

Assessing antecedents of Google shopping ads intention to purchase: a multigroup analysis of generation Y and Z

Rodney Graeme Duffett and Jaydi Rejuan Charles

Abstract

Purpose – The substantial expansion of technology and the efficacy of digital platforms in reaching young audiences have led to enhanced targeting and customization of promotional communications. Notwithstanding the expansion and efficacy of contemporary advertising platforms, scholarly attention has not kept pace with this domain of inquiry. This study aims to assess the antecedents of Google Shopping Ads (GSA) on intention to purchase behavior among the Generation Y and Z cohorts.

Design/methodology/approach – The current study used a quantitative approach and snowball sampling technique to gather primary data via a questionnaire and Google Forms, which resulted in the collection of 5,808 questionnaires among the cohort members. A principal component analysis and multigroup confirmatory multigroup structural equation modeling (between Generation Y and Z) were used to assess the research data and model.

Findings – The results show positive trust and perceived value associations with intention to purchase, particularly among Generation Y and Z consumers. The findings also show negative irritation, product risk and time risk associations with intention to purchase, especially among the Generation Y cohort, which indicates that young consumers generally do not observe perceived risk due to the usage of GSA.

Originality/value – GSA will continue to grow and become an increasingly important integrated marketing communications tool as the digital landscape develops. It can be concluded that young consumers show a high degree of perceived value and low levels of perceived risk due to the use of GSA. This study, therefore, promotes improved understanding among academics, marketers and businesses of search engine advertising among young cohorts of consumers (Generation Y and Z) in a developing country context.

Keywords Google ads, Search engine advertising, Sponsored search advertising, Search engine results page, Cohort analysis, Purchase intention, Trust, Perceived value, Irritation, Product risk, Time risk

Paper type Research paper

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1. Introduction

Google is the top-rated search engine with a 91.9% market share of search engines, which equates to over 8.5 billion search queries per day and over 99,000 search queries per second (Mohsi, 2023). Therefore, many businesses have recognized the significance of attaining a high placement on the search engine results page (SERP) for specific search queries through organic or sponsored results (Gupta and Mateen, 2014; Murillo, 2017; Balioglu, 2020; Erdmann *et al.*, 2022; Chen and Sénéchal, 2023; Li *et al.*, 2023; Mladenović *et al.*, 2023; Saura *et al.*, 2023; Yang and Li, 2023; Lopezosa *et al.*, 2024). The prediction of increased online traffic from suitable placement on the SERP has led to the establishment of a market where a fee is charged when an internet user clicks on a sponsored link, which is referred to as search engine advertising (SEA) or sponsored search advertising. The total annual advertising revenue for Google was \$209.49bn in 2021 and \$224.47bn in 2023

(Oberlo, 2023). Murillo (2017), Gawron (2022), Salehi and Mirmohammadi (2023), Skalkos *et al.* (2023), Tunuguntla *et al.* (2023) and Sahni and Zhang (2024) explain that Google is a mechanism that helps users search for product and/or service information. Search queries are divided into various forms of web links, sponsored links and organic links, which form the basis of SEA.

Google Shopping Ads (GSA), formerly referred to as “product listing ads,” are classified under sponsored links and SEA, which allow customers to search, view and compare different products (Gawron, 2022; Van Looy, 2022; Mladenović *et al.*, 2023). Digital marketing involves a wide range of methods and channels, whereas GSA particularly target product listings that appear in Google search results. Hence, a study on GSA is more targeted than a study on digital marketing as a whole. In addition, research about GSA is more technical in nature, in contrast to digital marketing research, which may examine the efficacy of various methods and platforms in accomplishing particular corporate objectives. Numerous studies have advocated further research in examining a wider variety of digital marketing communication categories (Grouse *et al.*, 2022, Hewei and Youngsook, 2022; Kharisma *et al.*, 2022; Lee and Lee, 2022; Ngo *et al.*, 2022; Purwatiningsih *et al.*, 2022; Chen and Sénéchal, 2023; Mishra and Mategaonkar, 2023; Tunuguntla *et al.*, 2023; Yang and Li, 2023).

So, to fill this research gap, this inquiry investigates several antecedents of GSA. Pan *et al.* (2007), Animesh *et al.* (2011), Murillo (2017), Balioglu (2020), Gómez-Carmona *et al.* (2021), Lewandowski and Schultheiß (2023) and Lopezosa *et al.* (2024) disclose that consumers in a different environment can yield a divergent result and advocate further research in different cultures or countries. Thus, to bridge this research deficiency, this study was executed in a developing country context, where the level of technological development may be less advanced than in developed nations, resulting in varying levels of access to digital marketing tools and platforms. Ghose and Yang (2009), Veloutsou and McAlonan (2012), Gómez-Carmona *et al.* (2021), Lewandowski and Schultheiß (2023), Mladenović *et al.* (2023) and Sahni and Zhang (2024) acknowledge that there is insufficient information about SEA in the electronic market. Hence, the primary aim of this inquiry is to address the aforementioned knowledge gaps by investigating the impact and antecedents of GSA on purchase intention in a developing country context.

This study adopted various antecedents from Ducoffe's (1995) advertising value model (trust, perceived value and irritation) to investigate their intention to purchase due to GSA. Moreover, some digital marketing-related studies have uncovered trust and buying intent associations that included young consumers (Ngo *et al.*, 2022; Özdemir and Nacar, 2022) but did not consider SEA. This research will assess the association between trust and intention to purchase due to GSA to reduce this research deficit. Perceived value is the customer's estimation of a product's worth based on its price, quality and benefits (Adam *et al.*, 2022). Businesses can display their items and convey their value offer to prospective buyers with GSA (Adam *et al.*, 2022). Several digital marketing-related studies confirmed that perceived value and purchase intent are correlated among younger generations (Adam *et al.*, 2022; Hameed *et al.*, 2022; Hewei and Youngsook, 2022; Özdemir and Nacar, 2022), but there remains a deficiency in research regarding GSA and SEA. To fill this research gap, this study will evaluate the relationship between perceived value and purchase intention as a result of GSA.

Martins *et al.* (2019) elucidate that if an advertisement is badly designed, inappropriate to the consumer's demands, or displayed too frequently, it might irritate customers' perceptions of the company. Deng *et al.* (2022), Hameed *et al.* (2022), Kharisma *et al.* (2022) and Purwatiningsih *et al.* (2022) found that younger consumers who experience irritation or annoyance are linked with a reduction in purchase intent and/or making a purchase on digital platforms, but these studies examined various other forms of digital platforms and SEA.

Consequently, to build on this prior research and reduce this gap in knowledge, this inquiry will assess the association between irritation and intention to purchase due to GSA.

This study also adopted several antecedents from Kaplan *et al.*'s (1974) perceived risk model (product risk and time risk). Product risk is a crucial concept to keep in mind when producing GSA, as it influences a customer's propensity to buy (Qalati *et al.*, 2021). Many researchers have found relationships between product risk and purchase intent, predominantly among the Generation Y cohort (Adam *et al.*, 2022; Cabeza-Ramírez *et al.*, 2022; Lee and Lee, 2022; Ou *et al.*, 2022; Özdemir and Nacar, 2022), but did not explicitly take SEA or GSA into consideration. To fill this lack of knowledge, this study will evaluate the relationship between product risk and intention to purchase as a result of GSA. Time risk is a crucial concept to keep in mind when designing GSA, since it pertains to the potential time loss connected with making a purchase (Ariffin *et al.*, 2018). Several digital marketing-related studies, namely Yaraş *et al.* (2017), Ariffin *et al.* (2018), Qalati *et al.* (2021), and Lee and Lee (2022), found varying associations between time risk and purchase intent but did not take GSA and SEA into account. Accordingly, this study will assess the association between time risk and purchase intention due to GSA in an effort to reduce this research gap.

Based on the abovementioned gaps in research and related discourse, there remains a dearth of research that specifically investigates the antecedents of GSA intention to purchase among young consumers in a developing country context. Accordingly, this study will assess the impact of trust, perceived value, irritation, product risk and time risk on intention to purchase among Generations Y and Z due to their use of GSA. The remainder of the paper is organized chronologically. In Section 2, the SEA literature is outlined, and the theoretical model and hypotheses are examined. The research methodology for the study is explained in detail in Section 3, and the GSA findings and data analysis are presented in Section 4. Section 5 discusses the key findings, theoretical and practical implications and limitations and future research.

2. Literature review and hypotheses

2.1 Search engine advertising and young cohorts

SEA, also referred to as paid or sponsored search, works by allowing businesses to construct and position ads on SERPs that match specific keywords or search terms. When users input these keywords or search terms, the search engine displays the relevant ads at the top or bottom of the SERP (Jansen and Clarke, 2017; Gawron, 2022; Van Looy, 2022; Mladenović *et al.*, 2023; Salehi and Mirmohammadi (2023); Yang and Li, 2023). Businesses pay for these ads through a pay-per-click (PPC model), where they only pay when consumers click on their ads (Cheng and Cantú-Paz, 2010; Jansen and Clarke, 2017). Internet search engines have created extensive economic value, but Google has not always successfully generated income from this service (Jansen and Clarke, 2017; Li *et al.*, 2023; Mager *et al.*, 2023; Yang and Li, 2023). Erdmann *et al.* (2022), Van Looy (2022), Chen and Sénéchal (2023), Lewandowski and Schultheiß (2023), Mladenović *et al.* (2023), Salehi and Mirmohammadi (2023) and Sahni and Zhang (2024) suggest that online consumers often begin their searches using search engines for information, but further inquiry is needed to examine specific forms of SEA.

Google started selling text-based ads through its AdWords platform in 2000. These ads would be displayed in the right column of the SERP, which internet users soon identified as paid ads, which consequently led to a perception of distrust and biased attitudes toward these ads (Murillo, 2017). Jansen and Clarke (2017), Gómez-Carmona *et al.* (2021), Balça and Casais (2022), Erdmann *et al.* (2022), Yang and Li (2023) and Sahni and Zhang (2024) explain that keyword bids constitute the amount an advertiser is prepared to pay once an individual has clicked on their ad. The expenses associated with GSA are subject to significant fluctuations, depending upon a wide range of variables, which include the level of competition within the industry and the keywords used, the format of the advertisement

and the targeting options used, as well as the overall budget and objectives of the advertiser. Moreover, the cost of GSA can be as low or high as the advertiser chooses, depending on their budget and goals, but there remains a dearth of research that considers young consumers' sentiment toward various types of SEA, such as GSA (Jansen and Clarke, 2017; Van Looy, 2022; Erdmann *et al.*, 2022; Lewandowski and Schultheiß, 2023, Martin, 2023; Tunuguntla *et al.*, 2023; Yang and Li, 2023; Sahni and Zhang, 2024).

GSA contain more information than text ads by using images, a title, a store name and the price. Moreover, search ads are limited to one website on the search query page, while several shopping ads may appear based on the related search query (Gawron, 2022; Van Looy, 2022; Mladenović *et al.*, 2023). GSA have increased the probability of ads being clicked. Previous studies found that sponsored links presented at the top right of the search query page receive the maximum attention from users, but further research is required on the purchase intention of young consumers (Pan *et al.*, 2007; Balça and Casais, 2022). In addition, investigations suggest that the mechanics illustrated by both display and text ads improve their effectiveness and return on investment over time, but maintain that additional inquiries are needed on various types of SEA (Kireyev *et al.*, 2015; Tunuguntla *et al.*, 2023).

Recent results also show that display ads increase search conversion (Gómez-Carmona *et al.*, 2021; Balça and Casais, 2022; Erdmann *et al.*, 2022; Gawron, 2022; Lewandowski and Schultheiß, 2023; Mladenović *et al.*, 2023; Salehi and Mirmohammadi (2023); Yang and Li, 2023; Sahni and Zhang, 2024), but GSA were not specifically considered. Hence, this study sought to address the aforementioned gaps in research by examining which antecedents of GSA increased purchase intention among young consumers. GSA may be used to generate highly focused traffic to online stores, which is less expensive and has a better chance of conversion than traditional text ads. Nonetheless, this requires proficient supervision and administration of campaigns, along with the utilization of PPC advertising on search engines and social media and a greater understanding of the young target audience (Gómez-Carmona *et al.*, 2021; Balça and Casais, 2022; Li *et al.*, 2023; Mishra and Mategaonkar, 2023; Saura *et al.*, 2023). Hence, to build on prior discourse and bridge the aforementioned deficit of knowledge, this study aims to gain a comprehensive understanding of the antecedents of GSA regarding intention to purchase behavior among the Generation Y and Z cohorts in a developing country context.

Balioglu (2020), Duffett (2022) and Mishra and Mategaonkar (2023) reveal that younger cohorts or generations are increasingly using social media and search engines, but there has been inadequate study committed to Generation Y (born 1981–1996) and Z (born 1997–2012) in terms of their propensity to purchase through GSA and SEA. Hence, this investigation seeks to lessen this dearth in knowledge by examining the influence of GSA among several cohorts. Kireyev *et al.* (2015) indicated that search engine usage has a major impact on young users as well as on click-through rates (CTR). Furthermore, Kireyev *et al.* (2015) and Balça and Casais (2022) concur that future studies should examine the interactions and dynamic effects of display advertising. Therefore, to fulfill this mandate for additional inquiry and decrease the research gap, this study will consider the antecedents of GSA intention to purchase among two cohorts. Pan *et al.* (2007), Cheng and Cantú-Paz (2010) and Gómez-Carmona *et al.* (2021) assert that ad ranking, placement and filtering have a direct influence on the young users' experience and are also useful (value) ads in a prominent position on search pages, but examined other types of SEA and not specifically GSA. Therefore, the current investigation determines if users have similar expectations, but in the context of GSA as the advertising medium instead of other search engine platforms to diminish this lack of research, and among the Generation Y and Z cohort.

2.2 Theoretical models and hypotheses

To analyze the performance of Web-based advertisements, Ducoffe (1995) established the model of advertising value, which has become an essential basis in online advertising.

Advertising value is also described as a consumer's personal assessment of the comparative utility or worth of advertising. The current study investigated three Ducoffe's advertising value model factors: trust, perceived value and annoyance or irritation. Many academics concur that product purchase intent and/or purchases are influenced by credibility, trust and annoyance or irritation ([Adam et al., 2022](#); [Cabeza-Ramírez et al., 2022](#); [Deng et al., 2022](#); [Hameed et al., 2022](#); [Hewei and Youngsook, 2022](#); [Kharisma et al., 2022](#); [Ma'ady and Wardhani, 2022](#); [Ngo et al., 2022](#); [Özdemir and Nacar, 2022](#); [Purwatiningsih et al., 2022](#); [Wang et al., 2022](#); [Tunuguntla et al., 2023](#)). However, these studies did not analyze the antecedents in the context of GSA and mandated further research across different digital platforms. This inquiry endeavors to fill these gaps in research by contributing to the deficient body of information available to academics and organizations. Consequently, this study will investigate the influence of GSA on the purchasing intentions of young customers in terms of trust, perceived value and irritation.

Trust is a critical concept for GSA, as it has a substantial impact on consumer behavior ([Ngo et al., 2022](#); [Almaiah et al., 2023](#)). Trust is vital to a customer's purchasing decision in an online marketplace where buyers cannot physically touch or scrutinize the products before purchase ([Moslehpour et al., 2021](#); [Cabeza-Ramírez et al., 2022](#)), so it is important to determine young consumers' predisposition in terms of trust and intention to purchase. Young customers compare sponsored search advertisements to other kinds of online advertising that look more trustworthy and have a perceived greater degree of trustworthiness, which makes sense given that younger cohorts are normally suspicious ([Pan et al., 2007](#); [Kobylanski, 2012](#); [Balioglu, 2020](#)). Younger customers are generally more likely to click on advertisements promoting well-known brands since it would build a sense of familiarity and trust ([Gupta and Mateen, 2014](#); [Erdmann et al., 2022](#)). [Stewart et al. \(2018\)](#) attempted to provide a theoretical explanation of consumers' responses to digital advertisements (including search activity). The findings suggest that customers have a favorable perception of credibility (or trust) and react to the employment of digital marketing, resulting in a positive link with purchase intention, which correlates to the proposed hypothesis of this study. However, despite the extensive research on trust in various online settings ([Cabeza-Ramírez et al., 2022](#); [Hameed et al., 2022](#); [Ma'ady and Wardhani, 2022](#); [Ngo et al., 2022](#); [Özdemir and Nacar, 2022](#); [Wang et al., 2022](#); [Duffett and Maraule, 2024](#)), there is a lack of studies on trust in search advertising and GSA. Therefore, to address this gap in knowledge, it is hypothesized:

H1. Trust has a positive impact on intention to purchase due to GSA.

The prioritization of perceived value by marketers is crucial as it has a significant impact on the purchasing inclinations of customers ([Adam et al., 2022](#); [Hewei and Youngsook, 2022](#)). [Adam et al. \(2022\)](#) analyzed the use of e-marketing as a model for purchasing decisions and the effect of perceived risk during the COVID-19 pandemic. The results of the survey demonstrated that the perceived value of e-marketing had a favorable impact on customer purchasing decisions. [Hewei and Youngsook \(2022\)](#) examined the effect of social e-commerce fashion products on continuous buy intention and the relationship between social media engagement, perceived value and continuous purchase intention. The results from the survey indicate that perceived value has a strong positive effect on the propensity to continue purchasing. [Kim et al. \(2012\)](#) investigated the comparative impact of online purchasing decisions on new and returning customers in the context of the e-commerce industry. The research showed that the perceived value of a product or service had a stronger influence on the intention to buy of both new and returning customers of an e-commerce enterprise as compared to the perceived price. Other research studies also note that perceived value is regarded as an antecedent to intention to purchase ([Hsiao, 2021](#); [Hameed et al., 2022](#); [Özdemir and Nacar, 2022](#)). However, there is a deficiency in studies that examine perceived value and intention to purchase in the context of SEA and GSA, so to narrow this research gap, it is hypothesized:

H2. Perceived value has a positive impact on purchase intention owing to GSA.

[Martins et al. \(2019\)](#) postulate that the presence of irritation can have an adverse impact on both the advertised brand and the overall value of the advertisement. [Florenthal et al. \(2020\)](#) suggested that irritation has an adverse effect on behavior intentions for nonprofit organizations on social networking websites among Millennials. [Deng et al. \(2022\)](#) examined the influence of positive social signals on users' avoidance responses to sponsored search results in an e-commerce context. To reduce behavioral and affective avoidance, a social indicator must enhance users' perceptions of sponsored search results by addressing their active implicit concern regarding sponsored search results. Consequently, irritation was found to have a detrimental influence on purchase intent. [Saadeghvaziri et al. \(2013\)](#) showed that consumers' irritation with online advertising is a strong negative predictor of online advertising activity and purchase intent among mainly among Generation Y and Z consumers. Previous online and/or SEA research has identified user frustration or irritation as a negative outcome toward visibility, the reduction of advertisement efficiency, and impressions, but there remains a lack of inquiry in terms of GSA ([Hameed et al., 2022](#); [Kharisma et al., 2022](#); [Purwatiningsih et al., 2022](#)). Accordingly, this study proposes the hypothesis:

H3. Irritation has a negative impact on the intention to purchase due to GSA.

[Kaplan et al.'s \(1974\)](#) perceived risk model includes the chance of accidental consequences occurring as well as the negative ramifications of bad brand selection or loss. It is further subdivided into six parts: financial risk, social risk, psychological risk, safety risk and time risk ([Ariffin et al., 2018](#)). For the sake of this study, however, the concepts of product risk and time risk were investigated in the context of perceived risk. Past research across various digital platforms found that overall risk perception influences purchasing intent among younger generations ([Adam et al., 2022](#); [Cabeza-Ramírez et al., 2022](#); [Lee and Lee, 2022](#); [Ou et al., 2022](#); [Özdemir and Nacar, 2022](#); [Rahmi et al., 2022](#)), but these inquiries did not specifically investigate GSA. In addition, [Alrawad et al. \(2023a, 2023b\)](#) specify that future inquiries should analyze additional perceived risk factors in terms of e-commerce. Hence, this investigation seeks to add to the limited pool of knowledge and address the abovementioned deficiency in research by examining the influence of GSA on young consumers' intention to purchase based on product risk and time risk.

Product risk signifies the probability of a product failing to meet the requirements of consumers' expectations, which occurs when a delivered product is compared to the online product displayed and differs in shape, size or color ([Ariffin et al., 2018](#)). [Lee and Lee \(2022\)](#) examined the impact of parasocial interactions on consumer purchase intentions through the lens of risk perception. The study showed a noteworthy association between product risk and perceived risk. Furthermore, the results indicated that the perception of risk had a significant and negative impact on the intention to purchase. [Ou et al. \(2022\)](#) evaluated attitudes toward online shopping and found that participants attributed a quarter of their anxiety to the quality of the products and the possibility that they would not meet their expectations. Product risk was found to reduce intention to purchase in an online marketplace ([Qalati et al., 2021](#); [Adam et al., 2022](#); [Cabeza-Ramírez et al., 2022](#)), but not in terms of GSA and SEA. Furthermore, [Alrawad et al. \(2023a, 2023b\)](#) assert that additional research is necessary to examine other perceived risk factors in e-commerce investigations. So, to decrease this deficit in knowledge, it is hypothesized:

H4. Product risk has a negative impact on intention to purchase owing to GSA.

Time risk involves the exasperating experience throughout the online process, which is caused by any struggles navigating or processing online products or setbacks to acquiring the required items ([Forsythe et al., 2006](#)). [Ariffin et al. \(2018\)](#) explain that product risk refers to the possible bad outcomes linked with the purchase of a product, such as the product failing to fulfill expectations or being of poor quality. [Rahmi et al. \(2022\)](#) found that whereas

time risk was identified as a component of perceived risk, it was observed to have a relatively minor impact on purchase intent. Furthermore, time risk will further deter potential consumers' intention to purchase online if it requires too much time to identify a satisfactory online retailer or website (Ariffin *et al.*, 2018; Qalati *et al.*, 2021; Lee and Lee, 2022; Rahmi *et al.*, 2022; Alrawad *et al.*, 2023a, 2023b; Salehi and Mirmohammadi, 2023; Sahni and Zhang, 2024). However, there is a paucity of research that assess time risk and intention to purchase in the context of SEA and GSA. Moreover, Alrawad *et al.* (2023a, 2023b) postulate that further investigation is required to examine other perceived risk variables in e-commerce studies. In an effort to close these research gaps, this study puts forth the following hypothesis:

H5. Time risk has a negative impact on intention to purchase arising from GSA.

A majority of the online and/or SEA research studies, which explored the above-mentioned antecedents, examined Generation Y and/or Y consumers in terms of trust (Kobylanski, 2012; Balioglu, 2020; Cabeza-Ramírez *et al.*, 2022; Hameed *et al.*, 2022; Ma'ady and Wardhani, 2022; Ngo *et al.*, 2022; Wang *et al.*, 2022), perceived value (Kim *et al.*, 2012; Hsiao, 2021; Adam *et al.*, 2022; Hwei and Youngsook, 2022; Hameed *et al.*, 2022), irritation (Saadeghvaziri *et al.*, 2013; Martins *et al.*, 2019; Florenthal *et al.*, 2020; Deng *et al.*, 2022; Hameed *et al.*, 2022; Kharisma *et al.*, 2022; Purwatiningsih *et al.*, 2022), product risk (Ariffin *et al.*, 2018; Qalati *et al.*, 2021; Adam *et al.*, 2022; Cabeza-Ramírez *et al.*, 2022; Lee and Lee, 2022; Ou *et al.*, 2022) and time risk (Ariffin *et al.*, 2018; Qalati *et al.*, 2021; Lee and Lee, 2022; Rahmi *et al.*, 2022; Alrawad *et al.*, 2023a, 2023b) but did not expressly examine GSA or perform cross-tabulation between these cohorts. Wang *et al.* (2022) stipulate that further research should assess other demographic moderators regarding the trust and purchase intention associations in e-commerce and social commerce platforms. Hence, this study fulfills this mandate by considering the moderation impact of the cohort relationship between trust and intention to purchase because GSA. Alrawad *et al.* (2023a, 2023b) were the only study to examine the moderating effect of age (twenties versus thirties) between various perceived risk associations and behavioral intentions (there was no significant difference), so to reduce this research gap, it is hypothesized:

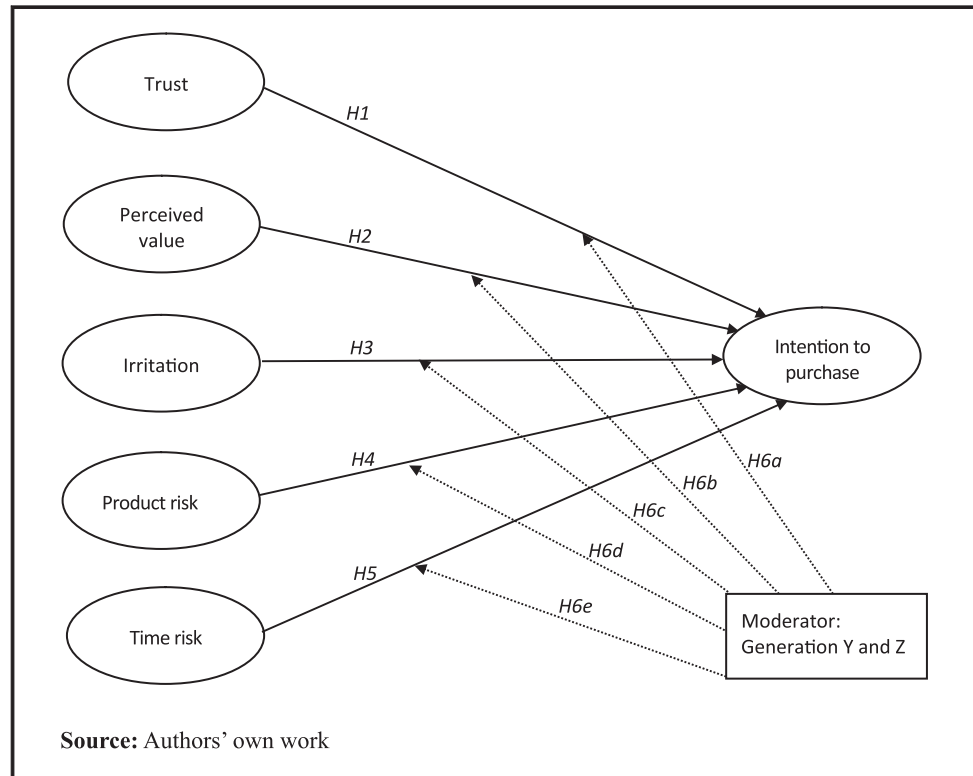
- H6a.* Cohort moderates the relationship between trust and intention to purchase due to GSA.
- H6b.* Cohort moderates the relationship between perceived value and intention to purchase due to GSA.
- H6c.* Cohort moderates the relationship between irritation and intention to purchase due to GSA.
- H6d.* Cohort moderates the relationship between product risk and intention to purchase due to GSA.
- H6e.* Cohort moderates the relationship between time risk and intention to purchase due to GSA.

Refer to Figure 1 for an illustration of the hypothesized associations.

3. Research methodology

The main objective of this paper is to investigate the influence of advertising value and perceived risk antecedents on intention to purchase due to GSA among individuals belonging to the Generation Z and Y cohorts. Hence, a study model was developed in accordance with the available literature and evaluated using data collected from the survey that was adapted from earlier research. The data was analyzed and validated based on the research objectives of the investigation via a variety of statistical procedures, which include confirmatory factor and principal component analysis, common method bias, validity and

Figure 1 Conceptual model



reliability measures and structural equation modeling (SEM). The research techniques are described in great depth below.

3.1 Measurement

The questionnaire consisted of three distinct elements, namely, GSA utilization, demographic information and customer antecedents. Likert-scale statements were evaluated using a five-point rating system. One point indicated maximum disagreement, while five points indicated maximum agreement. The constructs of earlier research literature were adapted and applied to this study's model. First, [Duffett's \(2015\)](#) construct was adapted to measure Generation Z and Y's intention to purchase regarding GSA. [Kim et al.'s \(2012\)](#) and [Ponte et al.'s \(2015\)](#) studies were adapted to consider the trust antecedent that influences buying intent. [Ducoffe \(1995\)](#) and [Ponte et al.'s \(2015\)](#) research were used to examine the perceived value antecedent's influence on purchase intention. Meanwhile, [Ducoffe's \(1995\)](#) study was used to investigate the effect of irritation on purchase intention. Finally, [Forsythe et al. \(2006\)](#), [Saadeghvaziri et al. \(2013\)](#) and [Ariffin et al. \(2018\)](#) product risk and time risk antecedents were adapted to consider Generation Z and Y customers' purchasing intentions.

3.2 Data collection

The research data collection commenced at a university in South Africa. Ethical permission was acquired from the university, and a self-administered questionnaire was initially distributed to part-time and full-time respondents. Thereafter, a snowballing technique was used to obtain a number of other respondents across South Africa, predominantly using Google Forms. The snowball sampling technique is used by requesting existing respondents to recommend and/or pass on the online survey link or physical questionnaires

to other potential suitable respondents, in other words, those who are representative of the Generation Z or Y cohort and who used GSA. The study data collection concluded with a total of 5,808 questionnaires that were fully completed and deemed suitable for statistical analysis. The respondents' GSA utilization and demographic information are summarized in Table 1.

The GSA utilization data showed that a near majority of Generation Y and Z respondents search for products online via smartphones (49%), whereas a vast majority engaged with GSA for two to three years (61.1%), clicked on GSA sometimes or often (78%) and spent 1/2-to-2h engaged with GSA per occasion. According to the demographic information, a majority were female (61.4%), a Generation Z cohort member (58.1%) and completed grade 12 or a postmatric diploma or certificate (50.6%).

4. Data analysis and results

There were two main stages to the data analysis. The principal component analysis was one of several statistical techniques used to determine the pattern matrix and the model components for the data that was collected and used to build and validate the measurement model. Composite reliability (CR), discriminant and convergent reliability and common method bias were tested using confirmatory factor analysis. Finally, measurement invariance was evaluated using multigroup confirmatory factor analysis. The suggested hypotheses were examined in the second stage using standardized path coefficient

Table 1 Google shopping ads utilization and demographic information ($n = 5,808$)

<i>Variable</i>	<i>Category</i>	<i>Frequency (n)</i>	<i>%</i>
Access	Laptop/desktop	1,805	31.1
	Smartphone	2,846	49.0
	Tablet	1,135	19.5
	Other	22	0.4
Usage length	≤ 1 Year	1,363	23.5
	2 Years	1,909	32.9
	3 Years	1,637	28.2
	4 Years	519	8.9
	≥ 5 Years	380	6.5
Usage frequency	Rarely	895	15.4
	Sometimes	2,735	47.1
	Often	1,794	30.9
	Always	384	6.6
Usage hours	< 1/2 hour	1,227	21.1
	1/2-to-1 hour	2,240	38.6
	2 hours	1,583	27.3
	3 hours	619	10.7
	≥ 4 hours	139	2.4
Gender	Male	2,243	38.6
	Female	3,565	61.4
Cohort	Generation Z	3,375	58.1
	Generation Y	2,433	41.9
Education	Grade 8–11	211	3.6
	Grade 12	498	8.6
	Completed grade 12	1,381	23.8
	Postmatric diploma or certificate	1,557	26.8
	Degree	1,651	28.4
	Postgraduate degree	510	8.8

Source: Authors' own work

analysis, multigroup SEM and chi-square (χ^2) difference measures to assess the research model. A complete explanation of the research processes and analysis is provided in this section.

4.1 Measurement model

SPSS was used to perform a principal component analysis (PCA) on the 22 Likert scale items in the questionnaire to assess various statistical elements of the GSA constructs. The Kaiser–Meyer–Olkin measure was used to consider the sampling adequacy, which was found to be excellent with a value of 0.937 (Pallant, 2010). Bartlett's test of sphericity was used to assess the factorability of the correlation matrix. The test showed that the correlations were large enough between the items since they were significant at $p < 0.001$. The PCA yielded seven components (factors), which had eigenvalues greater than one and an explained variance of 9.886%, 2.011%, 1.613%, 1.420%, 1.269%, 1.104% and 1.051%, respectively. The sum of the components explained 70.59% of the variance, which shows a high correlation in the factor analysis. The pattern matrix displayed seven clear components with two or more factors each, as well as factor loadings of over 0.5, so these were retained (Pallant, 2010).

The research measurement model was evaluated using the PCA by calculating its reliability (CR and Cronbach's α) and validity (convergent and discriminant). The Cronbach's α values ranged from 0.765 to 0.900, indicating strong internal consistency. The CR values extended from 0.857 to 0.936, which reflected an excellent coefficient of reliability. Bagozzi and Yi (1988) show that values greater than 0.70 are desirable. Factor loadings and AVE were used to evaluate the convergent validity of the attitude constructs. The AVE rates were between 0.635 and 0.880, and the factor loading rates ranged from 0.666 to 0.942, which implied the legitimacy of convergent validity since all of the values surpassed 0.5 (Fornell and Larcker, 1981). Refer to Table 2 for an overview of the reliability and validity measures.

Table 3 shows the square root value of each attitudinal AVE and the standard value of correlations between the constructs. Discriminant validity was evident since the square root AVE values for each construct were found to be larger than the correlations between the constructs (Fornell and Larcker, 1981).

The conceptual model's discriminant validity was also measured using the heterotrait–monotrait ratio. Henseler *et al.* (2015) stipulate that a value of less than 0.85 is the acceptable upper limit for the heterotrait–monotrait ratio, which was achieved by the ratios shown in Table 4. The common method bias test was used to compare the constrained and unconstrained common method factor models via the χ^2 test, which displayed a significant difference at $p < 0.001$. Thus, significant shared variance was exhibited between the models, which resulted in the adoption of the unconstrained common method factor model. The Cook's Distance measure shows that no individual responses displayed abnormal Cook's Distance; accordingly, all of the responses were upheld. The SEM attitude constructs were scrutinized via a multicollinearity measure to ascertain if the constructs were not exceedingly correlated with each other, which might adversely influence the regression coefficients' reliability (Hair *et al.*, 2010). The GSA construct tolerances extended from 0.569 to 0.877 (larger than 0.1) and variation inflation factors measures extended from 1.140 to 1.756 (less than 3), which is indicative that the GSA attitude constructs were not overly correlated with each other.

4.2 Structural equation modeling

This study yielded very good overall statistical model fits based on Hooper *et al.*'s (2008) acceptable thresholds for the SEM goodness-of-fit statistics for the initial SEM, CLF, composite and multigroup composite models (refer to Table 5).

Table 2 Antecedents of Google shopping ads principal component analysis

Constructs	Item codes	M	SD	FL	AVE	CR	Cronbach's α
Trust (TRT)	TRT1	3.63	0.977	0.786	0.674	0.892	0.848
	TRT2	3.56	0.899	0.886			
	TRT3	3.61	0.883	0.803			
	TRT4	3.62	0.908	0.804			
Perceived value (PV)	PV1	3.76	0.903	0.869	0.712	0.881	0.815
	PV2	3.68	0.921	0.839			
	PV3	3.75	0.910	0.823			
Irritation (IR)	IR1	2.82	1.159	0.934	0.880	0.936	0.900
	IR2	2.79	1.180	0.942			
Product risk (PR)	PR1	2.31	0.855	0.708	0.635	0.896	0.866
	PR2	2.31	0.874	0.832			
	PR3	2.29	0.861	0.825			
	PR4	2.34	0.878	0.855			
	PR5	2.26	0.857	0.755			
Time risk (TR)	TR1	2.10	0.934	0.748	0.667	0.857	0.765
	TR2	2.27	0.900	0.893			
	TR3	2.30	0.912	0.803			
Intention to purchase (IP)	ITP1	3.71	0.867	0.666	0.652	0.881	0.885
	ITP2	3.79	0.942	0.825			
	ITP3	3.78	0.944	0.868			
	ITP4	3.76	0.889	0.856			
	ITP5	3.87	0.966	0.859			

Source: Authors' own work

Table 3 Component correlation matrix

Constructs	TRT	PV	IR	PR	TR	IP
Trust	<i>0.821</i>					
Perceived value	−0.559	<i>0.844</i>				
Irritation	0.516	−0.519	<i>0.938</i>			
Product risk	0.569	−0.510	0.492	<i>0.797</i>		
Time risk	−0.402	0.482	−0.341	−0.413	<i>0.817</i>	
Intention to purchase	−0.229	0.310	−0.213	−0.217	0.287	<i>0.808</i>

Note: The diagonals display the square root of AVE and the correlations are shown by the other data

Source: Authors' own work

Table 4 Heterotrait–monotrait ratio

Constructs	TRT	PV	IR	PR	TR	IP
Trust						
Perceived value	0.608					
Irritation	−0.265	−0.283				
Product risk	−0.622	−0.620	0.379			
Time risk	−0.443	−0.539	0.341	0.617		
Intention to purchase	0.613	0.686	−0.295	−0.656	−0.516	

Note: The heterotrait–monotrait ratio shows discriminant validity when it is < 0.85 (Henseler *et al.*, 2015)

Source: Authors' own work

SEM was used to measure hypothesized GSA attitudinal associations. Trust, perceived value, irritation, product risk and time risk explained 46.1% of the intention to purchase variance due to GSA. The SEM results are displayed in Table 6. The standardized path coefficients showed a positive effect for trust → intention to purchase ($\beta = 0.204$, $p < 0.001$)

Table 5 SEM Goodness-of-fit statistics

Classification	Index fit	SEM model	CLF model	Composite model	Multigroup composite model	Acceptable thresholds
χ^2/df		4.571	3.759	4.821	2.644	<5.00
Absolute fit measures	GFI	0.990	0.993	0.995	0.999	>0.90
	AGFI	0.982	0.985	0.955	0.968	>0.90
	RMSEA	0.025	0.022	0.056	0.046	<0.08
Incremental fit measures	CFI	0.992	0.995	0.992	0.999	>0.90
	TLI	0.988	0.990	0.950	0.966	>0.90
	NFI	0.990	0.993	0.991	0.999	>0.90

Source: Author own work

Table 6 Hypothesis test results

H	Path	β	t-value	SE	p-value	Results
H1	TRT → IP	0.204	17.086	0.012	0.001***	Supported
H2	PV → IP	0.302	25.014	0.012	0.001***	Supported
H3	IR → IP	-0.018	-1.745	0.010	0.081	Rejected
H4	PR → IP	-0.255	-19.913	0.013	0.001***	Supported
H5	TR → IP	-0.080	-6.953	0.011	0.001***	Supported

Note: * $p < 0.050$; ** $p < 0.010$; *** $p < 0.001$

Source: Authors' own work

and perceived value → intention to purchase associations ($\beta = 0.304$, $p < 0.001$) owing to GSA; therefore, *H1* and *H2* are supported. There was a negative effect for the irritation → intention to purchase association ($\beta = -0.018$, $p = 0.081$), but there was not a significant relationship, so *H3* is rejected. There was a negative effect for the product risk → intention to purchase ($\beta = -0.236$, $p < 0.001$) and time risk → intention to purchase associations ($\beta = -0.064$, $p < 0.001$); therefore, *H4* and *H5* are supported.

4.3 Multigroup structural equation modeling

A type of moderation known as multigroup SEM analysis involves dividing a data set along the coefficients of a grouping variable, then testing a particular model with each set of data. Multigroup comparisons are used to test if associations predicted by a model would vary according to the moderator's value via the use of chi-square differences (Gaskin, 2022). AMOS was used in a multigroup analysis to evaluate variations concerning Generation Y and Z that were statistically significant by using Gaskin's (2022) procedure and the multigroup feature of AMOS.

The standardized path coefficients and levels of significance for Generation Y and Z are shown in Table 7, as well as the path coefficients based on χ^2 difference measures. The standardized path coefficients showed a positive effect for the trust → intention to purchase for Generation Y ($\beta = 0.144$, $p < 0.001$) and Z ($\beta = 0.229$, $p < 0.001$) associations. However, the χ^2 difference measure showed that Generation Z exhibited significantly greater positive sentiment ($p < 0.001$) regarding the trust → intention to purchase association because GSA, which supports *H6a*. Similar results were produced for the perceived value → intention to purchase association, where there was also a positive effect for Generation Y ($\beta = 0.216$, $p < 0.001$) and Z ($\beta = 0.321$, $p < 0.001$) associations, and Generation Z exhibited significantly greater positive sentiment ($p < 0.001$), which supports *H6b*. There was a negative effect for the irritation → intention to purchase association ($\beta = -0.147$, $p < 0.001$) for Generation Y, but the Generation Z association did not yield a

Table 7 Generation Y and Z multigroup SEM hypothesis results

<i>H</i>	Path	β	Generation Y			β	Generation Z			χ^2 difference p-value	Results
			t-value	SE	p-value		t-value	SE	p-value		
<i>H6a</i>	TRT → IP	0.144	7.895	0.018	0.001***	0.229	14.700	0.016	0.001***	0.001***	Supported
<i>H6b</i>	PV → IP	0.216	10.960	0.020	0.001***	0.321	20.793	0.015	0.001***	0.001***	Supported
<i>H6c</i>	IR → IP	-0.147	-8.462	0.019	0.001***	0.016	1.222	0.013	0.222	0.001***	Supported
<i>H6d</i>	PR → IP	-0.233	-11.544	0.020	0.001***	-0.251	-15.246	0.017	0.001***	0.305	Rejected
<i>H6e</i>	TR → IP	-0.162	-8.890	0.018	0.001***	-0.057	-3.835	0.015	0.001***	0.001***	Supported

Note: * $p < 0.050$; ** $p < 0.010$; *** $p < 0.001$

Source: Authors' own work

significant result ($\beta = 0.016$, $p = 0.222$). However, the χ^2 difference measure showed that Generation Y exhibited significantly greater negative sentiment ($p < 0.001$) regarding the irritation → intention to purchase association, which supports *H6c*. The standardized path coefficients showed a negative effect for the product risk → intention to purchase for Generation Y ($\beta = -0.233$, $p < 0.001$) and Z ($\beta = -0.251$, $p < 0.001$) associations, but the χ^2 difference measure did not produce a significant result, so *H6d* was rejected. The standardized path coefficients showed a negative effect for the time risk → intention to purchase associations for Generation Y ($\beta = -0.162$, $p < 0.001$) and Z ($\beta = -0.057$, $p < 0.001$) associations, and Generation Y again exhibited significantly greater negative sentiment ($p < 0.001$) regarding the time risk → intention to purchase association due to GSA, which supports *H6e*.

5. Discussion and implications

5.1 Key findings

This study found that GSA increased trust in the intention to purchase association, which makes a noteworthy contribution to the analogous association displayed in [Ducoffe's \(1995\)](#) original advertising value model. Other studies have found comparable trust and intent to purchase relationships among Generation Y and Z consumers, although [Kim et al.'s \(2012\)](#) research specifically relates to Google Ads, though focused on different digital platforms ([Kobylanski, 2012](#); [Cabeza-Ramírez et al., 2022](#); [Hameed et al., 2022](#); [Ma'ady and Wardhani, 2022](#); [Ngo et al., 2022](#); [Wang et al., 2022](#)). This makes sense, given that users must have a feeling of trust to finish the purchasing process. Specifically, modern consumers generally conduct extensive research on a product or service prior to making a purchasing choice. GSA have a positive impact on the association between perceived value and intention to purchase that significantly adds to the comparable relationship seen in the initial advertising value model developed by [Ducoffe \(1995\)](#). Other studies found analogous results, though these assessed various digital platforms among young consumers ([Kim et al., 2012](#); [Hsiao, 2021](#); [Adam et al., 2022](#); [Hameed et al., 2022](#); [Hewei and Youngsook, 2022](#); [Özdemir and Nacar, 2022](#)). GSA provide value to customers by displaying the product's image, business name and price. This is a rational supposition since, typically, consumers would need to navigate to multiple websites, and the shopping advertisements provide an e-catalogue experience with items from various firms. The respondents showed a general lack of irritation toward GSA, which favorably influenced purchase intention but not to a significant level, which is a divergent result in comparison to [Ducoffe's \(1995\)](#) advertising value model that showed consumers were irritated by online advertising. However, [Ducoffe \(1995\)](#) did not specifically consider young consumers, who are generally more tolerant of online advertising than the general population, since it is expected when using digital media ([Duffett, 2017](#)).

The results showed a negative product risk-intention and intention to purchase association, which indicates that Generation Y and Z respondents did not observe a product risk in terms of GSA. This result is in alignment with a number of other digital marketing-related inquiries that also used the perceived risk model to assess product risk and intention to purchase. For example, [Ariffin et al. \(2018\)](#), [Qalati et al. \(2021\)](#), [Adam et al. \(2022\)](#), [Cabeza-Ramírez et al. \(2022\)](#), [Lee and Lee \(2022\)](#) and [Ou et al. \(2022\)](#) discovered comparable associations between product risk and purchase intention but did not rely exclusively on GSA, though they did investigate a variety of digital channels. These findings are plausible given that people become familiar with the retailers and their products that they encounter in GSA. The findings showed a small negative time risk and intention to purchase association, which shows that young consumers did not perceive a product risk regarding GSA. This finding is consistent with several other investigations into online advertising and marketing that evaluated time risk and purchase intention using the perceived risk model. Time risk is a minor detriment to purchase intent in digital platform-based interactions, as shown by many studies that investigated a variety of digital platforms ([Ariffin et al., 2018](#); [Qalati et al., 2021](#); [Lee and Lee, 2022](#); [Rahmi et al., 2022](#); [Alrawad et al., 2023a, 2023b](#); [Sahni and Zhang, 2024](#)). Consumers' time is valuable, and GSA reduce the time required for a general organic search via a website.

The multigroup results showed that both Generation Y and Z displayed a positive trust and intention to purchase association due to GSA, but Generation Z displayed more favorable attitudes, which is comparable to other digital platform studies that mainly considered this young cohort ([Hameed et al., 2022](#); [Ngo et al., 2022](#); [Lewandowski and Schultheiß, 2023](#)). This result also fulfills [Wang et al.'s \(2022\)](#) mandate for additional studies that consider the moderation effect of demographical factors on trust and intention to purchase. The multigroup analysis generated analogous results in that both of the young cohort members showed favorable perceived value and intention to purchase associations due to GSA, but once again, Generation Z displayed more favorable attitudes, which is similar to other digital platform investigations that predominately considered Generation Z consumers ([Dobre et al., 2021](#); [Hsiao, 2021](#); [Hameed et al., 2022](#); [Hewei and Youngsook, 2022](#)). Organizations use the opportunity to grow quality in their relationships with users and interact with the Generation Z cohort to gain trust and commitment while satisfying their needs and entertaining them in the process, increasing the perceived value of this digitally savvy generation.

The Generation Y cohort showed a significant negative irritation and intention to purchase association versus the Generation Z association, which did not produce a significant finding but was marginally positive. Several other research studies also show an unfavorable impact on the irritation toward intention to purchase across several digital platforms among prevalent Generation Y consumers ([Martins et al., 2019](#); [Deng et al., 2022](#); [Purwatiningsih et al., 2022](#)). The presence of GSA that are relevant to the user's search query or contain accurate product information is likely to exert a positive impact on the user's purchase intention and, therefore, be perceived as less irritating and part of the normal SERPs. No difference was perceived between Generation Y and Z since a similar negative product risk and intention to purchase association was shown between the cohorts. Moreover, GSA enable users to view the actual item for sale, which tends to reduce product risk and increase purchase intention. The results revealed negative time risk and intention to purchase associations for both the Generation Y and Z associations, but Generation Y showed a larger negative sentiment due to GSA. Other studies confirm that a primary Generation Y audience does not perceive time risk across a range of digital platforms ([Ariffin et al., 2018](#); [Rahmi et al., 2022](#); [Alrawad et al., \(2023a, 2023b\)](#)). Young consumers gravitate toward mechanisms that save time, and GSA help serve this function by decreasing the time needed for organic SERPs. Hence, the results of this study helped meet [Alrawad et al.'s \(2023a, 2023b\)](#) stipulation for further inquiries that analyze other

perceived risk factors in terms of e-commerce by assessing the perceived time and product risks impact on intention to purchase due to GSA.

5.2 Theoretical implications

The present investigation scrutinized three components of [Ducoffe's \(1995\)](#) advertising value model, namely, trust, perceived value and irritation. The utilization of GSA resulted in an increase in perceived value and trust in the intention to purchase association among the Generation Y and Z cohorts, but especially among the latter cohort. However, it was found that GSA have a minimal adverse impact on the relationship between irritation and inclination to purchase among Generation Z consumers but did not have an adverse impact on the Generation Y cohort. Therefore, this study also contributes to the existing literature on the impact of GSA on the purchasing intentions of young consumers in developing countries. The findings also provide valuable insights for both academic researchers and organizations operating in this field, specifically regarding cohort analysis and the largest search engine in the world. Furthermore, the study corroborates the results of other researchers who also investigated the similar advertising value model antecedents' impact on the purchase intention ([Dobre et al., 2021](#); [Hsiao, 2021](#); [Deng et al., 2022](#); [Hameed et al., 2022](#); [Hewei and Youngsook, 2022](#); [Ngo et al., 2022](#); [Purwatiningsih et al., 2022](#)), but from a divergent digital platform context.

The notions of product risk and time risk were examined within the context of the perceived risk model ([Kaplan et al., 1974](#)). The study showed a negative link between product risk, time risk and intention to purchase among Generation Y and Z consumers, which indicates that both cohorts did not perceive a risk associated with GSA. However, Generation Y respondents were less concerned about time risk associated with purchase intention because GSA, whereas there was no difference between the cohorts regarding product risk. The cohort analysis also adds to the limited body of information on the field in developing nations by examining how GSA impact different cohorts, namely, Generation Y and Z. The associations were similar to previous study results ([Ariffin et al., 2018](#); [Martins et al., 2019](#); [Deng et al., 2022](#); [Purwatiningsih et al., 2022](#); [Rahmi et al., 2022](#); [Alrawad et al., 2023a, 2023b](#)) but differ again in terms of the digital platform context.

5.3 Practical implications

South African businesses used GSA to help offset the economic instability caused by the COVID-19 coronavirus outbreak by increasing customer confidence and reducing product risk via e-commerce retailers. A low CTR may indicate a lack of trust in the ad, as well as a bad quality score for the GSA themselves. In an e-commerce context, consumers may consider websites with slowly loading images or broken links as a disincentive to buying intent and a lack of trust. Subsequently, an advertiser is recommended to tailor the landing page to optimize the young consumers' reaction and engagement rates. Furthermore, advertisers and businesses must promote the correct product and pricing for young consumers to trust GSA. In the event that a user interacts with an advertisement and is directed to a Web page where the product and its corresponding price differ from what was initially presented, the user may exhibit a sense of caution. To ensure that this does not occur, websites could use plugins to prevent manual pricing and product fluctuations. Perceived value is what motivates young customers to make purchases from businesses. Individuals are constantly eager to pay a premium for a superb deal, and they evaluate the offer based on how it is presented by concentrating on minimizing apparent risk and then increasing the true value of the offer. Nowadays, Generation Y and Z shoppers behave differently. They will conduct research prior to making a purchase. This is when reviews of products or services are useful. Reviews from reputable sites bolster trustworthiness, i.e. reviews mitigate risk. In addition, the investment in professional packaging design, high-quality product photography and aesthetically attractive layout advertising are key steps in

increasing perceived value. This is critical since GSA includes product photos, which are frequently the first thing customers' view.

Furthermore, for internet marketing campaigns that use Google advertising, the survey's standardization showed very little irritation for purchasing intent among young consumers, but even less so among Generation Y consumers who have substantial purchasing power. Transparency has become one of the most significant characteristics that a firm may have to mitigate product risk. This is especially important if a young consumer needs a warranty, repair or replacement, or if they want to return something they bought. If they make their purchase online, their degree of mistrust may rise dramatically. By making return procedures as straightforward and clear as possible, businesses can win confidence and client loyalty. Moreover, a young consumer's degree of distrust and product risk may rise if they make a purchase online. To minimize this issue, marketers need to showcase the rating of their items when customers are browsing through their product listings on GSA. The higher the star ratings, the more buyers are enticed to click on the product. While product descriptions are helpful, the star ratings and product reviews provide buyers with additional insights to help them pick their chosen items and minimize product risk and uncertainty. It should be recognized that Generation Y and Z customers will analyze the information provided in advertising about products, services and brands to decrease time and product risks in purchasing choices. As a result, digital advertisements for products, services or brands should provide up-to-date and correct information. Specifically, if marketing professionals and organizations are not careful, they may end up misinterpreting simple e-commerce terms such as delivery dates, shipping dates, projected shipment dates and shipping speeds, which will increase the time risk among Generation Y and Z consumers.

5.4 Limitations and future research

This study focused primarily on intention to purchase via shopping campaigns; however, Google Ads have various types of digital advertising (app campaigns, smart campaigns, display campaigns, local campaigns and video campaigns), where subsequent investigations may look at them as distinct entities to determine whether they produced different results. Moreover, the study focused on participants belonging to Generation Y and Z, whereas alternative research endeavors may center on other distinct cohorts, for example, Baby Boomers and Generation X (Duffett, 2017). This study found that young consumers generally showed positive trust and perceived value associations with intention purchase and that irritation did not have a negative impact on purchase intent due to GSA. So, further hypotheses could be posited based on other variables that are commonly included in the advertising value model, for example, entertainment, informativeness, credibility, personalization and brand awareness of GSA in relation to purchase intention. Likewise, the study affirmed that product risk and time risk did not negatively affect intention to purchase due to GSA. Therefore, future research could explore hypotheses that assess additional perceived risk model variables, for example, financial risk, safety risk, psychological risk, social risk, security risk and privacy risk, to establish if there are analogous findings. The study used a quantitative research methodology; however, the inclusion of qualitative research could offer significant value by providing a deeper comprehension of the underlying reasons behind customers' perceptions of GSA. The study used snowball sampling, which is a nonprobability sampling technique that has the potential for response bias. A large sample size may mitigate this a little (Cohen and Arieli, 2011), but future research could use simple random and stratified random probability sampling techniques, which would largely eliminate the potential for response bias. Longitudinal research, which is characterized by its extended duration, yields more definitive outcomes compared to cross-sectional research. Furthermore, it is recommended that forthcoming studies delve deeper into the examination of demographic factors such as employment status, education, marital status, gender and age.

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