

Perceived Intrusiveness and Digital Audience : An Empirical Approach

*Gajenderan Vijayakumar*¹

*Habeeb Ur Rahiman*²

*Nishad Nawaz*³

*N. V. Sriranga Prasad*⁴

Abstract

Purpose : Since some advertising set-ups are considered obtrusive by consumers, the way that they perceive advertising has become more and more sophisticated. Finding consumer knowledge of and reaction to different types of online audience intrusiveness in digital media ads was the aim of this study.

Methodology : The study administered a purposive approach to investigate intrusive advertisements and consumer awareness and responses. The sample was collected from 381 samples from Bahrain and India through a structured questionnaire. The results were analyzed by inferring a structural equation model, regression, and descriptive statistics through Smart PLS and SPSS.

Findings : The results indicated that consumers are unaware of privacy invasion arising from digital marketing advertisement technology like facial recognition, eye tracking, and GPS tracking; however, they are aware of privacy invasion occurring through social media. The results explored that online ads are considered intrusive, and consumers deliberately do not pay attention to the ads on social networking services.

Practical Implications : The advertisers and practitioners carefully assess which internet advertising type is to be used based on the goal of their campaign. In the days of the information age, it is essential to evaluate consumers' preferences and choices and provide them with more relevant communications by owing to knowledge about users' navigational behaviors.

Originality : The study contributed to the field of digital media advertisement by linking perceived consumer intrusiveness. The outcome of the study proposed a framework for future research by focusing on the research gap and key findings in this domain.

Keywords : digital ads, privacy, intrusiveness, disruption, awareness, online

Paper Submission Date : September 25, 2023 ; **Paper sent back for Revision :** March 26, 2024 ; **Paper Acceptance Date :** April 20, 2024 ; **Paper Published Online :** July 15, 2024

¹Associate Professor & Research Supervisor, Department of Commerce, Sir Theagaraya College, Chennai - 600 021, Tamil Nadu. (Email : viji_tri2003@yahoo.com) ; ORCID iD : <https://orcid.org/0000-0002-0513-0010>

²Assistant Professor, College of Business Administration, Kingdom University, Bahrain, Building 287, Road 3903, Block 939, Kingdom of Bahrain – Riffa, P.O. Box 40434. (Email : h.rahiman@ku.edu.bh)
ORCID iD : <https://orcid.org/0000-0002-8042-7375>

³Associate Professor, Department of Business Management, College of Business Administration, Kingdom University, Bahrain, Building 287, Road 3903, Block 939, Kingdom of Bahrain – Riffa, P.O. Box 40434. (Email : n.navaz@ku.edu.bh)
ORCID iD : <https://orcid.org/0000-0003-4781-7993>

⁴Assistant Professor, Department of Business Management, Satavahana University, Karimnagar - 505 002, Telangana. (Email : drnvsrp@gmail.com) ; ORCID iD : <https://orcid.org/0000-0002-3216-6131>

Recently, the rise of new media has had an impact on advertising posture. Advanced media is defined as any audio or video content in digital arrangements that is transmitted over the Internet to any media that releases or distributes data products in digital layouts (Endoscopy). Global web-based advertising spending has increased by 25% annually since 2005 and needs to slow down going forward in the context of the broader online showcasing environment (Biswas, 2023). The most rising advertising tool is mobile phones, with an anticipated yearly growth rate of more than 45% until 2011 (Mahé et al., 2022). Worldwide advertising expenditure on digital media was about \$26 billion in 2006 and is predicted to exceed \$60 billion by 2012 (Shimpi, 2018). Approximately 76% of professionals in the advertising industry anticipate that digital advertising will be the primary medium for program design and advertising issues over the next 10 years, according to research conducted by experts in digital media. Contemporary media spreading statistics have shown that digital media spread is growing extensively. The statistical study also explores that the regular time used by users on the Internet is the same duration as their TV-watching time (Berry & Laskey, 2012).

Additionally, adult consumer segments see an exponential increase in their mobile consumption time (Sharma et al., 2016). Digital media advertising spending appears to be increasing quickly, but occasionally, there seems to be a lack of a strategic marketing philosophy behind this spending and its potential to create brand neutrality and increase consumer spending. This is a defined interest, assuming a growing awareness among reviewers that pushing digital advertising approaches may be less operational than pulling digital advertising approaches online. Conventional push digital advertising strategies rely on an embedded stream across many communication modalities. In a normal push digital approach, one promotion is directed by one correspondent and perceived by a lot of addressees lacking the chance for instant feedback (Ketelaar et al., 2018).

However, non-linear techniques, unrestricted flow and shared information, and the possibility of more than one-way flow between the transmitting organization and audience as well as among audiences themselves, either singularly or plurally, make pull digital advertising approaches easier to use on the Internet (Menon, 2021). Nyström and Mickelsson (2019) conducted a study on social network marketing opportunities through the pull approach, with pathological communications – affirmative and deleterious – occurring 24/7 internationally via websites and through growing blogs. Customers can co-generate advertising content through online opportunities, connecting them with trademarks, and enabling them to share their opinions with relevant parties (Prasad & Amruta, 2023). Although digital media advertising has advanced, and mainly because of the significant strategic interactions that the advertising industry has seen due to an increasing number of authorized online consumers, there is still no theoretical analysis of these competitions (Nandi & Prasad, 2024). Even though the current work has gone through existing literature connecting online advertising and its strategic influence on audience behavior, there have not been considerable empirical studies that focus on definite strategic marketing features of advertising digital approaches that necessitate reflection by businesses. The theoretically adverse long-term impacts of intrusiveness in promotional approaches are supposed to be thought-provoking, the appeal to the added value through this advertising media over normal media. The Internet, as the matchless platform, should be the most encouraging field of growth in the advertising business for the following 10 years (Chandel et al., 2017). Advertising approaches and assessments of consumers necessitate reflection by organizations. When advertising professionals use media, intrusiveness is a significant strategic experiment they often use. Due to specific advertising set-ups that consumers find to be obtrusive and well-thought-out, the way that consumers perceive advertising has gradually expanded. The purpose of this study is to find consumer awareness and response toward various forms of web audience intrusiveness in digital media advertisements.

Literature Review and Hypotheses Development

Previous studies revealed that while 60% of Internet users ignore web adverts, 2.5 of them click on them and

eventually make a purchase. The mutually active element of the Web looks at major consumer participation. The typical Internet user, for instance, searches for helpful information quickly and easily and is constantly alert and involved. The Internet is viewed as a goal-oriented medium for distribution and sustenance when compared to traditional communication channels (Malhotra et al., 2021).

Digital advertising is an increasing trend these days. However, with the recent advancements in technology and the targeting applications for improved visibility of ads on the web, the proportional rate of clicks on them is still very low (Gautam et al., 2022). Organizations are currently redirecting their resources from traditional channels to the newest internet medium technology due to cyberspace's remarkable position as a vehicle for advertising investment. This is because of marketers' skepticism of media like print, electronic, and so on. Consumers have been imbued by the number of adverts and their convincing manner, which is one of the key factors for the decline of advertising viability in traditional media (Dondzilo et al., 2022). In such circumstances, some behaviors and attitudes about advertisements and brands conflict with the needs of the businesses (Cheung & Bryant, 2017; Singh et al., 2022). Advertising avoidance is probably the most well-known effect. The delivery methods of several online markets survived the testing times. The earliest and most popular is the signpost or flag (banner) representing the firm in attractive features. This ad is fixed firmly "in-line" on a host webpage. The purpose of this is to draw customers' attention to product promotion. Lately, more internet advertisements have appeared; they are spaced out, come in various forms and sizes, and cover the entire page. Some referred to them as interruption marketing, or interstitials, that need to be opened or closed in order for a user to proceed. Sometimes, the user is the interstitial force; you want to watch the movie or move the picture before disappearing, reversing course, or clearing the path. Some advertisements call for a unique computer window that "pops under" or appears over other windows. In light of these difficulties, the following theories were put forth.

☞ **H01** : Consumer responses do not significantly influence awareness of invasive digital marketing strategies and technologies.

☞ **Ha1** : Consumer responses significantly influence awareness of invasive digital marketing strategies and technologies.

A contemporary condition of "flow" among Internet users has been envisioned for navigation of high degrees of self-control, provocation, arousal, and focused attention (Pfiffelmann et al., 2020). As a result, as compared to other media ads, internet ads are perceived as more obtrusive (Guzey et al., 2021). Television and radio have a greater discomfort effect than print, which has involved more serious processing and more optional disclosure (McCoy et al., 2017). Negative opinions toward advertisements may stem from feelings of discomfort and intrusiveness. Siji (2021) claimed that advertisements irritate internet users. This is due to invasive advertising, which mostly consists of showing irrelevant advertisements to customers. These kinds of advertisements impede surfing and navigation, which ultimately increases delusion. As a result, the subsequent theory was created.

☞ **H02** : Flow disruption does not significantly influence consumer awareness.

☞ **Ha2** : Flow disruption significantly influences consumer awareness.

☞ **H03** : Flow disruption does not significantly influence consumer response.

☞ **Ha3** : Flow disruption significantly influences consumer response.

In terms of consumer privacy, intrusion can be defined as interference in a person's solitude, including intrusion into private matters (Wottrich et al., 2018). According to this viewpoint, the medium being watched might be described as the advertisement's perceived intrusion (Gutierrez et al., 2019). The extent to which non-desired advertising interacts with a person's reasoning system and task accomplishment, as well as the amount of

disruption with the content of the consumers, do not place ads as intrusive if the advertisers approached them, according to prominent academics such as Sharma et al. (2016). Unwanted adverts can appear without the user's consent. This can ultimately lead to a privacy violation for the user. Customers who are accustomed to ads or who do not anticipate receiving advertisements may have significant ramifications because they typically view them as intrusive (Verberckmoes et al., 2016). The secret to surviving is getting to know the advertisers. It's equally important to get in touch with people who have enough adverts. Once more, damaging advertisements are essential to marketing's continued existence (Avérous & Galichon, 2021).

An ad's intrusion may induce the user to perceive it as harmful. Interruptions of specific tasks are one of the determinants of consumer response. Uninterrupted ads can also cause havoc in the business (Pfiffelmann et al., 2020). However, when commercials are categorized as invasive, users of a medium are forced to avoid them. The impression is either strengthened or weakened because the person only has a short amount of time to do the task in a medium (McCoy et al., 2017). In different impressions, the total notion of intrusiveness becomes the embodiment of a process wherein the ad creates annoyance and emotional outbursts in the user's mind. This may force the audience to evasion, and this could distract his/her attention and concentration toward an ad in the end. Users' tasks and intrusiveness can be the ultimate decider (Stavropoulos & Berle, 2020). Considering this disruption, the following hypotheses were developed :

✚ **H04** : Privacy disruption does not significantly influence consumer response.

✚ **Ha4** : Privacy disruption significantly influences consumer response.

Which advertisements bother you more? This kind of inquiry reveals the data or interesting advertisements that are thought to be less intrusive. Though some find the content to be more invasive, more substance is stressed than just information by Jackson et al. (2020). There are times and occasions when ads demand location and frequency of exposure. They largely affect the way the users expect them to be. Expectations are a matter to be investigated. When users encounter advertisements frequently, they feel as though their navigation is being disrupted. Sometimes, too few spaces between ads might deflate viewers' expectations for the final product of an advertisement. The users get irritated by the concept that perceived intrusion has a direct impact on how people react to advertisements (Schulz et al., 2014). Additionally, every response to advertising input is contingent upon an individual's final emotive responses. A client must perceive an advertisement as interfering with his/her experience of mobility within the media, i.e., a particular site, in order for them to perceive it as intrusive.

Disruption can lead to bad mentalities because of the subsequent mental reaction. Generally speaking, it will prompt the users to try to regain control over how they navigate the page, avoiding the advertisement, and restricting how much information may be processed (Olagunju et al., 2021). Considering this disruption, the following two hypotheses were developed :

✚ **H05** : Temporal disruption does not significantly influence consumer awareness.

✚ **Ha5** : Temporal disruption significantly influences consumer awareness.

✚ **H06** : Temporal disruption does not significantly influence consumer response.

✚ **Ha6** : Temporal disruption significantly influences consumer response.

The impression of insensitivity may be assessed by various contextual factors, such as how much time users spend on satisfactory detail searches and how intrusive it becomes to them if their search is interrupted (Jankowski et al., 2016). As Internet users are quite frequently identified as target-driven and the internet-free ownership arrangement has been in place for web users to take full command of their online activities, users may feel even more disrupted if their web activities have been forcibly disrupted by exhibitions (Coker et al., 2021). Le and

Wang (2020) observed that subversive advertisements that specifically focused on suitable customers were perceived as significantly less irritating than other advertisements that had anything to do with users' goals on the Internet. People adopt avoidance to connect themselves with mental processes of understanding and the behavioral outcome of advertising exposure. It is something that places the advertisers and customers side by side because people tend to withdraw from them either deliberately or mechanically (Abbasi et al., 2022). Goal obstructions were perceived to be an important factor in causing feelings of intrusiveness and annoyance, which are the most significant precursors to advertising denials (Belanche et al., 2020). Intrusiveness is viewed as something related to ideas and concepts formed in the mind. They are distinct from emotional states of irritation and behaviors. Such outcomes may result from conceptual frameworks (Cordero-Gutiérrez & Lahuerta-Otero, 2020). Considering the influence of visual disruption, the following hypotheses are proposed :

↗ **H07** : Visual disruptions do not significantly influence consumer response.

↗ **Ha7** : Visual disruptions significantly influence consumer response.

↗ **H08** : Visual disruptions do not significantly influence consumer awareness.

↗ **Ha8** : Visual disruptions significantly influence consumer awareness.

Methodology

Research Setting and Procedure

The present study was conducted through an online survey from March – June 2023 using Google Forms. The questionnaire began with the introduction of demographic variables like employment, gadget use, personal attributes, and demographic variables. The study focused on participants' awareness of invasive digital marketing strategies and technologies, perceived intrusiveness, perceived invasiveness, drivers of ad intrusiveness, and consumer response. The study was adopted with a purposive approach to investigate intrusive advertisements in Bahrain and India. We consulted two academicians who specialized in the same field to determine whether the questions generated were in the correct format.

Additionally, three industry professionals reviewed the questionnaire after it was submitted, and their inputs were taken into consideration. The questionnaire was developed to get complete information from respondents; with this intention, the questions were divided into different groups consisting of various questions under demographic, awareness of invasive digital marketing strategies and technologies, perceived intrusiveness, perceived intrusiveness, drivers of ad intrusiveness, and consumer response. These groups were designed to avoid bias. Finally, the respondents were asked to drop their comments about the study.

The adopted questionnaire was submitted to the academic integrity and ethics committee and was approved as per the research policy and procedure of the University Council 2021. The data collected will be used only for academic research purposes. All the samples who participated in this survey gave their consent to use their feedback to publish in our research publications and journals.

Procedure

The questions adopted Likert scales (1 = *not at all aware*, 5 = *extremely aware*); in each group, questions were developed under various heads like awareness of invasive digital marketing strategies and technologies with 20 questions, perceived intrusiveness with 10 options, perceived invasiveness with 12 questions, drivers of ad intrusiveness have sub-areas such as temporal disruption have 12 questions, visual disruption having 12 questions, flow disruption having nine questions, privacy disruption having subdivision like privacy risks having

Table 1. Conceptual Framework of the Constructs

No.	Constructs	Variables References
1	Awareness of invasive digital marketing strategies and technologies.	Srivastava et al. (2023)
2	Perceived intrusiveness and perceived invasiveness.	Rodgers & Thorson (2017)
3	Drivers of Ad intrusiveness (i.e., temporal disruption, visual disruption, flow disruption, and privacy disruption).	Li et al. (2002)
4	Consumer response.	Tustin et al. (1994)

three questions, privacy control having four questions, privacy concern four questions, the consumer response having 25 questions, all these incorporated with Likert scales (1 = *strongly disagree*, 5 = *strongly agree*).

After careful development of the questionnaire, we circulated the questionnaire link to the participants via LinkedIn, Facebook, WhatsApp, and Twitter. The data were collected from Bahrain and India, and the study received 480 filled questionnaires. After scrutiny, we found 381 samples fit for the analysis, which included samples 190 from India and 191 from Bahrain. The study data was organized to draw fruitful inferences, and the study implemented descriptive statistics like mean and standard deviation, reliability scale, Smart PLS, and IBM SPSS version 26. The present study gathered all the items together, counted all the variables as 111, and executed Cronbach's alpha. The accepted threshold for awareness of invasive digital marketing strategies and technologies is 0.82, perceived intrusiveness is 0.83, perceived invasiveness is 0.82, drivers of ad intrusiveness of temporal disruption is 0.91, visual disruption is 0.90, flow disruption is 0.89, privacy disruption of privacy risks is 0.80, privacy control is 0.82, privacy concern is 0.91, and the consumer response is 0.92 ; the values received were acceptable in the reliability range.

Analysis and Results

Table 2 exhibits consumer demographic profile results. The results indicate that the majority, that is, 52.7% of the consumers were employed. It is followed by 20% of the respondents engaged in business activities, 13.8% of the consumers were students, 7.3% of the consumers were unemployed, and 6.2% of the consumers retired from their employment. When it comes to using electronic devices, the majority of the consumers—29.3%—used smartphones, followed by tablets and iPads (27%), laptops (24.5%), PCs (13.8%), and linked TVs (5.4%). Regarding how long customers spent on the Internet, the majority utilized it for over 10 hours (53.5%) and between 5 and 10 hours (46.5%). The results also described the majority, 40.6% of WhatsApp, 34.1% of YouTube, and 25.4% of the consumers were using Instagram. Table 3 displays the consumers' perception of the marketing strategies of digital marketing. A significant proportion of respondents, 31%, believed that internet marketing does not compromise their privacy; protects my privacy (15.5%); invades my privacy (24.8%); and completely invades my privacy (18.6%) are the order in which they occur. Tables 4 and 5 illustrate the descriptive statistics of the overall average score of awareness on invasive digital marketing strategies and technologies. The mean and SD of the overall average score for the understanding of invasive digital marketing strategies are 3.84 and 0.791. The mean value is greater than 3, which means that customers are sufficiently aware of intrusive digital marketing tactics and technologies. Table 6 reveals the results of the level of awareness of invasive digital marketing strategies and technologies. Out of 381 respondents, the majority, 42.5% of the consumers, had a moderate level of awareness of invasive digital marketing strategies and technologies, followed by a low level (31.8%) and a high level (25.7%).

Table 2. Demographic Profile of the Consumers

Demographic Profile	Frequency	Percent
Employment		
Student	49	13.8
Employed	187	52.7
Unemployed	26	7.3
Business	71	20.0
Retired	22	6.2
Gadget Used		
Smartphones	104	29.3
Tab/iPad	96	27.0
Laptop	87	24.5
Computer	49	13.8
Connected TV	19	5.4
Overall Internet Usage per day		
More than 10 hours	190	53.5
Between 5 to 10 hours	165	46.5
Social Media Usage		
WhatsApp	144	40.6
Instagram	90	25.4
YouTube	121	34.1

Table 3. Consumers' Perception of the Marketing Strategies of Digital Marketing

Strategies of Digital Marketing	Frequency	Percent
Completely invades my privacy	66	18.6
Invades my privacy	88	24.8
Neither invades nor protects my privacy	110	31.0
Protects my privacy	55	15.5
Completely protects my privacy	36	10.1

Table 4. Awareness of Invasion of Digital Marketing Advertisements

Awareness of Invasion of Digital Marketing Ads	Yes (%)	No (%)
SMS ads	(80.8)	(19.2)
Telemarketing ads	(74.3)	(25.7)
Ads between FB newsfeeds	(56.7)	(43.3)
Pop up ads	(64.8)	(35.2)
Side panel ads	(56.4)	(43.6)
Coupons	(50.1)	(49.9)
Email spam and updates	(60.4)	(39.6)
Commercial ads before/in between YouTube clips	(56.7)	(43.3)
Native advertising	(52.5)	(47.5)

Ads between FB video clips	(53.8)	(46.2)
Technologies like facial recognition, eye tracking, GPS tracking, etc.	(60.9)	(39.1)

Table 5. Descriptive Statistics of Overall Average Score of Awareness on Invasive Digital Marketing Strategies and Technologies

	<i>N</i>	Mean	<i>SD</i>	<i>t</i>	<i>p</i>
The overall average score of awareness on invasive digital marketing strategies and technologies	355	3.91	1.041	17.119	<0.001

Table 6. Level of Awareness of Invasive Digital Marketing Strategies and Technologies

Level of Awareness	Frequency	Percent
Low	111	31.26
Moderate	146	41.12
High	98	27.60
Total	355	100.0

Drivers of Intrusiveness

The study focuses on assessing the influence of drivers of intrusiveness on consumer response and awareness of invasive digital marketing strategies and technologies. To examine the relationship between drivers of intrusiveness toward consumer response and awareness, the smart PLS was used to measure the model. The model used six constructs, i.e., TD (temporal disruption = 5 items), VD (visual disruptions = 9 items), FD (flow disruption = 5 items), PD (privacy disruption = 5 items), CR (consumer response = 5 items), and AW (Awareness of invasive digital marketing strategies = 5 items).

Table 7 reveals the results of construct reliability and discriminant validity. The results indicate Cronbach's alpha values and construct reliability, and the average variance extracted is above the threshold level.

Table 7. Results of Construct Reliability and Discriminant Validity

	Cronbach's Alpha	rho_A	CR	AVE	CA	CR	FD	PD	TD	VD
CA	0.834	0.841	0.883	0.602	0.776					
CR	0.919	0.92	0.939	0.755	0.569	0.869				
FD	0.836	0.872	0.879	0.594	0.416	0.438	0.771			
PD	0.861	0.865	0.901	0.646	0.338	0.391	0.334	0.803		
TD	0.89	0.896	0.919	0.694	0.383	0.446	0.284	0.183	0.833	
VD	0.954	0.956	0.96	0.729	0.545	0.657	0.464	0.422	0.482	0.854

Note. TD (temporal disruption), VD (visual disruptions), FD (flow disruption), PD (privacy disruption), CR (consumer response), and AW (awareness of invasive digital marketing strategies).

The path technique was used to check the hypotheses (Tables 8 and 9). The model results indicate that the t and p -value for the relationship between consumer response and awareness of invasive digital marketing is 5.219 and <0.001 . Therefore, the proposed hypothesis (Ha1) supports and concludes a significant relationship between consumer responses and awareness of invasive digital marketing. Regarding the relationship between flow disruption and consumer awareness, the outcome of the model indicates that the t and p -values are 2.802 and 0.005. Therefore, the proposed hypothesis (Ha2) is supported and confirms that there is a significant influence on flow disruption and consumer awareness. The third hypothesis focuses on assessing whether the flow disruption influences consumer responses. The results show that the t and p -values for the above hypothesis are 2.589 and 0.010. The p -value is significant; therefore, the hypothesis (Ha3) supports and concludes that flow disruption significantly influences consumer responses. The fourth hypothesis (Ha4) results mention that the t and p -values for privacy disruption influences on consumer responses are 2.672 and 0.008. The p -value is statistically significant, and it can be concluded that privacy disruption significantly influences consumer responses. Hypothesis 5 (Ha5) indicates that the t and p -values for temporal disruption and consumer awareness are 1.972 and 0.049. Based on the results, the study confirms a significant relationship between temporal disruption and consumer awareness.

The study also concludes that temporal disruption significantly influences consumer awareness. The outcome of the study describes that the t and p -values for temporal disruption significantly influence consumer responses

Table 8. Model Fit Summary

	Saturated Model	Estimated Model
SRMR	0.051	0.051
d_ ULS	1.556	1.556
d_ G	0.605	0.605
Chi-square	1211.484	1211.484
NFI	0.858	0.858

Table 9. Results of Path Analysis

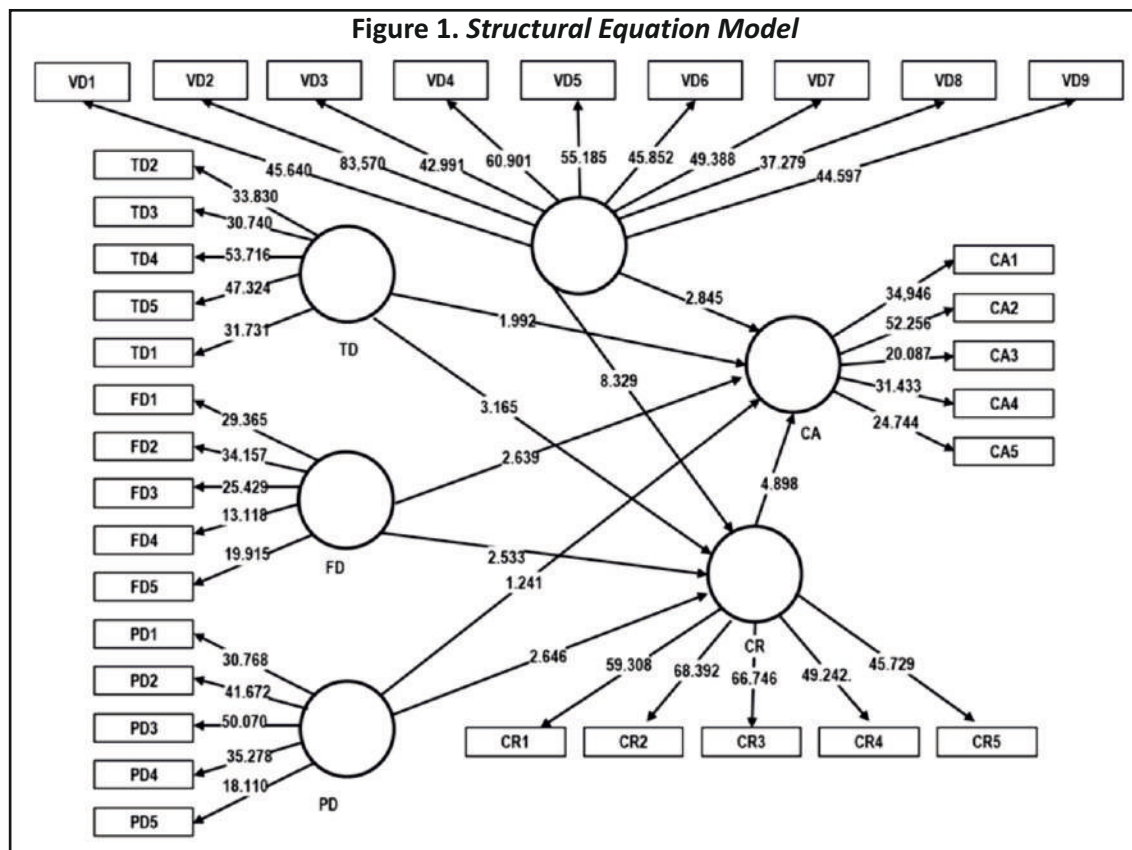
	Mean	SD	t	p	Decision
Consumer Response → Consumer Awareness	0.31	0.06	5.219	0.000**	Ha1: Accepted
Flow Disruption → Consumer Awareness	0.149	0.053	2.802	0.005**	Ha2: Accepted
Flow Disruption → Consumer Response	0.137	0.053	2.589	0.010**	Ha3: Accepted
Privacy Disruption → Consumer Response	0.123	0.045	2.672	0.008**	Ha4: Accepted
Temporal Disruption → Consumer Awareness	0.095	0.048	1.972	0.049*	Ha5: Accepted
Temporal Disruption → Consumer Response	0.162	0.049	3.276	0.001**	Ha6: Accepted
Visual Disruptions → Consumer Awareness	0.226	0.071	3.13	0.002**	Ha7: Accepted
Visual Disruptions → Consumer Response	0.463	0.057	8.199	0.000**	Ha8: Accepted

(3.276 and 0.001). The outcome infers that there is a significant relationship between temporal disruption and consumer response (Ha6). Hypothesis 7 results indicate that the t and p -values for visual disruptions on consumer responses are 3.13 and 0.002. Based on the results, the study confirms that there is a significant association between visual disruptions and consumer responses (Ha7). Hypothesis 8 mentions that the t and p -values for visual disruptions significantly influence consumer awareness (8.199 and 0.000). The p -value is statistically significant and confirms a significant relationship between visual disruptions and consumer awareness (Ha8).

Discussion

We discuss the awareness of the privacy invasion related to digital marketing advertisements, invasive digital marketing strategies, and technologies. The study classifies the various drivers of ad intrusiveness: visual disruption, flow disruption, temporal disruption, privacy disruption, and consumer response to these disruptions (Table 1; Figure 1). Based on this parameter, the study has proposed eight hypotheses and tested the results with regression. As a result, it has been found that a high percentage of consumers indicated that they are not aware of the privacy invasion arising from digital marketing advertisements through social media ads. This indicates that most consumers lack awareness of the privacy invasion related to arising from digital marketing advertisements through SMS ads.

Furthermore, through the study results, it is found that a high percentage of consumers lack the awareness of privacy invasion arising from digital marketing advertisements through these types of technology like facial recognition, eye tracking, GPS tracking, etc. On the contrary, it can be concluded that a high percentage of consumers are aware of the privacy invasion arising from digital marketing advertisements through Ads on FB



newsfeeds. The previous findings prove that the styles and techniques of displaying an ad will affect the degree of awareness that emerges from the consumers. The results are consistent with other studies.

Van den Broeck et al. (2020) conducted a study recruiting 248 adult mobile users within the Gulf Cooperation Council and examined their reactions to and awareness of SMS ads. The study revealed that young and adult consumers' assertiveness toward SMS ads was based on five SMS features: entertaining value, informativeness, trustworthiness, personalization, and annoyance level. The results are also consistent with the study of Riedel et al. (2018), who stated the consumers' awareness level of informativeness, entertainment, reliability, and need for annoyance with Instagram ads are significantly associated with their approaches. The study results also show that a high percentage of consumers are aware that search engines (Google and Yahoo) seek personal information through digital footprints. Smartphones can have ads targeted to them, spam mail and SMS ads intrude on their private space, and customized ads use their personal information through offers and discounts affecting purchase intention. By collecting personal information, personalized advertisements are created. Their data is collected and stored for advertising purposes. These findings are dependable on the study results of Chang et al. (2013) and Mishra and Malhotra (2021), who refer to three dimensions of perceived advertisement intrusiveness: privacy intrusion, task performance intrusion, and media content intrusion. Consumer privacy incursion is included in the first dimension. This dimension is especially relevant to uninvited advertisements that are invading a potential customer's private area, such as telesales, obnoxious nonstop mail, and junk mail.

Temporal disruption occurs when ads limit their action while accomplishing their online activities, when ads in video format are more time-consuming than other ads, and when there is a repetition of ads. These results are consistent with the study findings of Sung (2020), who stated that potential customers became more exasperated as soon as ads intrude into purposeful patterns of behavior, like information or data seeking, than when an advertisement appears for the duration of performing. The study results find that a high percentage of the consumers indicated that visual disruption occurs when ads are not user-initiated and are superimposed over a user-requested page. Other consumers agree that visual disruption occurs when ads appear in a new window that is below the existing window. These results are consistent with the study findings of Hirsimäki et al. (2021), who described ad intrusiveness as the extent to which a media method visually intrudes the editorial content stream. Advertising intrusiveness appears as soon as the potential customer has not sought to see it performed on the display, the moment the potential customers are relishing the context.

Similarly, a high percentage of the consumers agreed that flow disruption is a driver of ad intrusiveness, and it occurs when ads flash while reading an article/or during any activity and ads are displayed like their needs (contextually targeted ads). The present findings align with the assertions made by Arora et al. (2023) that editorial environments, such as radio, television, newspapers, and magazine stories, typically constrain conventional commercials. The result also reveals that a high percentage of consumers agreed that privacy risk is the first aspect of privacy disruption that occurs in general when the collection of their information for advertising is risky for them. It has also been found that a high percentage of consumers agreed that privacy control, as the second aspect of privacy disruption, has control over the individual details that online companies release. It has been found that a high percentage of consumers agreed that marketers seriously threaten privacy concerns as the third and last aspect of privacy disruption.

The perception of online consumers indicates that consumers are aware that online ads are considered intrusive, and they deliberately don't pay concentration to ads on social networking sites. They feel frustrated when they come across intrusive ads, and they are more likely to remember the product/ brand after seeing the ad, and the claims made in the ad are memorable. These findings are consistent with other studies like Huber et al. (2019) and Feng and Xie (2018), who described ad intrusiveness as the extent to which a media method intrudes the editorial content stream.

Conclusion

In recent years, digital media advertising has been influencing and desirable in consumer perception, which is related to intrusiveness. The study uses PLS-SEM to test the hypotheses. The inferences show that a good percentage of the consumers directed that they did not know much about privacy invasion arising through digital marketing advertising through ads of social media, lack of eye tracking, facial recognition, GPS tracking, and so on. Consumers are very much aware of search engines like Google and Yahoo to get personal information; other gadgets like smartphones will also be targeted through SMS and spam mail, and customized ads will attract personal information by offering discounts affecting the intention of purchase, and consumer personnel information will be used for advertising. When it comes to visual disruption, if the user is not in control, if a new window opens automatically without the user's input and appears below the current window, and when it comes to consumer privacy, the majority of them concurred that marketers would take employee data and display it online. However, some businesses will disregard customer privacy the least and cause disruptions to it.

Managerial and Theoretical Implications

This study includes information that marketing professionals may find beneficial when designing and conducting advertising campaigns online. Some pertinent suggestions for practitioners are briefly mentioned here by the information offered throughout the text. The perceived intrusiveness of online advertising varies depending on the format, and distinct outcomes on attitude and purchase intention will occur differently. As a result, advertisers should carefully assess which internet advertising type is to be used based on the goal of their campaign. Practitioners must consider which forms of online advertising are less affected. The study throws light on one important practical implication for practitioners, which would be to reduce to the extent possible the feeling of impatience among the audience. Niu et al. (2021) observed that the variable “perception of an ad as entertainment” influences irritation. Thus, the more fascinating the advertisement, the less annoying it is. This research can help managers create strategic efforts for creating advertisements without invading audience privacy.

As a result of the study's findings, practitioners will benefit from more user-friendliness, better user experiences, and ease of access and page navigation. These factors will encourage users to explore the ads further. Including buttons for shutting the window will help people find the adverts less invasive and bothersome because they will be easier to close. Based on the study, practitioners are advised to concentrate on these types of campaigns that bring in money with less invasive advertisements. It is advantageous for practitioners to evaluate consumers' preferences and choices to provide them with more relevant communications, hence lowering advertising avoidance, owing to knowledge about users' navigational behaviors in these days of the information age. The effectiveness of an advertisement can be determined by how entertaining it is, resulting in improved advertising recall. Hence, it is required for practitioners to understand that there is a need to develop ads that are entertaining, thereby reducing ad avoidance.

Limitations of the Study and Scope for Further Research

There is no study without limitations, and the present study considers the following constructs: awareness of invasive digital marketing strategies and technologies, perceived intrusiveness, perceived invasiveness, drivers of ad intrusiveness, and consumer response; besides, the sample was taken from India and Bahrain. The same study can be conducted in the Gulf Cooperation Council (Saudi Arabia, Kuwait, Qatar, Oman, and UAE), and comparative studies can be conducted, and the same study can be conducted in any part of India by having a larger sample size. The study can be conducted by adding other constructs, such as social bots and electronic word-of-

mouth marketing. Finally, it would be interesting to study which sort of intrusive ads are appealing to the audience. Furthermore, a study can also be conducted to understand the effect of different ad formats that the users avoid. To better assess intrusiveness, a research study can be made by specifically including different social media platforms, which will help in gaining better knowledge.

Authors' Contribution

Dr. Gajenderan Vijayakumar conceived the idea and developed qualitative and quantitative designs to undertake the empirical study. Dr. Habeeb Ur Rahiman extracted research papers with a high reputation, filtered these based on keywords, and generated concepts and codes relevant to the study design. Dr. Nishad Nawaz verified the analytical methods and supervised the study. Dr. N. V. Sriranga Prasad reviewed and conducted the interviews, conducted editing, supervision, resources, investigation, proofreading, grammar editing, and overall review. The numerical computations were done by Dr. Gajenderan Vijayakumar using SPSS 20.0.

Conflict of Interest

The authors have no conflicts of interest to declare. All co-authors have seen and agree with the contents of the manuscript, and there is no financial interest to report. We certify that the submission is our original work and is not under review in any other publication.

Funding Acknowledgment

We hereby acknowledge all our respondents and Kingdom University for their cooperation and funding.

References

- Abbasi, A. Z., Rehman, U., Ting, D. H., & Quraishi, M. A. (2022). Do pop-up ads in online videogames influence children's inspired-to behavior? *Young Consumers*, 23(3), 362–381. <https://doi.org/10.1108/YC-06-2021-1347>
- Arora, N., Rana, M., & Prashar, S. (2023). Empathy toward social media advertisements: The moderating role of ad intrusiveness. *Journal of Promotion Management*, 29(4), 535–568. <https://doi.org/10.1080/10496491.2022.2163038>
- Avérous, V., & Galichon, I. (2021). A narrative clinic of palliative care: Creative or intrusive writing? *Ethics & Health*, 18(4), 209–216. <https://doi.org/10.1016/j.etiqe.2021.09.004>
- Belanche, D., Flavián, C., & Pérez-Rueda, A. (2020). Brand recall of skippable vs non-skippable ads in YouTube: Readapting information and arousal to active audiences. *Online Information Review*, 44(3), 545–562. <https://doi.org/10.1108/OIR-01-2019-0035>
- Berry, L.-M., & Laskey, B. (2012). A review of obsessive intrusive thoughts in the general population. *Journal of Obsessive-Compulsive and Related Disorders*, 1(2), 125–132. <https://doi.org/10.1016/j.jocrd.2012.02.002>
- Biswas, W. (2023). Rewriting and redefining the aspects of marketing with metaverse – A brief insight. *Indian Journal of Marketing*, 53(3), 57–64. <https://doi.org/10.17010/ijom/2023/v53/i3/172057>

- Chandel, A., Sethi, A., & Mishra, P. (2017). A comparative study of Facebook marketing practices of selected theme based restaurants in India. *Indian Journal of Marketing*, 47(12), 51–63. <https://doi.org/10.17010/ijom/2017/v47/i12/119901>
- Chang, H. H., Rizal, H., & Amin, H. (2013). The determinants of consumer behavior towards email advertisement. *Internet Research*, 23(3), 316–337. <https://doi.org/10.1108/10662241311331754>
- Cheung, J., & Bryant, R. A. (2017). The impact of appraisals on intrusive memories. *Journal of Behavior Therapy and Experimental Psychiatry*, 54, 108–111. <https://doi.org/10.1016/j.jbtep.2016.07.005>
- Coker, K. K., Flight, R. L., & Baima, D. M. (2021). Video storytelling ads vs argumentative ads: How hooking viewers enhances consumer engagement. *Journal of Research in Interactive Marketing*, 15(4), 607–622. <https://doi.org/10.1108/JRIM-05-2020-0115>
- Cordero-Gutiérrez, R., & Lahuerta-Otero, E. (2020). Social media advertising efficiency on higher education programs. *Spanish Journal of Marketing - ESIC*, 24(2), 247–262. <https://doi.org/10.1108/SJME-09-2019-0075>
- Dondzilo, L., Grafton, B., Zaffino, J., & MacLeod, C. (2022). The independent roles of attentional engagement with, and disengagement from, negative information in intrusive re-experiencing of negative events. *Journal of Behavior Therapy and Experimental Psychiatry*, 75, 101722. <https://doi.org/10.1016/j.jbtep.2021.101722>
- Feng, Y., & Xie, Q. (2018). Privacy concerns, perceived intrusiveness, and privacy controls: An analysis of virtual try-on apps. *Journal of Interactive Advertising*, 19(1), 43–57. <https://doi.org/10.1080/15252019.2018.1521317>
- Gautam, S., Malik, P., & Jain, S. (2022). Role of trusting beliefs and trust in the adoption of online reviews of hotels: Extension of the IAM model. *Indian Journal of Marketing*, 52(11), 8–25. <https://doi.org/10.17010/ijom/2022/v52/i11/172431>
- Gutierrez, A., O'Leary, S., Rana, N. P., Dwivedi, Y. K., & Calle, T. (2019). Using privacy calculus theory to explore entrepreneurial directions in mobile location-based advertising: Identifying intrusiveness as the critical risk factor. *Computers in Human Behavior*, 95, 295–306. <https://doi.org/10.1016/j.chb.2018.09.015>
- Guzey, M., Funk, J., Kustermann, J., & Ehring, T. (2021). The effect of concreteness training on peri-traumatic processing and intrusive memories following an analogue trauma. *Behaviour Research and Therapy*, 147, 103970. <https://doi.org/10.1016/j.brat.2021.103970>
- Hirsimäki, M., Alavesä, P., & Arhippainen, L. (2021). Between beats: Linking player engagement to advertisement frequency and intrusiveness. In J. Rönkä & T. Shatalova (eds.), *30th Conference of Open Innovations Association FRUCT* (pp. 71–78). IEEE Computer Society. <https://doi.org/10.23919/FRUCT53335.2021.9599998>
- Huber, R. A., Wicki, M. L., & Bernauer, T. (2019). Public support for environmental policy depends on beliefs concerning effectiveness, intrusiveness, and fairness. *Environmental Politics*, 29(4), 649–673. <https://doi.org/10.1080/09644016.2019.1629171>
- Jackson, D. B., Testa, A., & Vaughn, M. G. (2020). Low self-control and the adolescent police stop: Intrusiveness, emotional response, and psychological well-being. *Journal of Criminal Justice*, 66, 101635. <https://doi.org/10.1016/j.jcrimjus.2019.101635>

- Jankowski, J., Lewandowska, A., Wątróbski, J., Ziemba, P., & Salabun, W. (2016). Modeling the perceptual response from effects oriented web components towards lower intrusiveness. *Procedia Computer Science*, 96, 147–158. <https://doi.org/10.1016/j.procs.2016.08.120>
- Ketelaar, P. E., Bernritter, S. F., van Woudenberg, T. J., Rozendaal, E., Konig, R. P., Hühn, A. E., van Gisbergen, M. S., & Janssen, L. (2018). “Opening” location-based mobile ads: How openness and location congruency of location-based ads weaken negative effects of intrusiveness on brand choice. *Journal of Business Research*, 91, 277–285. <https://doi.org/10.1016/j.jbusres.2018.06.018>
- Le, C. X., & Wang, H. (2020). Integrative perceived values influencing consumers' attitude and behavioral responses toward mobile location-based advertising: An empirical study in Vietnam. *Asia Pacific Journal of Marketing and Logistics*, 33(1), 275–295. <https://doi.org/10.1108/APJML-08-2019-0475>
- Li, H., Edwards, S. M., & Lee, J.-H. (2002). Measuring the intrusiveness of advertisements: Scale development and validation. *Journal of Advertising*, 31(2), 37–47. <https://doi.org/10.1080/00913367.2002.10673665>
- Mahé, G., Suzumura, G. G., Moisan, L., & Suyama, R. (2022). A non intrusive audio clarity index (NIAC) and its application to blind source separation. *Signal Processing*, 194, 108448. <https://doi.org/10.1016/j.sigpro.2021.108448>
- Malhotra, G., Mishra, S., & Saxena, G. (2021). Consumers' psychological reactance and ownership in in-game advertising. *Marketing Intelligence & Planning*, 39(6), 842–855. <https://doi.org/10.1108/MIP-09-2020-0419>
- McCoy, S., Everard, A., Galletta, D. F., & Moody, G. D. (2017). Here we go again! The impact of website ad repetition on recall, intrusiveness, attitudes, and site revisit intentions. *Information & Management*, 54(1), 14–24. <https://doi.org/10.1016/j.im.2016.03.005>
- Menon, P. B. (2021). Influence of social media marketing efforts on brand equity and consumer response to branded shoes in India. *Indian Journal of Marketing*, 51(9), 24–40. <https://doi.org/10.17010/ijom/2021/v51/i9/166162>
- Mishra, S., & Malhotra, G. (2021). The gamification of in-game advertising: Examining the role of psychological ownership and advertisement intrusiveness. *International Journal of Information Management*, 61, 102245. <https://doi.org/10.1016/j.ijinfomgt.2020.102245>
- Nandi, S., & Prasad, S. S. (2024). Customer engagement marketing and firms' deliberation on e-word of mouth communication on online platforms: A study on millennials and zoomers. *Indian Journal of Marketing*, 54(1), 8–28. <https://doi.org/10.17010/ijom/2024/v54/i1/173380>
- Niu, X., Wang, X., & Liu, Z. (2021). When I feel invaded, I will avoid it: The effect of advertising invasiveness on consumers' avoidance of social media advertising. *Journal of Retailing and Consumer Services*, 58, 102320. <https://doi.org/10.1016/j.jretconser.2020.102320>
- Nyström, A.-G., & Mickelsson, K.-J. (2019). Digital advertising as service: Introducing contextually embedded selling. *Journal of Services Marketing*, 33(4), 396–406. <https://doi.org/10.1108/JSM-01-2018-0043>
- Olagunju, A. T., Bioku, A. A., Ohaeri, J. U., Oluwaniyi, S. O., Li, A., Olagunju, T. O., Esezobor, C. I., Onwuameze, O. E., & Chaimowitz, G. A. (2021). A comparative study of perceived burden in parent caregivers of adolescents with epilepsy in a resource-restricted setting: Investigating the explanatory factors of perceived burden. *Epilepsy & Behavior*, 120, 107992. <https://doi.org/10.1016/j.yebeh.2021.107992>

- Pfiffelmann, J., Dens, N., & Soulez, S. (2020). Personalized advertisements with integration of names and photographs: An eye-tracking experiment. *Journal of Business Research*, 111, 196–207. <https://doi.org/10.1016/j.jbusres.2019.08.017>
- Prasad, S. S., & Amruta, Y. K. (2023). Influence of social media on post-purchase dissonance: An empirical study. *Indian Journal of Marketing*, 53(6), 28–46. <https://doi.org/10.17010/ijom/2023/v53/i6/172766>
- Riedel, A. S., Weeks, C. S., & Beatson, A. T. (2018). Am I intruding? Developing a conceptualisation of advertising intrusiveness. *Journal of Marketing Management*, 34(9–10), 750–774. <https://doi.org/10.1080/0267257X.2018.1496130>
- Rodgers, S., & Thorson, E. (2017). *Digital advertising: Theory and research* (3rd ed.). Routledge. <https://doi.org/10.4324/9781315623252>
- Schulz, R., Czaja, S. J., & Monin, J. K. (2014). Intrusive thoughts mediate the relation between perceived patient suffering and caregiver depression. *Alzheimer's & Dementia*, 10(4S, Part 3), p. 225. <https://doi.org/10.1016/j.jalz.2014.04.317>
- Sharma, D., Wang, Y., Naylor, P. A., & Brookes, M. (2016). A data-driven non-intrusive measure of speech quality and intelligibility. *Speech Communication*, 80, 84–94. <https://doi.org/10.1016/j.specom.2016.03.005>
- Shimpi, S. S. (2018). Social media as an effective marketing tool: An empirical study. *Indian Journal of Marketing*, 48(7), 36–50. <https://doi.org/10.17010/ijom/2018/v48/i7/129725>
- Siji, S. (2021). Social commerce of Indian customers: Role of social media usage. *Indian Journal of Marketing*, 51(8), 26–38. <https://doi.org/10.17010/ijom/2021/v51/i8/165760>
- Singh, L., Kanstrup, M., Gamble, B., Geranmayeh, A., Göransson, K. E., Rudman, A., Dahl, O., Lindström, V., Hörberg, A., Holmes, E. A., & Moulds, M. L. (2022). A first remotely-delivered guided brief intervention to reduce intrusive memories of psychological trauma for healthcare staff working during the ongoing COVID-19 pandemic: Study protocol for a randomised controlled trial. *Contemporary Clinical Trials Communications*, 26, 100884. <https://doi.org/10.1016/j.conctc.2022.100884>
- Srivastava, S., Wilska, T.-A., & Nyrhinen, J. (2023). Awareness of digital commercial profiling among adolescents in Finland and their perspectives on online targeted advertisements. *Journal of Children and Media*, 17(4), 559–578. <https://doi.org/10.1080/17482798.2023.2257813>
- Stavropoulos, A., & Berle, D. (2020). The influence of ruminative processing mode on the trajectory of intrusive memories following a negative mood induction. *Journal of Behavior Therapy and Experimental Psychiatry*, 68, 101528. <https://doi.org/10.1016/j.jbtep.2019.101528>
- Sung, E. (2020). Consumers' responses to mobile app advertisements during holiday periods. *Journal of Consumer Marketing*, 37(3), 341–352. <https://doi.org/10.1108/JCM-03-2019-3137>
- Tustin, R. D., Pennington, B., & Byrne, M. (1994). Intrusiveness of interventions: Ratings by psychologists. *Behaviour Change*, 11(2), 94–100. <https://doi.org/10.1017/S0813483900004605>
- Van den Broeck, E., Poels, K., & Walrave, M. (2020). How do users evaluate personalized Facebook advertising? An analysis of consumer- and advertiser controlled factors. *Qualitative Market Research*, 23(2), 309–327. <https://doi.org/10.1108/QMR-10-2018-0125>

- Verberckmoes, S., Poels, K., Dens, N., Herrewijn, L., & De Pelsmacker, P. (2016). When and why is perceived congruity important for in-game advertising in fantasy games? *Computers in Human Behavior*, 64, 871–880. <https://doi.org/10.1016/j.chb.2016.07.062>
- Wottrich, V. M., van Reijmersdal, E. A., & Smit, E. G. (2018). The privacy trade-off for mobile app downloads: The roles of app value, intrusiveness, and privacy concerns. *Decision Support Systems*, 106, 44–52. <https://doi.org/10.1016/j.dss.2017.12.003>

About the Authors

Dr. Gajenderan Vijayakumar is currently working as an Associate Professor of Commerce at Sir Theagaraya College (Affiliated to the University of Madras). He has over two decades of teaching experience in under-graduation and post-graduation. He has produced 13 PhDs, and six are undergoing. His papers have been published in SSCI, ABS, and ABDC-listed journals. His area of specialization is marketing and human resource management.

Dr. Habeeb Ur Rahiman, an innovative academician, has over a decade of experience in higher education. He works as a Manager at CMI, UK, and is a Fellow of Advance HE. He is an excellent social science researcher and self-improvement trainer who works as an assistant professor and coordinator for staff development and MBA programs at Kingdom University in Bahrain.

Dr. Nishad Nawaz is currently working as an Associate Professor in the Department of Business Management, College of Business Administration, Kingdom University, Bahrain. He is a Fellow of Advance HE, UK, who publishes in indexed journals and is a pioneering educator in HR Technology Education.

Dr. N. V. Sriranga Prasad, with 23 years in business management education, is an Assistant Professor at Satavahana University. He has published 33 research papers, presented 40 at conferences, held significant administrative positions at Satavahana University, and is a member of prestigious organizations.