
<td></td>
<td></td>
<td>0.04</td>
<td>Small</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IG → e-WOM</td>
<td></td>
<td></td>
<td>0.03</td>
<td>Small</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IG → PB</td>
<td></td>
<td></td>
<td>0.04</td>
<td>Small</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PB</td>
<td></td>
<td></td>
<td>0.03</td>
<td>Small</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Model fit**

<table>
<thead>
<tr>
<th>Category</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRMR</td>
<td>0.073</td>
</tr>
<tr>
<td>NFI</td>
<td>0.756</td>
</tr>
<tr>
<td>GOF</td>
<td>0.47</td>
</tr>
</tbody>
</table>

Table 3. Discriminant validities

Table 4. IPMA values, effect size ($f^2$), coefficient of determination ($R^2$), predictive relevance ($Q^2$) and model fit
**Direct effect**

The effect of SMIC on PSR was significant at the 0.001 level of significance ($\beta = 0.535$, $t$-values = 12.823, $p < 0.000$), supporting $H1a$. This finding is consistent with those of previous studies (Khamis et al., 2017; Tao et al., 2019). The effect of SMI credibility on E-WOM was also significant at the 0.001 level of significance ($\beta = 0.174$, $t$-values = 3.747, $p < 0.000$), supporting $H1b$. However, this goes against previous scholars’ findings (Hwang and Zhang, 2018). SMI credibility’s impact on PB was insignificant ($\beta = 0.103$, $t$-values = 1.748, $p > 0.05$) and thus did not support $H1c$. This result is consistent with the findings of

---

**Table 5.**

<table>
<thead>
<tr>
<th>Hypothesized relationship</th>
<th>Beta ($\beta$)</th>
<th>$t$-values</th>
<th>$p$-values</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H1a$ SMIC $\rightarrow$ PSR</td>
<td>$0.53$</td>
<td>$12.82$</td>
<td>$0.000$</td>
<td>Supported</td>
</tr>
<tr>
<td>$H1b$ SMIC $\rightarrow$ E-WOM</td>
<td>$0.17$</td>
<td>$3.74$</td>
<td>$0.000$</td>
<td>Supported</td>
</tr>
<tr>
<td>$H1c$ SMIC $\rightarrow$ PB</td>
<td>$0.10$</td>
<td>$1.74$</td>
<td>$0.081$</td>
<td>Not supported</td>
</tr>
<tr>
<td>$H2$ PSR $\rightarrow$ E-WOM</td>
<td>$0.48$</td>
<td>$11.02$</td>
<td>$0.000$</td>
<td>Supported</td>
</tr>
<tr>
<td>$H3$ PSR $\rightarrow$ PB</td>
<td>$0.20$</td>
<td>$3.40$</td>
<td>$0.001$</td>
<td>Supported</td>
</tr>
<tr>
<td>$H4$ E-WOM $\rightarrow$ PB</td>
<td>$0.23$</td>
<td>$3.94$</td>
<td>$0.000$</td>
<td>Supported</td>
</tr>
<tr>
<td>$H5$ SMIC $\rightarrow$ PSR $\rightarrow$ PB</td>
<td>$0.11$</td>
<td>$3.23$</td>
<td>$0.001$</td>
<td>Supported</td>
</tr>
<tr>
<td>$H6a$ SMIC $\rightarrow$ E-WOM $\rightarrow$ PB</td>
<td>$0.04$</td>
<td>$2.57$</td>
<td>$0.010$</td>
<td>Supported</td>
</tr>
<tr>
<td>$H6b$ PSR $\rightarrow$ E-WOM $\rightarrow$ PB</td>
<td>$0.11$</td>
<td>$3.78$</td>
<td>$0.000$</td>
<td>Supported</td>
</tr>
</tbody>
</table>

**Mediator relationship**

<table>
<thead>
<tr>
<th>Hypothesized relationship</th>
<th>Beta ($\beta$)</th>
<th>$t$-values</th>
<th>$p$-values</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H7a$ IG $\times$ SMIC $\rightarrow$ PSR</td>
<td>$-0.00$</td>
<td>$0.23$</td>
<td>$0.816$</td>
<td>Not supported</td>
</tr>
<tr>
<td>$H7b$ IG $\times$ SMIC $\rightarrow$ PB</td>
<td>$0.07$</td>
<td>$1.98$</td>
<td>$0.047$</td>
<td>Supported</td>
</tr>
<tr>
<td>$H7c$ IG $\times$ SMIC $\rightarrow$ E-WOM</td>
<td>$-0.01$</td>
<td>$0.63$</td>
<td>$0.524$</td>
<td>Not supported</td>
</tr>
</tbody>
</table>

**Note:** *Beta ($\beta$) and $t$-values are given on the arrows*
Wahab et al. (2022). In sum, H1a and H1b were supported, whereas H1c was rejected. The effect of PSR on E-WOM was significant at the 0.001 level of significance ($\beta = 0.481, t$-values = 11.020, $p < 0.000$), supporting H2. The effect of PSR on PB was significant at the 0.001 level of significance ($\beta = 0.205, t$-values = 3.405, $p < 0.001$), supporting H3. The effect of E-WOM on PB was significant at the 0.001 level of significance ($\beta = 0.230, t$-values = 3.945, $p < 0.000$), supporting H4.

**Indirect effects**

The indirect effects of PSR on the relationship between SMI credibility and PB were significant at the 0.001 significance level ($\beta = 0.110, t$-values = 3.235, $p < 0.001$), supporting H5. If a direct effect is insignificant and a mediation effect is significant, then full mediation exists (Zhao et al., 2010). Based on this, we concluded that full mediation existed in the aforementioned relationship. In addition, the indirect effects of E-WOM on the relationships between SMIC and PB and between PSR and PB were significant at the 0.001 level ($\beta = 0.040, t$-values = 2.576, $p < 0.010; \beta = 0.111, t$-values = 3.783, $p < 0.000$), supporting H6a and H6b. The direct effect was insignificant, so full mediation existed (Zhao et al., 2010).

**Moderating effects**

Table 5 depicts the role of IG as a moderator variable in the relationships between SMIC and PSR ($\beta = -0.006, t$-values = 0.233, $p > 0.05$), SMIC and PB ($\beta = 0.074, t$-values = 1.984, $p < 0.001$) and SMIC and E-WOM ($\beta = -0.016, t$-values = 0.637, $p > 0.05$). The results were statistically insignificant for H7a and H7c, negating the hypotheses, and minimally significant for H7b (Table 5).

**Discussion**

Regarding H1a, the results showed that SMI credibility directly affects PSRs ($\beta = 0.535$), confirming the results of previous research on celebrity influence and PSRs (Wahab and Tao, 2019). This could be because of SMIs’ credibility, beauty and/or content they share. Regarding H1b, a significant direct effect of SMI credibility on e-WOM was found ($\beta = 0.075$). This could be because, without credibility, no one would embrace the e-WOM of an online influencer they have never met. The relationship was found to be more robust through PSR ($\beta = 0.504$). PSR fully mediates the effect of SMI credibility on e-WOM, potentially because followers’ exposure to SMIs on Instagram would be impossible without established PSRs.

H1c was not supported, as the effect of SMI credibility on PB was statistically insignificant. This aligns with Wahab et al.’s (2022) claim that there is no direct positive relationship between SMI credibility and followers’ PBs. This means that SMIs’ credibility on Instagram does not directly influence their followers’ PBs; SMIs’ credibility can only be achieved through PSRs between SMIs and followers and through e-WOM. This result also contradicts Kim et al.’s findings (2015), which suggested that followers’ exposure to celebrities can directly influence their PBs.

The relationship between the followers’ PSRs and PBs was significant ($\beta = 0.205$), consistent with previous findings (Wahab et al., 2022; Sokolova and Kefi, 2020; Hwang and Zhang, 2018). Therefore, followers’ PSRs with influencers on Instagram play a crucial role in their brand purchase intention and decision. Moreover, the findings also revealed that e-WOM has a direct positive effect on followers’ PBs, likely resulting from their PSRs with SMIs on Instagram. Further, PSR was found to positively impact e-WOM ($\beta = 0.498$), corroborating the findings of Hwang and Zhang (2018). The PSRs between SMIs and their followers boil down to the SMIs’ credibility, ultimately affecting their e-WOM.
Theoretical implications

Extant research on IG is inadequate (Djafarova and Rushworth, 2017; Konstantopoulou et al., 2019; Sheldon and Bryant, 2016; Sokolova and Kefi, 2020). This study adds to the literature on SMI credibility and IG. We investigated the moderating role of IG in the influence of SMIC, PSR and e-WOM on PB and the mediating roles of PSR and e-WOM in the relationship between SMI credibility and PB. The findings extend PSR, e-WOM and SMI credibility into the consumer behavior theory and demonstrate how they influence followers’ buying behaviors on SNSs.

The insignificant direct influence of SMI credibility on followers’ PBs is also a highlight of this study (see Figure 2). It was found that SMI credibility is not enough to sway followers’ PBs. In other words, celebrities’ credibility on Instagram does not influence their followers’ PBs. Nevertheless, it is possible that SMI credibility impacts followers’ PBs through e-WOM and PSRs. This finding shows that PSR and e-WOM are significant concepts in the literature on celebrity influence. In this study, e-WOM had the lowest predictive power in determining PBs. This suggests that followers’ eagerness to listen to their favorite SMIs’ e-WOM does not contribute much to their PBs.

By focusing on the online environment, where virtual relationships and pseudo-friendships are common, the current study contributes to the body of knowledge on PSRs. Online parasocial partnerships have the potential to create new kinds of PSRs. On the surface, virtual interactions between social media users appear bilateral, especially on Instagram. However, the expectations and behaviors of these partnerships differ, and the development of bilateral relationships may not be as simple as one might think.

Managerial implications

This study offers significant insights that can be leveraged by marketing practitioners who intend to find SMIs to endorse their brands for the right audience group, especially in mature, saturated markets involving little to no differentiation among brands. For managers, the selection of SMIs that best fit a firm’s brand cannot be overemphasized (Lin et al., 2018). Although SMI credibility plays a crucial role in followers’ purchase decisions (Hwang and Zhang, 2018; Sokolova and Kefi, 2020; Vrontis et al., 2021), this study showed that the impact is not direct (supporting Wahab et al., 2022) but, instead, occurs indirectly through followers’ PSRs with influencers and through influencers’ e-WOM. This is because the followers of SMIs find the information shared by influencers to be more persuasive than the credibility of the influencers as a result of their curiosity and established connections. This depicts the significance of such connections. SMIs need to carry themselves well in public and on Instagram and avoid scandals while they create their content, as their followers, including business owners, look up to them; this will help strengthen existing PSRs.

Marketers can tap into the influence that SMIs, as key opinion leaders, have on their followers and get the SMIs to encourage their followers to try new products/services introduced into the market (Wahab et al., 2022). Because of their influence, their opinions during the introduction stage of a product’s life cycle can go a long way in influencing their followers to adopt the product. Otherwise, their credibility would be under scrutiny, in turn determining whether marketing practitioners or firms should request their services. Moreover, businesses can use SMIs as brand evangelists to push their brands to their target markets and enlighten consumers about their brands by providing relevant information (see Table 6).
Limitations and directions for future research
Although this study gave rise to some interesting empirical findings, it has several limitations. Judgmental sampling, a convenience and snowballing sampling technique, does not allow results to be generalized, as the sample cannot represent the whole population. This study is also limited by the use of SEM. We advise future researchers to improve upon our findings through experiment-based and observational research because SEM could only determine the causation among the study variables. Further, the present study focused on Ghana, specifically Accra, so caution needs to be taken when generalizing the results.

Hwang and Zhang (2018) and Tsiotsou (2015) opined that the scales established to measure mass media-based PSRs may not entirely reflect the context of social media PSRs and suggested that future researchers validate the existing scales or develop new scales for the latter. Therefore, the development of online PSR measurement scales can contribute to this area of research (Hwang and Zhang, 2018; Lacap et al., 2024).

The mega-influencers considered in the current study restrict the generalizability of the results. We suggest that future researchers test our model with micro-influencers, as recent studies have indicated that they may be more trustworthy than mega-influencers (Alam et al., 2022; Wahab et al., 2022). Moreover, research can be conducted with brand celebrities to test the PSRs that develop between brands and users. Longitudinal studies can be carried out to gain detailed knowledge about the distinctions between PBs and actual purchases on SNSs because of SMI credibility, e-WOM and PSRs.

References


<table>
<thead>
<tr>
<th>Conclusions</th>
<th>Theoretical and managerial implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>The continuous trend of SMIs and social platforms encourages scholars and marketing practitioners to understand and address changes in influencers’ marketing phenomenon. SMI credibility indirectly influences purchasing behavior through eWOM and PSR. We studied how IG moderates the relationship between SMIC and PSR, PB and E-WOM. The moderating factor was significant between SMIC and PB but not the other variables. E-WOM and PSR positively correlate with PB. This means that the followers of SMIs on Instagram who have established PSRs with them and are influenced by e-WOM are likely to purchase the brands the SMIs endorse.</td>
<td>Using the source credibility theory, this study validated the roles of SMI credibility and IG in influencing the followers’ PBs in a unique sociocultural context. SMI credibility does not directly influence the followers’ purchase decisions; it affects them through PSRs and e-WOM. Marketers should pay attention to Instagram as a social media platform, as it plays a significant role in SMIs’ credibility and followers’ PBs. This could be because the ethical standards on the platform serve as a check on SMIs’ behavior. The study’s findings can help Instagram influencers adopt more persuasive behaviors. It is also crucial for marketers to understand the influencers’ persuasive cues before forming any brand associations.</td>
</tr>
</tbody>
</table>

Table 6. Concussion and implications


Corresponding author
Faizan Alam can be contacted at: faizanalam333@ibc.dufe-edu.cn