

Enhancing customer engagement through source appearance and self-influencer congruence in mobile advertising

Enhancing
customer
engagement

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Abstract

Purpose – The aim of this study is to assess the mediating effect of source appearance (SA) and self-influencer congruence (SIC) on the relationship between visual content (VC) and customer engagement (CE) towards mobile advertisement.

Design/methodology/approach – This study uses a quantitative approach to test the proposed model based on the stimulus–organism–response (SOR) theory. The non-probability purposive sampling technique was used to collect data from Pakistani mobile users through a self-administered questionnaire.

Findings – The study results prove that VC alone cannot generate mobile users' engagement. SA is the key in this regard, which has a relatively higher importance compared to SIC. Furthermore, the serial mediation effect of SA and SIC on CE shows that attractive sources are likely to induce higher SIC and subsequent CE.

Practical implications – The results reveal that without a pleasing SA and positive SIC, mobile users skip the ads by perceiving them to be irritating or interruptive. Mobile ads might cost relatively less, but the advertisers should understand the significance of the SA toward minimizing the mobile advertising skepticism.

Originality/value – Advertisers can enhance the user's engagement on mobile devices by addressing both the SA and SIC in their VC. The combined effect of both the SA and SIC on CE has not been assessed before. Furthermore, this study has used the SOR mechanism to examine CE.

Keywords Visual content, Source appearance, SOR, Mobile advertising, Self-influencer congruence, Customer engagement

Paper type Research paper

Potenciando el compromiso del cliente a través de la apariencia de la fuente y la congruencia del auto-influencer en la publicidad móvil

Resumen

Propósito – El objetivo general de esta investigación es evaluar el efecto mediador de la apariencia de la fuente (SA) y la congruencia del auto-influencer (SIC) en la relación entre el contenido visual (CV) y el compromiso del cliente (CE) hacia la publicidad móvil.

Diseño/metodología/enfoque – Este estudio utiliza un enfoque cuantitativo para probar el modelo propuesto basado en la teoría estímulo-organismo-respuesta (SOR). Se utilizó la técnica de muestreo

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intencional no probabilístico para recoger datos de usuarios de móviles paquistaníes mediante un cuestionario autoadministrado.

Conclusiones – Nuestros resultados demuestran que el contenido visual por sí solo no puede generar el compromiso de los usuarios de móviles. La apariencia de la fuente es la clave a este respecto, que tiene una importancia relativamente mayor en comparación con la congruencia del auto-influencer. Además, el efecto de mediación en serie de SA y SIC en CE muestra que es probable que las fuentes atractivas induzcan un mayor SIC y el consiguiente compromiso del cliente.

Implicaciones prácticas – Los resultados revelan que sin una SA agradable y una SIC positiva, los usuarios de móviles omiten los anuncios al percibirlos como irritantes o interruptores. Los anuncios para móviles pueden costar relativamente menos, pero los anunciantes deben comprender la importancia de la apariencia de la fuente para minimizar el escepticismo de la publicidad móvil.

Originalidad/valor – Los anunciantes pueden mejorar la participación del usuario en los dispositivos móviles abordando tanto la AS como el SIC en sus contenidos visuales. Hasta ahora no se había evaluado el efecto combinado de la AS y el SIC en el CE. Además, este estudio ha utilizado el mecanismo del SOR para examinar el engagement del cliente.

Palabras clave Contenido visual, Apariencia de la fuente, SOR, Publicidad móvil, Congruencia auto-influencer, Compromiso del cliente

Tipo de artículo Trabajo de investigación

通过移动广告中的来源外观和自我影响者一致性提高客户参与度

摘要

目的 – 本研究的总体目标是评估源外观 (SA) 和自我影响者一致性 (SIC) 对移动广告视觉内容 (VC) 和客户参与 (CE) 之间关系的中介效应。

设计/方法/途径 – 本研究采用定量方法来检验基于刺激-有机体-反应 (SOR) 理论提出的模型。研究采用了非概率目的性抽样技术, 通过自填问卷的方式向巴基斯坦移动用户收集数据。

研究结果 – 我们的研究结果证明, 仅靠视觉内容并不能引起移动用户的参与。在这方面, 源外观是关键, 与自我影响者一致性相比, 源外观的重要性相对更高。此外, SA 和 SIC 对 CE 的串联中介效应表明, 有吸引力的信息源可能会诱发更高的 SIC 和随后的客户参与。

实际意义 – 研究结果表明, 如果没有令人愉悦的SA和积极的SIC, 移动用户就会认为广告具有刺激性或干扰性, 从而跳过广告。移动广告的成本可能相对较低, 但广告商应了解广告源外观对减少移动广告怀疑的重要性。

独创性/价值 – 广告商可以通过在视觉内容中同时考虑广告联盟和广告投放中心这两个因素, 提高用户在移动设备上的参与度。之前从未有人评估过“SA”和“SIC”对消费者参与度的综合影响。此外, 本研究还使用了SOR机制来考察客户参与度。

关键词 视觉内容, 来源外观, SOR, 移动广告, 自我影响者一致性, 顾客参与
文章类型 研究型论文

1. Introduction

Mobile advertising is assigned a substantial portion of companies' overall marketing spending because it is viewed as an essential strategy (Hashim *et al.*, 2018; Stefko *et al.*, 2022). The amount spent on mobile advertising would reach around 399.6 Billion U.S dollar by 2024, an increase of 17.2% from the previous year (Statista, 2023). The idea of mobile advertising arose nearly two decades ago and plays a significant role in providing customized advertising messages, better advertisement recognition, improving customer willingness to buy, engaging customers and creating customers' perceived value from branded mobile apps (Kumar and Pansari, 2016; Murillo-Zegarra *et al.*, 2020; Park and Park, 2020; Park and Gong, 2023). Even though the recent pandemic led the businesses to embrace a new reality, managers have yet to formulate a strategic direction for such situations (Ketter and Avraham, 2021). Having said that, skepticism toward mobile advertisements remains a primary concern for marketers, which can be addressed through customer engagement (CE) (Hollebeek *et al.*, 2022).

The scope of consumer engagement includes those who do not make purchases but can influence the brand by posting information on the brands' social media platforms (Sharma *et al.*, 2022). The previous studies (Barari *et al.*, 2021; Rosado-Pinto and Loureiro, 2020) have identified CE as an essential component of business success (Kumar and Pansari, 2016), brand loyalty (Li *et al.*, 2020), word of mouth, satisfaction and trust (Rosado-Pinto and Loureiro, 2020; de Oliveira Santini *et al.*, 2020). However, the term CE refers to "the behavioural manifestation of a customer toward a brand or firm, beyond purchases, stemming from motivational cues" (Van Doorn *et al.*, 2010). Users are more likely to respond to mobile advertising when they have favorable interactions with a product and begin offering positive feedback (Gao and Zang, 2016; Kim and Read, 2022). The current research makes an effort to investigate the connection between visual content (VC) and CE in advertising to understand mobile users' behaviour with advertisements. The findings of this study could help reduce mobile users' skepticism toward advertisements.

Interestingly, source appearance (SA) in the mobile advertising context is less explored. Prior studies have mainly focused on the social media influencers' credibility (Weismueller *et al.*, 2020), attractiveness, expertise, trustworthiness (Wiedmann and von Mettenheim, 2020; Cvirka *et al.*, 2022) and impact on customer purchase intention (Kurdi *et al.*, 2022). The source's physical attractiveness provokes customer sentiments (Samarasinghe, 2018; Kim and Park, 2023) where the mobile users tend to match their actual and ideal selves with the source in the ads (Xu and Pratt, 2018) for meanings as well as associations (Shan *et al.*, 2020). Even though customers have a positive emotional response to the source when the source is likable (Teng and Tsai, 2020; Sanders, 2006), familiar (Roy, 2006) and similar (Lou and Yuan, 2019; Wies *et al.*, 2023), there has been limited research on SA as a mediator in the mobile advertising literature, which leaves room for determining its effects on CE.

Researchers have demonstrated self-influencer congruence (SIC) as an independent variable in the context of social media influencers (Shan *et al.*, 2020), which impacts consumer behaviour (Zogaj *et al.*, 2021), and purchase intentions (Absharina *et al.*, 2021). SIC holds great significance as it enhances customers' visit intentions (Xu and Pratt, 2018), attitude toward brand content and content engagement (Zogaj *et al.*, 2021). Researchers also proved that the compatibility of customer's ideal self-image and the social media influencer's image generates influential endorsements (Shan *et al.*, 2020). Individuals use social media to follow influential users to feel more connected to the community (Xiao *et al.*, 2021). However, customers engage with mobile ads when they perceive their actual and ideal self-congruence with the influencer (Xu and Pratt, 2018), which enhances the ads' effectiveness (Lee *et al.*, 2022). Resultantly, SIC has been used as a mediator in our current study to assess CE with mobile advertising.

Concerns remain about mobile users' skepticism toward mobile advertisements (Yang *et al.*, 2021; Nelson *et al.*, 2021; de Sio *et al.*, 2022), and it is of profound interest for marketers to identify the factors that help users' engagement with mobile ads. The current study will assess the combined effect of SA and SIC on CE to deduce if it is greater than the individual effect of SA or SIC, which has not been addressed in the past studies (Rahman *et al.*, 2022; Moorthy *et al.*, 2022; Bazi *et al.*, 2023). Second, while most studies have used the stimulus–organism–response (SOR) framework in the context of online purchase intention (Zhu *et al.*, 2020; Suparno, 2020), customer response (Chopdar and Balakrishnan, 2020) and CE due to apps' attributes (Tak and Gupta, 2021), this study contributes by using the SOR framework in the mobile advertising context to analyze the relationship between VC and CE. Finally, this study contributes by highlighting the significance of SA and SIC in mobile ads.

2. Literature review and hypotheses development

2.1 Visual content and customer engagement

VC primarily refers to illustrations, infographics and videos (Mayahi and Vidrih, 2022; Hou and Pan, 2023), which are used to convey messages to the intended audience (Krause, 2017). Its effectiveness improves when advertisers incorporate graphics and animations into exclusive photos or videos to reflect customers' considerations toward mobile advertisements (Hatmaker, 2021; Appel *et al.*, 2020). VC improves mobile users' experience and enables them to connect with the influencer (Xiao *et al.*, 2021). VC depicts customers' willingness to engage with mobile ad visuals for relevant information and shopping (Kim and Kim, 2021; Almela-Baeza, *et al.*, 2023). Although mobile users express the desire to watch mobile advertisements with good animations, graphics and visual effects, they are less interested in the textual content generated by the firm (Villarroel Ordenes *et al.*, 2019).

Many scholars have proposed that VC improves engagement (Lee *et al.*, 2018; Almela-Baeza, *et al.*, 2023), attracts attention (Pieters and Wedel, 2007, 2004), drives satisfaction (Pansari and Kumar, 2017), builds loyalty (Rahi *et al.*, 2021) and influences purchase intentions (Liu *et al.*, 2022; Orús *et al.*, 2017). The current research involves the CE dimensions that include an "identification," which describes the online or offline users' participation with mobile ads, an "interaction" that involves customers' perception of belongingness to the advertised brand and finally, "absorption," which includes the mobile user's pleasant state when they play as a customer (So *et al.*, 2014; Harrigan *et al.*, 2017). Incentives help advertisers find the right people to show their ads to and let people see ads relevant to what they are watching (Spina, 2020; Mukherjee *et al.*, 2023). In incentive-based advertising, the consumer gets a specific financial reward if they agree to receive promotions and campaigns on their mobile device (Karjaluoto and Alatalo, 2007). Similarly, customers' purchase decisions are influenced by visuals containing retail price promotions (Song *et al.*, 2018).

Researchers have suggested factors that may lead to video ad avoidance, such as previous exposure, habit, the time urgency effect, knowledge and ethics of online selling (Belanche *et al.*, 2017; Jamil *et al.*, 2022). Statistics on the amount of visual information published on social media sites like Facebook and Instagram continue to rise. The full graphic picture post on Facebook and Instagram receives more views, 36,490 and 51,651, respectively. While the post containing a human face, logo and words has fewer views on Facebook and Instagram, 14,571 and 32,630, respectively (Ahmadi *et al.*, 2023). These statistics prove that the complete image in the VC with attractive visual graphics has more views than the image containing just words, a human face and a logo. The literature (Pieters and Wedel, 2007, 2004; Lee *et al.*, 2018; Almela-Baeza, *et al.*, 2023) has also classified VC as an integral part of company-generated content, which is used as stimulus in our model and, significantly affects how much people pay attention and is better at grabbing people's attention (response). Therefore, based on the customers' mobile advertising engagement behavior, the following hypothesis is put forth:

H1. Visual content has a positive effect on customer engagement.

2.2 Source appearance as a mediator between visual content and customer engagement

The current study uses the source attractiveness theory (McGuire, 1985) for defining SA, which relies on elements including source likability, similarity and familiarity. Source likability enables engagement as customers are attracted toward the advertisement (McGuire, 1985; Priyankara *et al.*, 2017). Source similarity is how similar the source seems to the receiver based on demographic or ideological factors (Lou and Yuan, 2019). Source

familiarity is established when the customer says that they know and recognize the source in the mobile advertisement (Peetz, 2012). Similarly, Huang (2016) and Shen *et al.* (2022) explain that brand familiarity derives customers' positive associations and satisfaction with the brand. During the pandemic lockdown, customers became more concerned with the advertisements of familiar brands on their mobile phones (Galoni *et al.*, 2020).

Brands believe influencers are improving the visibility of their products by using video features on their mobile advertising platforms (Ketter and Avraham, 2021). The previous literature's findings suggest that the vividness of the online product information affects individual attitudes, and displaying an authentic and honest video significantly impacts the audience's desire to purchase (Flavián *et al.*, 2017). People are more drawn to and influenced by aesthetically pleasing communicators than those who are less striking (Sanders, 2006; Teng and Tsai, 2020; Aggad *et al.*, 2021). Similarly, the source's physical appeal encourages users to interact with the advertisement by eliciting favorable emotions (Lou and Yuan, 2019; Kim and Park, 2023). Attractive people tend to be liked and admired more, and endorsements from those who are considered attractive tend to inspire consumers to emulate them by making purchases (Samarasinghe, 2018; Nugroho *et al.*, 2022). Importantly, visually appealing animations and graphics make the advertisement more prominent and engaging for mobile users (Hatmaker, 2021; Appel *et al.*, 2020). Customers may click on the link and watch the advertisement when they see a beautiful source with the background containing beautiful graphics, which may enhance CE with the mobile ad. It can be assumed that the SA mediates as organism between VC and CE. Hence, the proposed hypothesis is as follows:

H2. Source appearance is a positive mediator between visual content and customer engagement.

2.3 Self-influencer congruence (SIC) as a mediator between visual content and customer engagement

SIC refers to the apparent resemblance between a consumer's self-perception and the influencer's image (Zhu *et al.*, 2019). Celebrity endorsements affect how and what consumers do, ultimately impacting how consumers feel (Belch and Belch, 2021). Advertisers consider that a public figure may transform the way customers perceive a firm. People want to have the same trustworthy and appealing qualities as the influencers as they have a lot in common with them and want to be like them (Priyankara *et al.*, 2017). Despite the plethora of media alternatives, advertisers still want to communicate and engage with their target audiences using mobile phones. Although, they are attempting to persuade individuals in the hopes that they will subsequently engage large groups of people based on their celebrity knowledge or some other characteristics (Jamil *et al.*, 2022).

Advertisers are changing the layouts of their mobile advertisements to make more room for VC and grow their popularity on visual-focused platforms, mainly social media sites, e.g. Snapchat and Instagram (Hatmaker, 2021; Appel *et al.*, 2020). The symbolic values of the brand shown through the VC in the mobile advertisement underline customers' feelings (Zhao *et al.*, 2023). The cognitive coherence between a consumer's self-concept and the value-expressive attributes of a brand is a significant factor in measuring consumer behaviour, and the more a consumer feels that they are similar to a brand, the more likely they are to engage with that brand's advertisement on their mobile phones (Xu and Pratt, 2018). Similarly, the live shows of online influencers offer fans a sense of gratification, which afterward fosters an inclination to endorse and intention to suggest these live events (Barta *et al.*, 2023).

According to the social cognitive theory (Bandura, 1999; Schunk and DiBenedetto, 2020), the identification process starts when a person thinks that they look like a celebrity, social media influencer, etc. Customers are influenced by self-congruence via aesthetically appealing mobile advertisements that develop confidence in brands or products, develop brand trust and raise degrees of enjoyment with those brands or products (Sirgy, 1982; Hanaysha, 2022). Mobile users also recognize a match between their actual and ideal selves with the source for meanings and connections in the advertisements (Shan *et al.*, 2020; Xu and Pratt, 2018). Similarly, the ideal and actual congruence between the user's self and the celebrity image strengthens the self-brand relationships (Kwon and Ha, 2023) and the efficacy of the advertisement (Lee *et al.*, 2022).

The followers participate with the influencers account and recommend it based on the perceived quality, quantity, uniqueness and the originality of the post on social sites (Casaló *et al.*, 2020). Customers feel more connected to a brand when they engage with ads and follow famous figures on social media (Xiao *et al.*, 2021), which provides better outcomes for advertisers. However, based on the SIC dimensions, which include ideal and actual selves (Zogaj *et al.*, 2021; Malär *et al.*, 2011), this study assumes SIC (organism) acts as a mediator between VC and CE in the context of mobile advertising. Hence, we put forth the following hypothesis:

H3. Self-influencer congruence is a positive mediator between visual content and customer engagement.

2.4 Source appearance and self-influencer congruence as mediators between visual content and customer engagement

According to the source attractiveness theory (McGuire, 1985), the message's acceptability is governed by the resemblance, recognizability and preference of the source, which enhance the user's engagement with the mobile ads (Priyankara *et al.*, 2017; Lou and Yuan, 2019; Sharma and Bumb, 2022). Attractive visuals enhance the prominence and appeal of the influencers in the mobile ads (Hatmaker, 2021). The user's interaction with the social media ads positively influences their impulse buying behaviour (Yaprak and Çoban, 2023). The findings of Kim and Read's (2022) experimental study suggest that smiling influencers increase perceptions of warmth and admiration, eliciting favorable consumer attitudes and behavioral intent regardless of product category or message orientation. According to Ketter and Avraham (2021), beautiful influencers boost the brand by leveraging video features on their mobile ad platforms to make them more appealing. Thus, the ability to graphically match consumers' actions with influencers in mobile advertising enables one to identify the person they prefer based on their ideal selves (Bregman *et al.*, 2022).

SA is linked to higher levels of favorable sentiments (Kim and Park, 2023), and attractive endorsers are more likely to encourage ambitious purchases (Nugroho *et al.*, 2022). For instance, the spokesperson in the cosmetic industry is selected based on attractiveness, so customers are influenced and perceive congruence between themselves and the influencers (Samarasinghe, 2018). The ideal and actual congruence between the user's self and the celebrity image enhance the effectiveness of the advertisement (Lee *et al.*, 2022) and improves the self-brand connections (Kwon and Ha, 2023). Furthermore, the literature findings support the notion that the better the appearance of influencers in mobile advertisements with graphics and animations, the better the customers find the actual or ideal congruence (SIC) between themselves and influencers (Xiao *et al.*, 2021; Zogaj *et al.*, 2021; Malär *et al.*, 2011), leading to positive inspirations toward mobile ads. Thus, based on

that literature, the combined effect of both the SA and SIC (organism) might be greater than the effect through SA or SIC alone. Hence, this leads to the following hypothesis:

- H4. Source appearance and self-influencer congruence positively mediate the relationship between visual content and customer engagement.

2.5 Conceptual framework

The measurement model is based on the SOR framework (Mehrabian and Russell, 1974) (Figure 1), which asserts that the VC is effective in influencing SA and SIC. The SOR theory states that the distinct characteristics of the environment serve as stimuli that affect the psychological state of the individuals and motivate them to respond behaviorally (Jacoby, 2002). Previous literature has used the SOR framework in the context of online purchase intention (Zhu *et al.*, 2020; Suparno, 2020), customer response (Chopdar and Balakrishnan, 2020), customer buying behaviour during live streaming (Ming *et al.*, 2021), customer revenge buying (Liu *et al.*, 2023b), CE due to apps' attributes (Tak and Gupta, 2021) and online product video evaluations (Agrawal and Mittal, 2022). Despite that, the SOR framework's role in measuring CE with mobile advertising is still unexplored (Liu *et al.*, 2023a). Moreover, a need exists to better recognize the influence of VC as a stimulus in generating CE toward mobile advertising through the SA and SIC as organisms.

The following model illustrates the hypothesized relations between the variables.

3. Methodology

This study uses a quantitative approach and deductive reasoning to test the proposed hypotheses based on the SOR theory. The positivist research paradigm referred by Qin (2021) was also used for data collection and analysis, which helped analyze a large number of population and identify causal linkages between variables. Due to time constraints, and

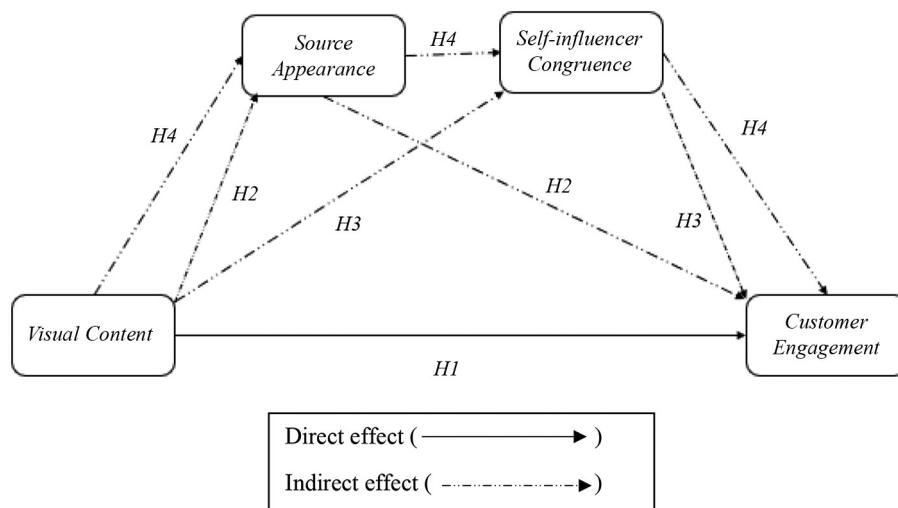


Figure 1. Conceptual model

model complexity, a cross-sectional approach was feasible for the mediation analysis (Cain *et al.*, 2018) in the mobile advertising context (Shrout, 2011; MacKinnon, 2012).

3.1 Sample

The non-probability purposive sampling technique was used to collect the data from the mobile users of major cities of Pakistan. The questionnaire was distributed through Google Forms, where the progress bar was also used, and it was ensured that one must answer a question before moving toward the next question. A total of 783 responses were received, out of which a usable sample of 722 was retained. Furthermore, 48 respondents were screened out based on their systematic patterns and straight-line responses (Abbey and Meloy, 2017). Also, 13 respondents were excluded for being multivariate outliers based on Mahalanobis distance (Ghorbani, 2019). Male and female participants were 58% and 42%, respectively, and the average age of the respondents was 24.50 years.

3.2 Instruments and measures

VC was operationalized through five items, adapted from Buil *et al.* (2013a, 2013b), Raji *et al.* (2019) and Bronner and Neijens (2006). In addition, similarity, likability and familiarity were measured through five items adapted from Chang (2011), Reysen (2005), Radu *et al.* (2023) and Wotruba *et al.* (2001). Based on the source attractiveness theory, these items accounted for the SA in the mobile advertisement context (Samarasinghe, 2018). SIC was measured through four items adapted from Malär *et al.* (2011) and Sirgy *et al.* (1997), which define ideal and actual SIC. Likewise, CE was measured through six items adapted from Harrigan *et al.* (2017), which included identification, interaction and absorption. In the context of mobile advertising, all scales for each of the four constructs were modified and measured using a seven-point Likert scale ranging from strongly disagree to strongly agree. Additionally, demographic variables to characterize the sample were introduced to the instrument.

4. Data analysis and results

This research estimated the mediation Model 6 of Hayes' (2017) PROCESS macro. The robustness of the outer model was evaluated, and all elements with factor loadings were above the acceptable cutoff of 0.3 (Karjaluoto, 2007; Field, 2013). This led to an outer model (Table 1) with factor loadings that varied from 0.403 to 0.677. Similarly, for each construct in the model, average variance extracted (AVE), composite reliability (CR) and Cronbach's alpha were generated. The findings showed that the AVE equal to 0.4 is acceptable if the value of the CR is more than 0.6 (Hair *et al.*, 2021). The levels of AVE (0.400 to 0.616) and CR (0.639 to 0.791) are above 0.4 and 0.6, respectively, confirming the constructs' validity. Significantly, Cronbach's alpha (α) values of scale statistics indicate reliable results as alpha value is above the cutoff value of 0.6 (Murphy and Davidshofer, 1988). Thus, convergent validity was established on the basis of permissible levels of factor loadings and AVEs (Table 1). In addition, the result of Harman's single-factor test indicates that a single factor accounted for only 25% of the variance, confirming that the data are free of common variance bias (Podsakoff *et al.*, 2003). Furthermore, construct reliability was determined using acceptable reliability measures (Table 1).

KMO and Bartlett's test of sphericity were used as additional testing of the outer model's robustness, which define that the KMO value (0.845) defines a degree of common variance as "Meritorious" and the significance value (0.000) of Bartlett's test, less than the threshold value (0.05) indicates the factor analysis is helpful and the sample is adequate (Beavers *et al.*, 2013). Likewise, the level of robustness was also measured through correlation analysis, which aims to check the distribution effects or the linear relationship between two

Measurement items	Factor loadings
VC	
<i>Adapted from Buil et al. (2013a, 2013b), Raji et al. (2019) and Bronner and Neijens (2006) $\alpha = 0.703$; CR = 0.726; AVE = 0.466</i>	
The VC in mobile advertisements offered me something new about products	0.443
The VC in mobile advertisements gives me useful information about the product features	0.651
The VC in mobile advertisements is creative	0.516
The VC in mobile advertisements gave me credible information about the product	0.602
The VC in mobile advertisements about the product is original	0.677
SA	
<i>Adapted from Chang (2011), Reysen (2005), Radu et al. (202) and Wotruba et al. (2001) $\alpha = 0.624$; CR = 0.639; AVE = 0.400</i>	
The source is similar to me	0.424
The source in the mobile advertisement is sincere	0.587
The source in the mobile advertisement is likable	0.630
This source in the mobile advertisement is physically attractive	0.554
I am very familiar with the source in the mobile advertisement	0.435
SIC	
<i>Adapted from Malär et al. (2011) and Sirgy et al. (1997) $\alpha = 0.790$; CR = 0.791; AVE = 0.616</i>	
The person in the mobile advertisement is consistent with how I see myself	0.492
The person in the mobile advertisement is a mirror image of me	0.650
The person in the mobile advertisement is consistent with how I would like to be	0.670
The person in the mobile advertisement is a mirror image of the person I would like to be	0.672
CE	
<i>Adapted from Harrigan et al. (2017) $\alpha = 0.754$; CR = 0.762; AVE = 0.453</i>	
When someone criticizes a mobile advertisement, it feels like a personal insult	0.407
When someone praises a mobile advertisement, it feels like a personal compliment	0.457
In general, I like to get involved in mobile advertisement-related community discussions	0.403
Anything related to mobile advertisements grabs my attention	0.511
When I am interacting with the mobile advertisement, I forget everything else around me	0.590
In my interaction with the mobile advertisement, I am immersed	0.636

Table 1.
Scale refinement

independent variables, which is between +1 and -1 (Ratner, 2009). The results, i.e. 0.243 is between 0 and 0.3, which indicates a weak positive linear relationship according to the shaky linear rule, and according to the fuzz-firm linear rule, 0.461 is between 0.3 and 0.7, which shows a moderate positive linear relationship (Table 3). In addition, the heterotrait-monotrait (HTMT) ratio confirms the discriminant validity of the construct because all the values analyzed from our results (Table 2) are below the threshold defined by Kline (2011), i.e. 0.85.

The results from the mediation model analysis showed that the VC, SA and SIC explained 26% of the variance observed in CE. This level of R^2 is appropriate because "values of 0.20 are regarded as high in fields such as consumer behaviour" (Hair et al., 2021). Three hypotheses were supported, and one was not. Hence, VC ($\beta = 0.0632$; $p \geq 0.05$; $t < 2$) does not directly affect the CE, which rejects $H1$. On the other hand, VC ($\beta = 0.1058$; $p \leq 0.05$; $t > 2$) and SA ($\beta = 0.6152$; $p \leq 0.01$; $t > 2$) were positively associated with the SIC (Table 4). Similarly, SA ($\beta = 0.2257$; $p \leq 0.01$; $t > 2$) and SIC ($\beta = 0.3140$; $p \leq 0.01$; $t > 2$) were positively associated with CE (Table 3). Significantly, mediation effects of the measurement model, which is central to our study, showed that the effect of VC on CE was mediated by SA ($\beta = 0.0938$; significant), which lends support to $H2$. The effect of VC on CE

was mediated by SIC ($\beta = 0.0332$; significant), which supports *H3*. In addition, the serial mediation of SA and SIC ($\beta = 0.0803$, significant) generates positive associations between VC and CE; thus, *H4* was also supported (Table 4).

5. Discussion

The findings from the measurement model showed that VC had a non-significant impact on CE. By contrast, VC was positively associated with SA and SIC. Notably, the VC's effect on CE was sequentially and partially mediated by SA and SIC. The results confirm that the mediation through SA is three times greater than the SIC.

Table 2.
Heterotrait-Monotrait ratio and correlations

Constructs interaction	Heterotrait-Monotrait ratio (HTMT)	Correlation
SA ↔ CE	0.554	0.380**
SIC ↔ CE	0.620	0.478**
SIC ↔ SA	0.635	0.448**
VC ↔ CE	0.354	0.243**
VC ↔ SA	0.700	0.461**
VC ↔ SIC	0.361	0.268**

Note: **Correlation significance <0.001

Table 3.
Model coefficients

Constructs	β	Standardized coefficient	SE	<i>t</i>	<i>p</i>
Effect on SA, $R^2 = 0.2123$					
VC	0.4157	0.4608	0.0298	13.9300	0.0000*
Effect on SIC, $R^2 = 0.2055$					
VC	0.1058	0.0785	0.0505	2.0959	0.0364**
SA	0.6152	0.4118	0.0560	10.9942	0.0000*
Effect on CE, $R^2 = 0.2657$					
VC	0.0632	0.0569	0.0401	1.5732	0.1161
SA	0.2257	0.1833	0.0480	4.7059	0.0000*
SIC	0.3140	0.3810	0.0296	10.6183	0.0000*

Notes: * $p < 0.01$, ** $p < 0.05$

Table 4.
Mediation effects

Hypothesis	Effects	Coefficient	SE	<i>t</i>	<i>p</i>	Type of mediation
<i>H1</i>	VC → CE	0.0632	0.0401	1.5732	0.1161	Null
<i>H2</i>	VC → SA → CE	0.0938				Partial
<i>H3</i>	VC → SIC → CE	0.0332				Partial
<i>H4</i>	VC → SA → SIC → CE	0.0803				Sequential
	Total indirect effect	0.2073				

Notes: VC = Visual content; SA = source appearance; SIC = self-influencer congruence; CE = customer engagement

The result of the relationship between the VC and CE suggests that VC alone does not generate CE in the mobile advertising context. This contradicts the finding of [Zhao et al. \(2023\)](#) that image richness correlates positively with engagement and negates [Rahman et al. \(2022\)](#), who suggested that videos receive more views than pictures of people and pictures without people. Notably, the SA as well as the mobile user's congruence with themselves and the influencer, are likely to generate engagement with the mobile ads. The VC's impact is linked with increasing levels of favorable sentiments, and beautiful endorsers are more likely to lead to purchasing aspirations and engagement with that mobile ad ([Samarasinghe, 2018](#); [Lee et al., 2018](#)). Similarly, visually attractive influencers in advertising are more likely to be perceived as credible and trustworthy, leading to more positive attitudes toward the product being advertised ([Kim and Kim, 2021](#); [Samarasinghe, 2018](#)). However, mobile users do not engage with the ads shown on their devices that have visuals but do not have a source containing attractive appearance.

The most important finding of this study is that people notice the attractiveness of the influencer during the first impression of the mobile ads, and if it attracts them enough, then they start finding similarities between themselves and the influencers. The better the appearance of influencers in mobile advertisements, the better customers can find the actual or ideal congruence (SIC) between themselves and the influencers ([Xiao et al., 2021](#); [Zogaj et al., 2021](#); [Malär et al., 2011](#)). Besides this, visually appealing content and sources with strong SIC can boost CE, establish trust and credibility and eventually boost company's sales and revenue ([Anas et al., 2023](#); [Hollebeek et al., 2022](#)). Similarly, [Lee and Watkins \(2016\)](#) highlight that attractive and similar-looking models were more successful at eliciting favorable attitudes and purchase intentions.

6. Conclusion

Companies allocate a significant portion of their marketing budgets to mobile advertising in a digital environment where mobile phone usage is growing. To engage mobile users with the ads and reduce skepticism, the brands should make the advertisements more fascinating and appealing. In this regard, the brands should use appealing visuals by emphasizing SA and SIC in its mobile advertisements, which ultimately influence the company's overall sales, reputation and return. Without these elements, an advertisement may be inexpensive, but the brand might lose its significance. The study concludes that attractive visuals solely will not affect a mobile user's receptivity to advertisement, but rather SA and SIC. In addition, the SA and attractive visuals in mobile advertisements attract more users. Hence, the direct effect, as well as partial and sequential mediation effects of VC on CE via SA as well as SIC were investigated in this study.

7. Implications

7.1 Theoretical implications

The findings of this study extend the applicability of the SOR framework ([Mehrabian and Russell, 1974](#)) in understanding how mobile users are attracted to visuals with appealing sources and find similarities between themselves and influencers, allowing them to interact with advertisements displayed on their mobile devices. The findings of this study also expand the extant literature ([Chopdar and Balakrishnan, 2020](#); [Suparno, 2020](#); [Zhu et al., 2020](#); [Tak and Gupta, 2021](#)) and support the SOR framework's assertion that the stimulus (VC) is effective in influencing organisms (SA, SIC), which are in turn useful for predicting the response (CE) of mobile users toward advertisement. Likewise, the findings specify the significance of SA and SIC for the academics in the context of mobile advertising.

Moreover, the findings of our study also extend the literature on CE (e.g. Barari *et al.*, 2021; Rosado-Pinto and Loureiro, 2020; Zheng *et al.*, 2022; Hampton *et al.*, 2022; Khan *et al.*, 2023) by assessing it in the context of mobile advertising. This study supports a growing body of literature in the field that focuses on how advertisers can effectively increase customer's mobile advertising engagement by employing attractive sources and ensuring SIC in the ads (Adeline *et al.*, 2023; Roth-Cohen *et al.*, 2022).

7.2 Managerial implications

The current study can assist businesses and public managers in achieving success on the mobile advertising platforms. First, our results prove that the looks of the source allow mobile users to admire the influencers and have a positive influence on themselves. Advertising professionals should note that the appealing looks of the source in the mobile ads engage users by driving positive associations and, consequently customer satisfaction with the brand (Huang, 2016; Shen *et al.*, 2022). Second, the mediating effect of SIC on CE, however small, suggests that using a similar influencer as the target audience, based on the demographics or ideas, can be likable. This creates a positive image regarding the influencer's credibility and authenticity, and ultimately leads to mobile advertisement engagement. This finding is in line with the previous literature, which suggests that the ideal and actual congruence between the user and the celebrity strengthens the self-brand relationships (Kwon and Ha, 2023). Therefore, professional's source selection should be based on the target audience's traits and likability.

Not only that, the previous research has highlighted the role of actual and ideal SIC (Xu and Pratt, 2018) toward enhancing content engagement and purchase intention (Shan *et al.*, 2020; Zogaj *et al.*, 2021), which also reflects in our findings. However, a notable contribution of our study is the role of both the SA and SIC in enhancing CE toward advertising on mobile platforms. The serial mediation effect of SA and SIC ($\beta = 0.0803$) on CE is far greater than that of SIC ($\beta = 0.0332$), which shows that likeable and attractive sources are likely to induce higher SIC and subsequent CE. Advertising professionals should know that without SA and SIC, mobile users skip the ads by perceiving mobile ads to be irritating or interruptive. Significantly, the effectiveness of this advertising platform is comparatively higher than the others (Nguyen *et al.*, 2020; Rurianto *et al.*, 2022). Thus, advertisers should know the significance of the source's appearance in the mobile ads for more effective outcomes and to minimize the advertising skepticism behaviour of mobile users.

Table 5 summarizes the study conclusion and implications.

8. Limitations and future research directions

First, our study has gathered data based on the surveys from the mobile users rather than to observe the preferences of the mobile users based on demographic factors (e.g. gender, age, etc.). Future research may examine the level of involvement and preferences of mobile users with the advertisement.

Second, our study gathered data based on the national brand's advertisement perceptions in the customer's mind. Future research should investigate the impact that various international and regional brands commercials have on the levels of engagement that customers have with advertising because international brands have more significant influence, trust and value than local brands.

Finally, there are various factors, including humor (Plessen *et al.*, 2020), advertising picture quality (Shehu *et al.*, 2021), the portrayal of influencers, etc., that influence the advertising engagement behaviour of mobile users. While our research uses mainly SA and SIC to examine the customer advertising engagement of the mobile users, future research

Table 5.
Conclusion and
theoretical and
managerial
implications

Conclusion	Theoretical and managerial implications
SA with attractive visuals enhances mobile users' receptivity to advertisement	The appearance of the source in the mobile ads engages users by driving positive associations, which results in customer satisfaction
Ideal and actual congruence between the user's self and the celebrity image strengthens the self-brand relationships and the efficacy of the ads	Using a similar influencer as the target audience creates a positive image regarding the influencer's credibility and authenticity, which suggests professionals may select sources based on the target audience's traits and likability
Likeable and attractive sources along with VC allow CE with the mobile ads	SA and SIC minimize the skepticism toward mobile ads. Professionals should understand that visuals alone cannot engage users, and SA is more influential than SIC in attracting mobile users through ads

should consider humor, picture quality and portrayal of influencers to identify the CE in the mobile advertising context.

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