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Social commerce advertising avoidance and shopping cart abandonment: A fs/QCA analysis of German consumers

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Article

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Abstract

In recent years, due to the extensive use of social media advertisement and the development of social commerce tools, scholars and practitioners pay more attention to interaction with the digital channel, shopping intention, satisfaction, and retention. The objective of this study is to understand the shopping cart abandonment behavior as an outcome condition of ad avoidance on social media platforms. This research takes into consideration of cognitive, affective, and behavioral ad avoidance; alongside its antecedent conditions of perceived goal impediment, perceived add clutter, and prior negative experiences on social media. The research is conducted in Germany and Fuzzy sets/Qualitative Comparative Analysis (fs/QCA) is applied to understand the outcome condition of shopping cart abandonment. The findings imply that ad avoidance can create a learning mechanism for consumers about shopping cart abandonment of a brand or product if interrupted by a futile message or content. Theoretical and practical implications are discussed.

Keywords: Social commerce, Advertising (ad) avoidance; Shopping cart abandonment; Social media; Fuzzy sets/Qualitative Comparative Analysis (fs/QCA), retailing

1. Introduction

Simpson (2017) reported that every person is exposed to from 4000 to 10000 digital advertisements each day, and Coppola (2021) report shows that 88.05% of online shopping orders were abandoned in 2020. This has become a growing issue that results in lost sales (van der Goot, Rozendaal, Opree, Ketelaar, & Smit, 2018). On one hand, such wide-ranging information and advertisement provides the customers with an opportunity and value to make informed decisions with greater knowledge of the product features, price, as well as the ability to make comparisons with competitors' products in a social commerce environment (Akram, Junaid, Zafar, Li, & Fan, 2021; Yahia, Al-Neama, & Kerbache, 2018). On the other hand, this also means that too much information outflow overwhelms the receiver leading to loss of critical information or in worse circumstances blockage of information from the receiver's end (Burns & Lutz, 2008; Gritten, 2007; Zhang, Ding, & Ma, 2020). As a consequence, consumers intentionally ignore a message that they had expected to receive and thus may lead to discontinuing behavior in an online environment. According to Teng, Laroche, and Zhu (2007) competing ads and brands can infuse the choice and selection of consumers when shopping because of the availability of extensive product range and product substitutes. This abundance leaves individuals with more options to make the right decision, but they can also become more indecisive and leave

certain brands or products over others (Gritten, 2007; Teng, et al., 2007). Online retailers and social commerce platforms have provided shopping cart tools to make a better shopping experience; but, apart from the provision of tools by online retailers to assist the buying mechanism and customer experience (Kukar-Kinney & Close, 2010), there comes a disadvantage of shopping cart abandonment.

Nowadays, companies are embracing the omnichannel strategy (Bambauer-Sachse & Mangold, 2013; Wang & Hsiao, 2012) and realize the importance of social commerce (Molinillo, Aguilar-Illescas, Anaya-Sánchez, & Liébana-Cabanillas, 2021). In practice, social media advertising and branding have a significant impact on the prosperity of firms (Boujena, Ulrich, Piris, & Chicheportiche, 2021) and it plays a significant role in buyers' behavior (Yang, Teran, Battocchio, Bertellotti, & Wrzesinski, 2021) which affects their attitude towards advertising and brand as a whole (Krishnan, Dutta, & Jha, 2013; Valaei, Rezaei, Ismail, & Oh, 2016; Yılmaz & Enginkaya, 2015). Additionally, online advertising and branding are not secondary forms of advertising and it makes a crucial influence on the overall effectiveness of advertising (Yim, Yoo, Sauer, & Seo, 2014), as it improves brand awareness and global reach (Burns & Lutz, 2008; Drossos, Fouskas, Kokkinaki, & Papakyriakopoulos, 2011).

According to GTAI 2018 report, Germany is the largest economy in the EU and contributes to 21 percent of the total GDP of Europe. It is highly industrialized with manufacturing and services. According to the report of Eurostat 2017 by World Bank, the total GDP of Germany is 3144 billion euros with 43% generated through sales, marketing, and support activities (Bozoyan, 2018). As stated by Coppola (2021), show that 88% of online shoppers have abandoned their online cart/purchase in 2020, and yet research is limited to investigating under what circumstances prospects leave their shopping carts on social commerce platforms in general and in the context of Germany in particular.

One of the dilemmas for marketers is that consumers resist ads and they have no choice but to "forcefully make consumers view ads" (Youn & Kim, 2019, p. 234). However, this forced exposure could make the consumers act on different avoidance strategies (Fransen, Verlegh, Kirmani, & Smit, 2015; Zhang, et al., 2020). One of the consequences of excessive social media advertising could be shopping cart abandonment because the online target audience gets a lot of impressions about the ads from a brand/product (Alalwan, Rana, Dwivedi, & Algharabat, 2017; Boujena, et al., 2021; Drossos, et al., 2011; Niu, Wang, & Liu, 2021). This study examines the phenomenon of shopping cart abandonment through ad avoidance in social media advertising. Cognitive ad avoidance, affective ad avoidance, and behavioral ad avoidance are collectively known as ad avoidance, which refers to the actions of the media users to reduce one's display of ad content (De Mooij, 2019). This study also considers the antecedent conditions to ad avoidance, namely perceived goal impediment, perceived ad clutter, and prior negative experiences to understand the extent to which they contribute to the outcome condition of shopping cart abandonment in the context of Germany.

2. Literature review

The focus of advertising has shifted due to the impact of social media and branding over the past years where the study of behavioral sciences emerged and consumer buying behavior became the key approach for analyzing purchasing decisions (Yang, et al., 2021). Alalwan, et al. (2017) defined consumer behavior as the individuals' actions and the strategies they use to purchase products and services. Krishnan, et al. (2013) further explained consumer behavior as the approach used by a consumer before deciding to buy a product and the motive for selecting a particular product as opposed to the substitutes existing in the market.

Additionally, recent developments in the competition have heightened the need for marketers to better understand where and how consumers shop and how to best reach them (Chaffey & Smith, 2013; Teng, et al., 2007). In recent years, online consumer behavior and virtual advertising have increasingly become topics of interest in fields of consumer psychology and marketing; this is primarily due to the advancements in technology and consequential rapid change in consumer actions (Drossos, et al., 2011; Niu, et al., 2021; Teng, et al., 2007).

To understand the context of the current study, prior research on social commerce needs to be evaluated (Molinillo, et al., 2021). Zhang and Benyoucef (2016) reviewed the previous research on social commerce and developed a stimulus–organism–response model for all stages of the consumer decision-making process. According to them, the research on social commerce is fragmented and there is a need for examining how social commerce influences consumers. As an earned media, companies are promoting their goods and services using social media platforms, but there is a debate on the potential benefits of this digital media for commercial activities (Akram, et al., 2021; Mikalef, Giannakos, & Pateli, 2013).

Ko (2018) indicates that the social desire and commercial desire of users is conducive to their social shopping intention. In addition, the results of the study by Aladwani (2018) show that the intention to buy through social media is resorted to the perceived quality of social support and perceived social commerce quality. Cheng, Gu, and Shen (2019) consider social shopping intention from the trust perspective. Sampling 614 Chinese social commerce users, their findings suggest that trust disposition, familiarity and endorsement by social members, and quality-assured shared information influence social shopping intention. Drawing on a sample of 230 UK users, the results of the study by Hajli and Sims (2015) showed that emotional support and information support are positively associated with social commerce intention. From a social learning perspective, Hajli (2015) and Chen, Lu, and Wang (2017) found that users' social commerce decision behavior is shaped through learning from communities, forums, reviews, and ratings.

Furthermore, not all social media interactions are positive, and chances are that social shopping intention is hampered by ads which would result in social commerce users' shopping cart abandonment. For instance, Chinchanachokchai and de Gregorio (2020) considered different social media platforms, susceptibility to peer influence, and social media susceptibility as the main factors that impact social media ad avoidance. Other researches also highlighted the role of privacy concerns (Jung, 2017),

perceptions of adverts as controversial (Ferreira, Michaelidou, Moraes, & McGrath, 2017), and attention invasiveness and space invasiveness (Niu, et al., 2021) on social media ad avoidance. The aforementioned studies merely examined the antecedents of social shopping intention as well as the factors impacting social media ad avoidance. This study is among the first empirical research to empirically investigate the missing link between social media ad avoidance and shopping cart abandonment among social commerce users. Figure 1 depicts a conceptual illustration of antecedent conditions and outcome conditions in this study.

Figure 1. Theoretical illustration of antecedent conditions and outcome condition (Please insert here)

2.1. Shopping cart abandonment

Kukar-Kinney and Close (2010) define shopping cart abandonment behavior as the placement of any item(s) by consumers in their online Internet-based shopping cart and not completing the purchase process during that online shopping session. Shin and Lin (2016) define it as a situation where the consumers or buyers of a particular product leave a website without making a purchase. The metrics that are used by the companies to measure the rate of abandonment aim at helping the owners of the organizations to identify the causes and come up with strategies to motivate the buyers to complete their buying process (Yılmaz & Enginkaya, 2015; Yim, et al., 2014). Abandonment rate mainly impacts the e-commerce platforms, because they are the intermediary in the B2C process and as the last step in the online consumer decision making, it allows individuals to purchase the products through their websites/apps.

The main factors contributing to the increase in abandonment rate are related to the culture and personality of individuals. Understanding the consumption patterns of individuals will reduce this incidence (Alalwan, et al., 2017). Customers tend to influence one another when making purchases through online media (Niu, et al., 2021). One prospect may decide to purchase a particular product, but after reviewing the negative comments in social media they may avoid the purchase (Seyedghorban, Tahernejad, & Matanda, 2016). Studies also showed that economic factors may also increase the abandonment rate (Seyedghorban et al., 2016). Customers may surf from one website to the other anticipating that they will find products at an affordable cost, and hence ending up abandoning one basket from the other website (Kukar-Kinney & Close, 2010).

Shin & Lin, (2016) explain that the behavioral responses of an individual have a significant effect when it comes to making decisions to purchase a product. An example of a cognitive appraisal model in marketing relates to the aspect of the consumption patterns of consumers who come from a specific cultural background (Bambauer-Sachse & Mangold, 2013; Vakratsas & Ambler, 1999). Shin & Lin, (2016) argue that the appraisal dimensions are distinctive because in each case there has to be an interpretation of the situation before making the final evaluation. These dimensions are different and, in most cases, they reflect an affiliated disposition that may be cognizant at the time when they are

required to be managed (Hoffman & Fodor, 2010). From the organizational perspective, conventional perception suggests that shopping cart abandonment is a "bad thing" as it lowers shopping rates or can lead to an unfriendly consumer journey (Teng, et al., 2007). Researchers consider shopping cart abandonment as a sign of consumer unhappiness, assuming that the abandoned items signify a lost sale (Kukar-Kinney & Close, 2010).

2.2. Social cognitive theory and social media advertising

According to Bandura, (1986), Social Cognitive Theory (SCT) is a concept based on reciprocal determinism. It is a three-way association among behavior, some personal factors such as cognition, and environmental variables which provides a useful means for understanding consumer behavior, specifically accounting for cognitive factors that may influence individuals' behaviors and representing a triangular relationship between the three main factors of human relationship (Young, Lipowski, & Cline, 2005).

In a study by Vakratsas and Ambler (1999), they show the impact of SCT on online advertising. Their study empirically showed that when companies advertise, it becomes an "input" for consumers and its content can be based on scheduling a media or message content but relies on repetition to trigger consumer response. According to the researchers, when input passes by the filter of consumer involvement or motivation regarding the product/service, it must have a cognitive effect on the brain (e.g., brand awareness) which can affect behavior activating the "thinking" element of a person's response and afterward "feeling" element comes into play (Holliman & Rowley, 2014). Moreover, when combined with experience, it triggers the consumer choice about a product/service when exposed by an advertisement (Vakratsas & Ambler, 1999). The element of cognition, affect and experience has an ability to put the consumer in a loop which can also drive his/her future decision while making a purchase, hence, leading to customer loyalty towards the product/service (Hoffman & Fodor, 2010).

As a part of the communication mix, content marketing, and social media advertising has dominated the marketing industry (Niu, et al., 2021; Pulizzi, 2012). According to Smith & Chaffey, (2013), the web is a medium based on pull marketing where companies are enabled to pull users to their brand website by combining search engine optimization and social media (Bloomstein, 2012; Wajid, Raziq, Ahmed, & Ahmad, 2021). The use of social media increases the consumption patterns of individuals because they are aware of the products that are sold in the markets. As a result, most of the consumers will make better choices as they get more information from other social agents (user-generated content) which influence their buying behavior and judgment decisions (Hong & Sternthal, 2010).

Social media has a vital role in helping marketers achieve their objectives and goals when selling products or promoting brands (Chaffey & Smith, 2013). Although research suggests that content marketing strategy is not differentiated by the marketers, at the same time their objectives and goals are clear and well defined (Bloomstein, 2012). The objectives refer to lead generation, brand awareness,

brand building, and achieving trust on social media via content marketing (Hoffman & Fodor, 2010). Besides, gaining trust among the online social media community is of high importance (Holliman & Rowley, 2014). By sharing and creating digital content together (i.e., user-generated content), those who share their comments will provide an opportunity for companies to communicate a product-driven message effectively for sales (Pulizzi, 2012).

2.3. Ad avoidance and its narratives

Modern consumers are exposed to advertisements every day and chances are they block some of the content to reduce the number of ads they are exposed (Hoffman & Fodor, 2010). Seyedghorban et al., (2016) define ad avoidance as a reduction in the exposure to advertising content in the media. Ad avoidance is not a new behavior and it goes back to traditional media ads such as TV and DVR. Ad avoidance is an increasing dilemma in the contemporary marketing profession.

The use of technology empowered the customers and made them aware of the product features and most of them have information about the product use and their prices (Wajid, et al., 2021). As a result, customers will not be persuaded by the content that is posted on social media because they are aware of false advertising (Zenetti, Bijmolt, Leeflang, & Klapper, 2014). Therefore, it is difficult for companies to understand the consumption patterns of the consumers (Seyedghorban et al., 2016). Consumers tend to change their purchase decision influenced by peers, family, and friends (subjective norms). They may shape their mind based on these groups' experiences. At the moment, technology plays a significant role in enhancing the sales of a product. Clients will buy based on the website ratings and the feedback of customers (Kelly, Kerr, & Drennan, 2010). Thus, when the scores are low, the demand for the product would decline (Alwitt & Prabhaker, 1994; Krishnan, et al., 2013).

Some consumers may also avoid buying certain brands because the content of the ad is not appealing (Seyedghorban et al., 2016). Ad avoidance is described as all the actions of the media users to reduce one's display of ad content (Speck & Elliott, 1997). In the literature, ad avoidance is studied as the three-sided narrative of cognitive, affective, and behavioral components (Cho & Cheon, 2004) which is grounded in SCT explaining the phenomenon of convenience learning, conceptual imagination, ideological resolution, environmental factors which revolve around a center known as a consumer (Alwitt & Prabhaker, 1994; Bandura & Walters, 1977; De Mooij, 2019).

An online advertisement study (Zenetti, et al., 2014) uses the behavior response model (Cho & Cheon, 2004) to explain traditional cognition. Customer behavior takes into account both behavior and mechanical aspects of advertisement avoiding, as stated by Speck & Elliott, (1997). Browsing away from the content of a social media platform is an example of a behavior aspect, while Ads blocker is referred to as the mechanical aspect of advertising avoidance (Ha & McCann, 2008; van der Goot, et al., 2018).

When defining each narrative, cognitive ad avoidance is a psychological defense mechanism (Kelly, et al., 2010; Zenetti, et al., 2014). Consumers intentionally ignore a message that they are

expected to receive (Song, et al., 2014). According to Cho and Cheon (2004), cognitive ad avoidance is a deliberate belief of consumers which leads them to ad ignorance. According to Youn and Kim (2019), the reason for cognitive ad avoidance in Facebook is negative cognitions. Affective ad avoidance inculcates negative feelings, emotions, and expressions based on reaction to advertising (Alwitt & Prabhaker, 1994). Lastly, behavioral ad avoidance refers to actions taken by consumers to avoid ads other than lack of attendance. At this stage of advertising avoidance, the consumers are conscious and active. However, these negative behavior outcomes can be tagged as prevention of ads in the shape of scrolling down, use of ad blockers, clicking the page, and browsing away (Cho & as, 2004). Youn and Kim (2019) indicate that Facebook newsfeed ads could arouse the users in terms of reactance consisting of anger, and eventually lead to behavioral ad avoidance.

2.4. Antecedents of ad avoidance

2.4.1. Perceived goal impediment

One of the reasons for ad avoidance is perceived goal impediment (Seyedghorban et al., 2016). The users' ability to access and process the information in social media can be interrupted by ads (Song, et al., 2014). Social media is a purpose-based means where users are usually busy and they can be hindered by unexpected ads (Burns & Lutz, 2008). A few users might consider agreeing to online social media advertising in contrast to the editorial content of a website, leading to a negative reaction to the source of raising interruptions (Cho & Cheon, 2004). In a study about Singaporean mobile consumers, the findings of Shin and Lin (2016) indicate that perceived goal impediment impacts location-based mobile advertising avoidance. Their results also highlight that the degree of ad avoidance is greater for medium and heavy users. In addition, Bang and Wojdynski (2016) found that for online news article readers the perceived goal impediment increases when they are exposed to non-personalized ads.

2.4.2. Perceived Ad clutter

Ha and McCann (2008) describes perceived ad clutter as the occurrence of an enormous volume of non-editorial content in an editorial medium. Based on information theory, consumers are restricted to information processing skills. Revelation to numerous ads can cause negative reactions and minimize advertising efficacy and effectiveness, which can lead to resentment and ad avoidance. Unlike the consumers of traditional media, users who use online social media, seek more liberty and control, thus, they are inclined to avoid advertising. Furthermore, when Internet users perceive social media as an exclusive advertising medium, it is more likely that ad clutter takes place frequently (Cho & as, 2004).

In traditional media, the results of the study by Brechman, Bellman, Robinson, Rask, and Varan (2016) highlight that limited-interruption video ads more likely would be recalled than clutter ads. In digital media, users are not irritated by excessive ad clutter as long as it keeps the use of social media websites free of charge (Knoll, 2016). Drawing on a sample of Facebook users, the results of the study by Kelly, Kerr, Drennan, and Fazal-E-Hasan (2021) indicate that perceived ad clutter directly impacts

affective ad response and indirectly on behavioral ad response. In addition, in eye-tracking research from Facebook users, Jung and Heo (2021) find that the impact of increased ad clutter on ad attention in social media is moderated by ad type where the higher level of ad clutter diminishes users' attention to native ads.

2.4.3. Prior negative experiences

Monsuwé, Dellaert, and De Ruyter (2004) found that an individual's attitudes and beliefs towards online shopping are shaped by learning and previous experience. The prior negative experience refers to occasions in which the Internet advertising is "deceptive, exaggerated, or erroneously targeted or leads users to unsuitable sites and such marketing techniques have led users to believe and think that Internet is a distrustful medium" (Cho and Cheon 2004). Furthermore, according to social cognition theory, learning from experience by individuals is an anchor in making decisions based on their past own involvement (Bandura, 2014; Heffernan, 1988). Therefore, consumers' negative experiences with the brand and its ads can affect willingness to accept its future ads, thus leading to ad avoidance (Hong & Sternthal, 2010). Therefore, consumers' dissatisfaction followed by the perceived lack of utility of an ad can trigger ad avoidance (Cho & Cheon, 2004).

According to Seyedghorban, et al. (2016), previous negative experience influences ad avoidance in the online environment and it also impacts the willingness to accept future ads. W. Li and Huang (2016) also showed similar results in which the negative experience is positively associated with online behavioral advertising avoidance. Surveying online Chinese surfers, Li, Yuan, and Liu (2017) found that prior negative experience impacts search engine advertising avoidance. Finally, Aghakhani and Main (2019) highlight that negative experiences impact consumers' trust in advertising.

2.5 *Social commerce advertising avoidance and shopping cart abandonment*

Few studies investigated the issue of online shopping cart abandonment. For instance, grounding in the theory of buyer behavior, Kukar-Kinney and Close (2010) claim that cognitive factors at the early stages of the consumer decision-making process i.e., online product search and consideration are conducive to shopping cart abandonment. Their findings suggest that the antecedents of cart abandonment are perceived entertainment value of shoppers, waiting for a better price, and use of cart as a research tool amongst US online shoppers. In addition, using the cognition-affect-behavior model, the findings of the study by Huang, Korfiatis, and Chang (2018) indicate that mobile shopping cart abandonment is a result of consumers' hesitation at checkout and their emotional ambivalence. Replicating the research by Huang, et al. (2018), Wang, Cheah, Lim, Leong, and Choo (2022) also find similar results using the stimulus-organism-response model during the Covid-19 pandemic. Song (2019) had a motivational perspective towards online shopping cart abandonment amongst Korean consumers and he found hedonic shopping value, offline physical inspection, and deliberation as its

antecedents. Drawing on construal level theory, Rubin, Martins, Ilyuk, and Hildebrand (2020) also investigate the impacts of consumers' mindsets on shopping cart abandonment and through three experiments from US consumers, they found that those who have abstract mindsets are likely to leave the products in the cart for ranking and further considerations while those who have concrete mindsets are likely to purchase the products without hesitation.

Furthermore, sampling 210 online Chinese consumers, the results of the research by Xu and Huang (2015) indicate that cart abandonment is influenced by the comparison with other retail websites and the research of the added products to the cart. Using uncertainty reduction theory and drawing on a sample of 237 Chinese online customers, Tang and Lin (2019) find performance uncertainty, description uncertainty, and seller uncertainty as predictors of shopping cart abandonment. Resorting to the theory of buyer behavior, Kapoor and Vij (2021) indicate that lack of free shipping, cross-channel price disparity, ratings, and reviews to platform aesthetics are conducive to cart abandonment amongst Indian online customers. Finally, in the same contextual setting and drawing on cognitive consistency theory, Mishra, Malhotra, and Tiwari (2021) find comparison shopping and value consciousness as predictors of cart abandonment amongst Indian online users.

Most of the previous studies on online shopping cart abandonment view it through the stages of the online consumer decision process. To the best of our knowledge, no previous study investigated the issue of shopping cart abandonment as a result of any type of advertising, namely social media ad avoidance. As a non-buying behavior, this study posits that social media ads also lead to cart abandonment. In addition, previous studies had asymmetric perspectives towards the antecedents and outcome condition of our proposed model. The current study has a fuzzy view towards the issue of social media ad avoidance and shopping cart abandonment. In addition, this study is the first to draw on social cognitive theory to shed light on social commerce users' ad avoidance and shopping cart abandonment in general and in the context of Germany in particular.

3. Methods

Pilot testing was done (n=30) to ensure that items under measurement are reliable for the measurement of antecedent conditions and the outcome condition. This study applied three techniques to make sure that there were no non-response and common method biases in this research. First, to make the research anonymous and ensure confidentiality, so that the respondents are well-aware of anonymity and they can answer accurately. Second, the questions regarding the antecedent conditions and outcome conditions were randomized and impossible to identify (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Third, Harman's one-factor test was applied, and the results showed that the maximum variance explained by a single factor is 31.63% implying that the data set is not suffering from a common method bias issue, originated by the respondents who did not respond. In summary, the variance explained by a single factor is less than 50% which is below the threshold for avoiding

common method bias or non-response bias, hence these biases are not a big concern in this study (Donate & de Pablo, 2015).

The population of this study is individuals from Germany who are all engaged in social media and online buying. Snowball sampling was applied and the LimeSurvey survey tool (based in Hamburg Germany) was used to create the online questionnaire. To maximize the response rate, a token incentive (amazon gift vouchers) was used. A total of 191 responses were received and fuzzy set-Qualitative Comparative Analysis (fsQCA) was applied for data analysis. Ragin, (2014) indicates that the QCA is an appropriate method to understand the causal complexity of antecedent and outcome conditions. The measures of consistency (a measure that is analogous to a correlation) and coverage (a measure of effect size) in QCA provides estimations of how good alternative conjunctive models explain a behavior, instead of being dependent on a symmetric-based methodology of data analysis (i.e., correlations, multiple regression, and structural equation modeling) (Woodside, 2016).

There are arguments amongst researchers on the necessity to move beyond interpretations originating from symmetric approaches (Woodside, 2013). In an asymmetric approach, one combination of conditions results in a high value in a dependent variable (outcome condition), but in reality, more than one combination of conditions results into an outcome condition. In other words, "any combination of conditions has an asymmetrical relationship with an outcome condition and not a symmetrical relationship" (Woodside, 2013, p. 464). For example, in a symmetric relationship between two variables of ad avoidance and shopping cart abandonment, the existence/non-existence of the association between these variables are tested through the causality where there will (or will not) be a relationship between these variables. But in an asymmetric relationship between the aforementioned factors (conditions), the existence/non-existence of the association between these conditioned are examined through a fuzzy set (Valaei, Rezaei, Ho, & Okumus, 2019). In other words, the relationship between the aforementioned conditions exists to some extent.

The fsQCA is sometimes referred to as a mixed-method approach (Ragin, 2009b) and it is distinct from traditional quantitative and qualitative research strategies. However, it can consist of quantitative data, qualitative data, or both in the analysis, thus, fuzzy sets are simultaneously quantitative and qualitative. This is due to the fact that fsQCA uses set-theory and formal logic to find recipes (relationships) between explanatory factors and an outcome condition. According to Ragin (2009b), the fsQCA is a useful approach for social scientists, which is dissimilar with quantitative methods with correlational reasoning. By using fsQCA, the limitations of variable-oriented research are remedied (Pappas, Papavlasopoulou, Mikalef, & Giannakos, 2020) and the researchers have the opportunity to formulate statements about broad patterns and cross-cases (Ragin, 2006). One of the merits of fsQCA is that it can be used for small sample sizes and previous studies, increasingly case studies were conducted using this method (Boratyńska & Grzegorzewska, 2018; Van Mieghem, Verschueren, & Struyf, 2020). Prior to applying fsQCA, researchers can have a robust result by

checking the conventional validity and reliability metrics such as discriminant validity, convergent validity, internal consistency, and indicator reliability.

One of the objectives of the fsQCA is to estimate causal combinations with a high membership score in the outcome condition (Valaei, Rezaei, & Ismail, 2017b). Using fuzzy-sets empowers the researchers to calibrate continuous variables for the sake of designing a set membership that can consider both the qualitative and quantitative nature of the variable into consideration, according to Schneider and Wagemann (2012). These authors also indicate that the potency of fuzzy-sets in identifying the difference-in-kind amongst cases represents the qualitative aspect of the method while identifying the difference-in-degree represents the quantitative nature of the fsQCA.

Fs/QCA is used to set the cut-off points of fuzzy sets calibration. Ad avoidance, Perceived goal impediment, Perceived ad clutter, Prior negative experiences were adopted from a previous study (Cho & Cheon, 2004) using a 5-point Likert scale ranging from strongly disagree to strongly agree. Shopping cart abandonment was adopted based on a previous study (Kukar-Kinney & Close, 2010). In this study, the Likert scale of "1=Strongly Disagree to 5=Strongly Agree" is used for antecedent conditions, where 1 represents the lowest value and 5 represents the highest value, while the Likert scale of outcome condition (Shopping cart abandonment) has values of "1=Never and 5=Always".

4. Results

Before calibrating the data into fuzzy sets, this study ensured that the data is valid and reliable using the structural equation modeling approach. All the item loadings (higher than 0.712), Cronbach's Alpha (higher than 0.723), composite reliability (higher than 0.880), rho_a (higher than 0.751), and average variance extracted (higher than 0.648) and all values are higher than the threshold. The discriminant validity criteria of the variables in terms of Fornell-Larcker and Heterotrait-Monotrait are tabulated in Appendices B and C respectively. The results show that all the threshold values are met, and the data are reliable and valid.

Table 1 shows the sample profile of the respondents. The ratio of participants' percentages depicted a clear gender balance. Most of the participants are millennials between the age group of 18 to 35 years. Almost all the respondents are either students or working professionals and there is a natural relationship between occupation socio-economic class, which indicates the quality of data. Two product categories received the highest frequencies of purchases through social media advertising in which 41.9 % (n=80) of German consumers have bought travel reservations and tickets and 31.4% (N=60) have bought fashion and apparel products online. The majority of the consumers, 90.1% (N=172), regularly purchase their products through the social media advertising channel.

Table 1: Sample profile (Insert here)

For the main analysis of this study, data were calibrated. In fs/QCA analysis, while categorizing a case into a membership or a non-membership collection of a set antecedent condition (Ragin, 2009a; Smith, 1990), a constant of 0.001 is applied to all cases with membership scores below 1, therefore, no value ends up at the cross-over point and improving the analysis (Leischnig & Kasper-Brauer, 2016). Table 2 shows the results of the truth table and the consistency levels are higher than 0.752 which are acceptable (Valaei, Rezaei, & Emami, 2017a). High levels of consistency indicate that the prediction of the outcome condition is more precise and it guarantees accuracy under a solution path (Ragin, 2009, 2014; Woodside, 2017).

Table 2: Truth table (Insert here)

The results of the Truth Table show five paths that are conducive to shopping cart abandonment. Path 1 (pgi*caa*aaa*baa) with a membership of antecedent conditions of perceived goal impediment, cognitive ad avoidance, affective ad avoidance, and behavioral ad avoidance with the consistency and coverage of 0.75 and 0.76 results in shopping cart abandonment outcome condition. Path 2 (~pgi*~pac*~pne*~aaa*~baa) with a non-membership of antecedent conditions of perceived goal impediment, perceived ad clutter, prior negative experience, affective ad avoidance, and behavioral ad avoidance results in shopping cart abandonment outcome condition (consistency = 0.87, coverage =0.23). Further, path 3 (~pgi*~pac*~pne*~caa*~baa) with a non-membership of antecedent conditions of perceived goal impediment, perceived ad clutter, prior negative experience, cognitive ad avoidance, and behavioral ad avoidance result in shopping cart abandonment outcome condition (consistency = 0.87, coverage =0.24). Path 4 (pgi*pac*~pne*~caa*aaa) with a membership of antecedent conditions of perceived goal impediment, perceived ad clutter, and affective ad avoidance, and with a non-membership of antecedent conditions of prior negative experience, cognitive ad avoidance is conducive to shopping cart abandonment (consistency = 0.89, coverage =0.34). Finally, the last path (pac*~pne*~caa*aaa*baa) with a membership of antecedent conditions of affective ad avoidance and behavioral ad avoidance, and with a non-membership of antecedent conditions of perceived ad clutter, prior negative experience, and cognitive ad avoidance is conducive to shopping cart abandonment, with the consistency and coverage of 0.90 and 0.33 respectively.

Table 3 shows the result of necessary conditions for the presence of shopping cart abandonment. A condition is "necessary" or "almost always necessary" if the consistency score is 0.9 or higher (Valaei, et al., 2017a). The necessary conditions in Table 3 show that all conditions of perceived goal impediment, perceived ad clutter, prior negative experience, cognitive ad avoidance, affective ad avoidance, and behavioral ad avoidance are necessary for shopping cart abandonment. In addition, Figure 2 shows the visual presentation of the intersections of all antecedent conditions that lead to the outcome condition of shopping cart abandonment. The overlapped circles highlight the

possible combinations among the antecedents in which one condition may exist together with the other conditions to predict the outcome condition of shopping cart abandonment.

Table 3: Analysis of necessary conditions (Insert here)

Figure 2. Venn diagram of intersections leading to shopping cart abandonment (Insert here)

Table 4 tabulates the sufficient configurations that lead to high shopping cart abandonment. The intermediate solution for high shopping cart abandonment shows that all of the configurations achieve the consistency threshold of 0.80 needed to draw conclusions. There are five conditions with acceptable coverage and consistency. The black circles refer to the high presence of a condition while the white circles indicate negation of a condition. The blank spaces indicate that a condition is either absent or present. The overall solution coverage of 0.826 shows the extent to which the high shopping cart abandonment can be achieved based on these five configurations (identical to R2 value in symmetric analysis). For example, condition 1 and condition 5 received higher consistency and coverage. Condition 1 indicates that high shopping cart abandonment can be reached when social commerce users have high perceived goal impediment as well as high affective, cognitive, and behavioural ad avoidance regardless of their previous negative experience and perceived ad clutter. Condition 5 also shows that high shopping cart abandonment can be achieved when social commerce users have high level of perceived ad clutter and high affective and behavioural ad avoidance, and if cognitive ad avoidance and prior negative experience are not high regardless of their perceived goal impediment.

Interestingly, the results of solutions 2 and 3 suggest that high shopping cart abandonment can even be achieved if there are low level of ad avoidance. Based on the results of condition 2, social commerce users could experience high shopping cart abandonment when there is low affective ad avoidance and behavioural ad avoidance, low level perceived ad clutter and goal impediment, no previous negative experience, regardless of their cognitive ad avoidance. Condition 3 indicates that social commerce users could have high level of shopping cart abandonment if there is low cognitive ad avoidance and behavioural ad avoidance, low level perceived ad clutter and goal impediment, no previous negative experience irrespective of their affective ad avoidance. Therefore, from a broader perspective, online users usually perceive online ads being intrusive with nuisance regardless of the platforms they use such as website (Shin and Lin, 2016, Song, 2019) or apps (Valaei et al., 2021). Referring to the users of social media platforms, the results of Table 4 highlight that shopping cart abandonment is a complex behaviour and its high level can be triggered through social media ads irrespective of social commerce users' prior negative experience.

Table 4: Configurations leading to high shopping cart abandonment (Insert here)

Table 5 shows the sufficient configurations that lead to low shopping cart abandonment. The intermediate solution for low shopping cart abandonment indicates that all of the four configurations have the consistency threshold of 0.80 needed to draw conclusions. Condition 1 indicates that regardless of cognitive ad avoidance and affective ad avoidance, there could be low shopping cart abandonment if social commerce users have no or low prior negative experience, no perceived ad clutter, no behavioural ad avoidance, and no perceived goal impediment. In addition, condition 2 shows that irrespective of cognitive ad avoidance and perceived goal impediment, there could be low shopping cart abandonment if social commerce users have no or low affective ad avoidance and behavioural ad avoidance, no perceived ad clutter, and no prior negative experience. Condition 3 also suggests that low shopping cart abandonment can be achieved if there are no prior negative experience and no ad avoidance (affective, cognitive, and behavioural), regardless of level of perceived ad clutter and goal impediment. Surprisingly, condition 4 indicates that there could be low shopping cart abandonment if the level of cognitive ad avoidance is high and there is no prior negative experience, and the level of perceived ad clutter and goal impediment is low, regardless of affective and behavioural ad avoidance. This is somehow in line with Knoll (2016) where he suggests that online users are not irritated by excessive ad clutter as long as it keeps the use of social media websites free of charge.

In a more general view, advertising could be disruptive and its successful audience is resorted to the extent to which ad agencies and developers could reduce the ad intrusiveness, degree of ambivalence, and hesitation to checkout. Apart from low degree of affective and behavioural ad voidance, low ad clutter, no prior negative experience, and low perceived goal impediment, the results of Table 5 indicate that low level of shopping cart abandonment could also be reached if cognitive ad voidance is high. In fact, nowadays, social commerce users value the experiential value emanating from the social media usage (Kara and Kucukemiroglu, 2015). Therefore, no matter if the ad avoidance is high, as long as the social commerce users perceive positive experience, this could be conducive to lower shopping cart abandonment. One way to improve the social commerce users' experience is to gamify (Hsu and Chen, 2018) ads with relevant content that could have positive impacts on social commerce users who are hedonically and emotionally motivated and perceive an entertaining value from ads in social media platforms, thereby reducing the shopping cart abandonment.

Table 5: Configurations leading to low shopping cart abandonment

5. Discussions

E-commerce and social commerce is developing dramatically, demonstrating a large share of overall sales revenue where online sales are anticipated to carry on expanding in the foreseeable future

(Molinillo, et al., 2021; Zhang, et al., 2020). The E-Commerce domain runs from uncomplicated WWW to share organizational processes attached to various organizations (Yu, Guo, Guo, & Huang, 2011). An issue in today's competitive era for retailers is the propensity of a customer to abandon his or her shopping activities, which is known as "cart abandonment". Although the number of online sales transactions through web-enabled systems has steadily increased, consumers continue to abandon their online transaction carts (Coppola & Sousa, 2008). Even though the technologies are mainly reasonable, extensive, and stable for the firms worldwide, online retailing has mixed acceptance with noteworthy shopping cart abandonment statistics of up to 75% (Belk, et al., 2014; Gammack & Hodkinson, 2003).

This study is among the first of its kind in online consumer behavior with respect to social commerce, ad avoidance, and shopping cart abandonment and it adds to the body of the literature. Perceived goal impediment was shown as a significant necessary condition to demonstrate the occurrence of shopping cart abandonment. According to Kelly et al., (2010), consumers may react negatively to the credibility of social media as an advertising medium when it hinders and slow down their information retrieval process.

This research confirmed that consumers in Germany avoid social media ads because they perceive that these types of ads impede their goals like enjoying navigating through social media platforms. The result of this study is consistent with prior research on ad avoidance on the Internet (Cho & Cheon, 2004) and ad avoidance for traditional media platforms (Speck & Elliott, 1997). Thus, to track and monitor this behavior of consumers, advertisements on social media platforms should be made more watchful, especially regarding affection and perceived goal impediment part of consumers which is based on emotions and objectivity.

Any factor that weakens the interaction of consumers and marketers via advertising can become the necessary condition of perceived ad clutter which leads to shopping cart abandonment. This can also be the timing, content, and placement of ads. Therefore, the results suggest that perceived ad clutter on social media by German consumers can lead to ad avoidance and hence result in shopping cart abandonment. The findings also showed that only two antecedent conditions of ad avoidance (perceived goal impediment and perceived ad clutter) have proven as the necessary conditions for the outcome condition of shopping cart abandonment. This is not consistent with the study by Kelly et al., (2010), as the antecedent condition of prior negative experience has a minimal effect on ad avoidance.

5.1. Implications

Around 75% of online shoppers leave their carts at the final stage of making purchases (Shao & Gretzel, 2010). A study (Bressolles & Nantel, 2008) revealed that only 3% of customers would go to a website to complete a purchase while around 47% of consumers leave their orders before checking out. This issue raises the concern of how a marketing manager should deal with this phenomenon (Niu, et al., 2021; Yahia, et al., 2018). Understanding dimensions related to shopping cart abandonment avoids huge marketing losses in terms of budgeting and costs. Studying online consumer behavior in

terms of understanding the balance of thinking (cognitive mood) and emotions (affective mood) of individuals contributes to better strategies that will help social media marketers understand the consumption patterns of consumers and their choices.

As advertising avoidance is highly related to "consumers' perception of being invaded" (Yahia, et al., 2018), the results of this research are of great importance to social media marketers, and they can find out the underpinning reasons for shopping cart abandonment. The study amplifies the necessary conditions of ad avoidance and its antecedents of perceived goal impediment, perceived ad clutter, and prior negative experiences can be controlled by drafting a unique digital customer journey for exclusive target consumers based on timing, placement, and content of social media ads using Social Media Content Calendar.

Valaei, Bressolles, Khan, and Low (2021) introduced the concept of the experiential value of gamers through ads in gaming apps and they found that those ads that give points, credits, and rewards after viewing the ads could reduce the ad clutter and ad avoidance. Similar strategies could be implemented for social media ads to reduce shopping cart abandonment. For example, the ads should improve the user experience in social media through gamification strategy or provide tailored contents to increase the chance of directly checking out on the landing page of the retail website. Therefore, advertisers could consider the behavioral ad targeting process in social media through users' IP addresses in order to improve their experiential value, thereby diminishing shopping cart abandonment.

In line with previous studies (Niu, et al., 2021; Yahia, et al., 2018), social media advertising should be well understood by companies. If the social media marketers rely less on pop-up ads, algorithms, and more on data analytics to understand the patterns of emotions involved in making consumer choice of brand or product, as affective ad avoidance was shown as the necessary condition of the occurrence of shopping cart abandonment, this can avoid the noise and get the communication message effectively via social media ads (Wajid, et al., 2021). This in turn enhances customer experience in the long run.

In order to reduce shopping cart abandonment, social media ads should be aligned with the following schemes. First, social media ads need to be highly targeted to the customized audience with concept clarity. Second, it must be fully equipped with highly applicable content related to the customer journey so that only interested consumers in brand or product are tracked for future ad considerations and those who are not interested should not perceive hurdles in their goals. Moreover, Shin & Lin, (2016) indicate that the behavioral responses of an individual have a significant effect when it comes to making decisions to purchase a product. This argument is also consistent with the findings of this study, as behavioral ad avoidance was one of the three necessary conditions for shopping cart abandonment for online German consumers. Lastly, using Social Media Content Calendar tools, digital marketing managers should be able to manage their content marketing more efficiently. Using Social Media Content Calendar tools would accommodations the alignment between core marketing strategies, social media engagement, and platforms management (Killian & McManus, 2015).

5.2. Limitations and future directions

   This study drew on a small sample considering the population of German social commerce users. Future studies should examine the effect of culture (high vs. low context) and a cross-cultural design could shed more light on how the results differ across other countries. Another limitation of this study is that we examined the phenomenon of social media ad avoidance, but future studies need to focus on each social media platform i.e., Facebook and Instagram separately when investigating the issue of shopping cart abandonment through ad avoidance. More studies are required to investigate how to reduce the issue of shopping cart abandonment particularly in the context of the traffic that comes to the retail website from social media ads. In addition, longitudinal studies should be conducted to examine the extent to which the shopping cart abandonment phenomenon would change at different times. Further investigations are also needed to consider other factors in shopping cart abandonment such as the effect of customer journey and different touchpoints, user-generated content, and perceived risks.

Appendix A: Validity and reliability (Insert here)
Appendix B: Fornell-Larcker criterion (Insert here)
Appendix C: Heterotrait-monotrait ratio (Insert here)

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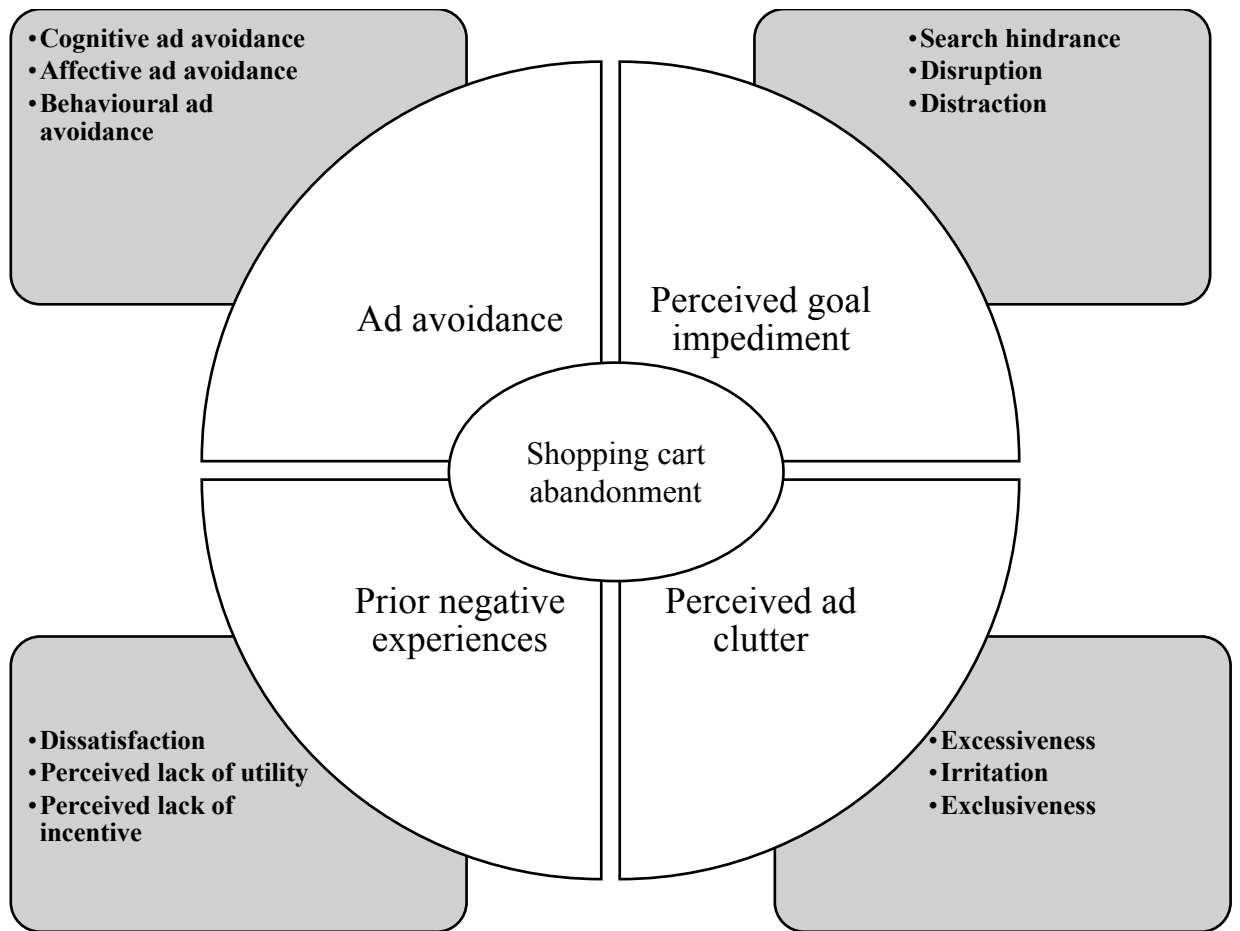
Figure 1. Theoretical illustration of antecedent conditions and outcome condition
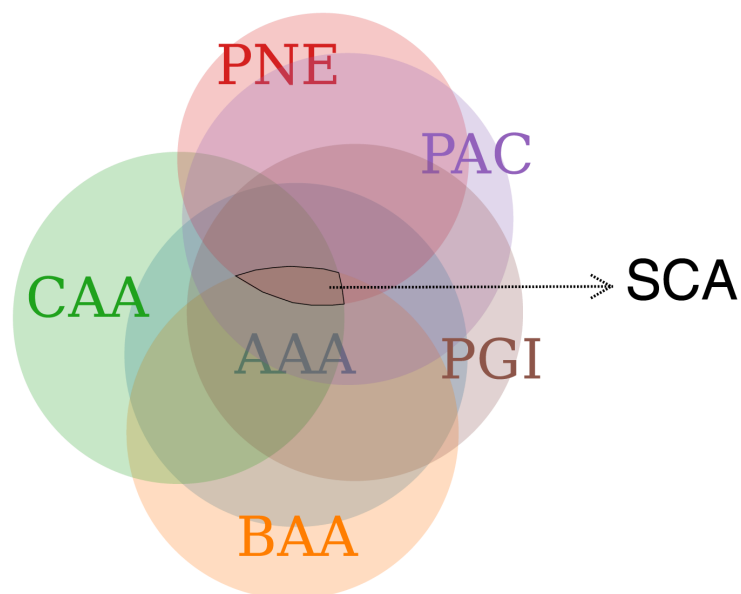
Figure 2. Venn diagram of intersections leading to shopping cart abandonment

Notes: Affective Ad Avoidance (AAA); Behavioural Ad Avoidance (BAA); Cognitive Ad Avoidance (CAA); Prior Negative Experience (PNE); Perceived Ad Clutter (PAC); Perceived Goal Impediment (PGI); Shopping Cart Abandonment (SCA).

Table 1: Sample profile (*N*=191)

	Characteristic	Frequency	Percent
Gender	Male	95	49.7
	Female	96	50.3
Age	Less than 18	3	1.6
	18 to 25 years	79	41.4
	26 to 35 years	85	44.5
	36 to 45 years	11	5.8
	46 to 55 years	10	5.2
	56 years and above	3	1.6
Occupation	Student	105	55.0
	Working professional	85	44.5
	Business owner	1	0.50
Income	Less than €1100	88	46.1
	€1100 to €2600	72	37.7
	More than €2600	31	16.2
Product Category	Food	7	3.7
	Health & beauty products	13	6.8
	Media, games & music	31	16.2
	Travel reservation & ticketing	80	41.9
	Fashion & apparel	60	31.4
Last Purchase Experience	Less than 3 months ago	172	90.1
	3 to 6 months ago	13	6.8
	6 to 12 months ago	4	2.1
	More than 12 months ago	2	1.0

Table 2: Truth table

Solution	Raw coverage	Unique coverage	Consistency
Model: SCA = f (pgi, pac, pne, caa, aaa, baa)			
pgi*caa*aaa*baa	0.758	0.435	0.752
~pgi*~pac*~pne*~aaa*~baa	0.233	0.009	0.870
~pgi*~pac*~pne*~caa*~baa	0.239	0.004	0.869
pgi*pac*~pne*~caa*aaa	0.340	0.009	0.895
pac*~pne*~caa*aaa*baa	0.332	0.003	0.906
Solution coverage: 0.826; Solution consistency: 0.735			

Notes: Frequency cutoff: 3.000000; Consistency cutoff: 0.830648; Affective Ad Avoidance (AAA); Behavioural Ad Avoidance (BAA); Cognitive Ad Avoidance (CAA); Prior Negative Experience (PNE); Perceived Ad Clutter (PAC); Perceived Goal Impediment (PGI); Shopping Cart Abandonment (SCA).

Table 3: Analysis of necessary conditions

Outcome condition: Shopping Cart Abandonment (SCA)

Antecedent	Consistency	Coverage
pgi	0.885	0.716
pac	0.856	0.719
pne	0.667	0.818

caa	0.860	0.694
aaa	0.924	0.673
baa	0.867	0.711

Notes: Affective Ad Avoidance (AAA); Behavioural Ad Avoidance (BAA);

Cognitive Ad Avoidance (CAA); Prior Negative Experience (PNE);

Perceived Ad Clutter (PAC); Perceived Goal Impediment (PGI);

Shopping Cart Abandonment (SCA).

Table 4: Configurations leading to high shopping cart abandonment

	Solutions for high membership scores in shopping cart abandonment				
Condition	1	2	3	4	5
Affective Ad Avoidance	●	○		●	●
Behavioural Ad Avoidance	●	○	○		●
Cognitive Ad Avoidance	●		○	○	○
Prior Negative Experience		○	○	○	○
Perceived Ad Clutter		○	○	●	●
Perceived Goal Impediment	●	○	○	●	
Consistency	0.752	0.870	0.869	0.895	0.906
Raw Coverage	0.758	0.233	0.239	0.340	0.332
Unique Coverage	0.434	0.009	0.004	0.009	0.003

Notes: Overall solution coverage: 0.826, overall solution consistency: 0.735; The black circles refer to the high presence of a condition, white circles indicate negation of a condition, and blank spaces refers that a condition is either absent/present.

Table 5: Configurations leading to low shopping cart abandonment

	Solutions for low membership scores in shopping cart abandonment			
Condition	1	2	3	4
Affective Ad Avoidance		○	○	
Behavioural Ad Avoidance	○	○	○	
Cognitive Ad Avoidance			○	●

Prior Negative Experience	○	○	○	○
Perceived Ad Clutter	○	○		○
Perceived Goal Impediment	○			○
Consistency	0.850	0.856	0.881	0.839
Raw Coverage	0.383	0.320	0.334	0.406
Unique Coverage	0.007	0.003	0.009	0.000

Notes: Overall solution coverage: 0.676, overall solution consistency: 0.720; The black circles refer to the high presence of a condition, white circles indicate negation of a condition, and blank spaces refers that a condition is either absent/present.

Appendix A: Validity and reliability

Constructs	Item	Item Loading	Cronbach Alpha	Rho_A	Composite Reliability	AVE
Affective Ad Avoidance	AAA1	0.836	0.875	0.879	0.909	0.668
	AAA2	0.775				
	AAA3	0.828				
	AAA4	0.856				
	AAA5	0.787				
Behavioural Ad Avoidance	BAA1	0.786	0.819	0.826	0.880	0.648
	BAA2	0.813				
	BAA3	0.851				
	BAA4	0.766				
Cognitive Ad Avoidance	CAA1	0.868	0.921	0.929	0.937	0.683
	CAA2	0.839				
	CAA3	0.887				
	CAA4	0.848				
	CAA5	0.712				
	CAA6	0.895				
	CAA7	0.713				
Disruption	PGIDP1	0.906	0.899	0.899	0.937	0.832
	PGIDP2	0.919				
	PGIDP3	0.911				
Dissatisfaction	PNED1	0.912	0.723	0.751	0.877	0.781
	PNED3	0.854				

Distraction	PGIDT1	0.895	0.844	0.847	0.906	0.762
	PGIDT2	0.869				
	PGIDT3	0.855				
Perceived Ad Clutter	PACEX1	0.893	0.771	0.775	0.897	0.814
	PACIR1	0.911				
Perceived Lack of Incentive	PNEPI1	0.844	0.802	0.803	0.883	0.716
	PNEPI2	0.857				
	PNEPI3	0.837				
Perceived Lack of Utility	PNEPU1	0.899	0.772	0.772	0.898	0.814
	PNEPU2	0.906				
Search Hindrance	PGISH1	0.877	0.845	0.847	0.906	0.763
	PGISH2	0.870				
	PGISH3	0.874				
Shopping Card Abandonment	SCA1	0.826	0.889	0.931	0.922	0.746
	SCA2	0.886				
	SCA3	0.886				
	SCA4	0.856				

*Note***:** AVE: Average Variance Extracted

Appendix B: Fornell-Larcker criterion

Constructs	1	2	3	4	5	6	7	8	9	10	11
Affective Ad Avoidance (1)	**0.817**										
Behavioural Ad Avoidance (2)	0.637	**0.805**									
Cognitive Ad Avoidance (3)	0.610	0.583	**0.826**								
Disruption (4)	0.671	0.633	0.489	**0.912**							
Dissatisfaction (5)	0.276	0.277	0.167	0.291	**0.884**						
Distraction (6)	0.616	0.592	0.444	0.792	0.387	**0.873**					
Perceived Ad Clutter (7)	0.573	0.535	0.344	0.653	0.323	0.652	**0.902**				
Perceived Lack of Incentive (8)	0.381	0.286	0.208	0.385	0.312	0.298	0.383	**0.846**			
Perceived Lack of Utility (9)	0.394	0.288	0.271	0.340	0.263	0.260	0.319	0.556	**0.902**		
Search Hindrance (10)	0.533	0.570	0.394	0.774	0.244	0.752	0.637	0.352	0.307	**0.874**	
Shopping Cart Abandonment (11)	0.120	0.161	0.077	0.111	0.078	0.177	0.111	0.073	0.100	0.133	**0.864**

Note: The off-diagonal values are the square roots of AVEs.

Appendix C: Heterotrait-monotrait ratio

Constructs	1	2	3	4	5	6	7	8	9	10
Behavioural Ad Avoidance (2)	0.748									
Cognitive Ad Avoidance (3)	0.666	0.663								
Disruption (4)	0.754	0.734	0.531							
Dissatisfaction (5)	0.336	0.354	0.192	0.350						
Distraction (6)	0.711	0.709	0.498	0.808	0.481					
Perceived Ad Clutter (7)	0.691	0.667	0.401	0.784	0.411	0.806				
Perceived Lack of Incentive (8)	0.452	0.350	0.236	0.452	0.401	0.359	0.484			
Perceived Lack of Utility (9)	0.483	0.363	0.318	0.409	0.344	0.322	0.414	0.705		
Search Hindrance (10)	0.614	0.675	0.437	0.884	0.296	0.886	0.785	0.427	0.383	
Shopping Cart Abandonment	0.145	0.180	0.116	0.129	0.121	0.206	0.134	0.089	0.125	0.152

Notes: Values lower than 0.9 indicate that this criterion is met; Affective Ad Avoidance (1).