Beyond convenience: Understanding the multifaceted appeal of online grocery shopping applications

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ABSTRACT

Online consumer shopping patterns have changed significantly due to technological innovations. This current study examines the interplay between hedonic and utilitarian value and the role of perceived usefulness in determining consumers' trust in shopping, mainly through online grocery delivery applications. Trust in technology-oriented devices is of great interest, and this study adds new knowledge to the extant literature. A total of 462 online grocery delivery application users completed the online survey. A convenience sampling method was used. Online questionnaires were analysed using the structural equation modelling software AMOS. Empirical findings established that the perceived usefulness of online grocery delivery apps positively and statistically influenced perceived trust. Utilitarian benefits were found to have a stronger predictor of perceived usefulness than hedonic benefits. Scholarly contributions were provided to those in the grocery retail industry and academics in related scholarly fields, specifically regarding novel research on trust building anchored in perceived usefulness among consumers. The study further provides guidelines for future research that will ideally benefit the online grocery retail sector.

Keywords: Online grocery shopping, Applications, Trust, Usefulness, Hedonic value, Utilitarian value, convenience

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1. INTRODUCTION

Online shopping enables consumers to order goods via the internet. Consumers can order goods from anywhere, and their purchases are then delivered to a stipulated address (Burke 1997; Verhoef & Langerak 2001). Internet shopping, therefore, represents a preferred alternative method of distributing goods that removes the need to visit a physical store. As a result, the uptake of online shopping proves to be highly product-specific (Van Droogenbroeck & Van Hove 2021), especially in the United States of America (USA), where e-commerce sales of physical goods totalled $343.1 billion in 2019 (Statista 2021). Statista (2021) reported that it is estimated that the USA will reach $476.5 billion in e-commerce sales by 2024. The trend and growth of online shopping are predicted to increase exponentially in the coming years – not only because of increasing internet penetration and access but also because of changes and growth in the support for the global ecosystem (Rishi, Kapoor & Bhatia 2016). The global online shopping market grew from $133 billion in 2013 to approximately $298 billion in 2015 (eMarketer 2016). Moreover, global retail mobile commerce revenue increased from $96.34 billion in 2015 to $693 billion in 2019, an increase of over 500 per cent (Statista, 2019). At $360 billion, India is ranked as the sixth largest grocery market globally, accounting for about 10% of the global online grocery market (Rishi *et al*. 2016). Terblanché (2016:3) defines retailing as 'business activities or steps required to sell goods or services to final consumers for use or consumption by themselves, their families or their households'. Accordingly, retailing resembles a business that focuses its marketing efforts on the end consumer, and transactions are done via mail, telephonically, from door to door, via a vending machine or on a smartphone device.

Local retailers also indicate that there has been a positive incremental adoption of online shopping, with South Africans spending R25 billion on online shopping in 2017. This represented an increase of nearly R5 billion from 2016, and continuous increments in later years are predicted (Statista, 2021). Owing to the COVID-19 pandemic from 2020 to 2022, local retailers were forced to adopt technological advancements to deliver goods and services to their customers. In addition, technological advances in smartphone technology have altered consumers' shopping behaviour over the years, with the rapid uptake of new shopping channels like social commerce and mobile shopping applications (apps) revolutionising online shopping. The prevalence of app-based grocery delivery systems has raised the interest of grocery-based retailers in such systems. As many as 85% of South African mobile shoppers prefer using shopping apps to a mobile website – a 48 percent increase in shopping using apps was seen in a sample who spent between R1 000 and R2 500 per month, and 42% of respondents stated that they spent up to R5 000 per month via shopping apps in general (Bizcommunity, 2017).

The use of online grocery delivery apps for shopping is growing rapidly as more and more retailers introduce in-house shopping apps. Online grocery delivery apps provide a convenient way to buy groceries anywhere and sometimes anytime in emerging economies like South Africa. The use of such apps helps corporate employees working from home adhere to their tight schedules. The apps make it easier for parents to meet all their responsibilities because grocery shopping no longer involves inconveniences like sitting in traffic or struggling to find parking Kumar (2019) states that grocery and food items were not considered suitable for online ordering in the past. Now, changes in consumers' working habits, their quest for increasing convenience and their adaptability have resulted in the introduction of innumerable small- and large-scale grocery delivery apps. The prevalence of smartphones, which are gradually replacing personal computers (PCs) for online shopping purposes, has made this possible. Rishi *et al.* (2016) propose the following additional reasons for the adoption of online grocery shopping:

- The grocery retail market in other parts of the world remains under-penetrated and unprofitable due to the high costs of utility bills and rentals. Retailers that have adopted online grocery options have managed to avoid passing on costs to customers.
- Some local retailers seem to run out of grocery items, but online grocery retailers can refer customers to other online retailers with similar products through co-partnerships.
- Traffic jams, the cost of parking and frequent out-of-stock situations are some of the problems experienced by customers who shop at physical retail shops. As a result, they prefer to shop online for their groceries.

- Most households follow similar grocery buying patterns from month to month, further increasing familiarity with purchase items. The result is that shoppers do not need to touch and feel the items they buy regularly. In addition, online grocery apps recommend items and remind buyers of the items they buy regularly.
- Some online grocery retailers have customer-friendly return policies, which also promote the uptake of online grocery delivery app usage.

Stone (1954) first introduced the retail shopper typology based on consumers' social characteristics. Over the past decades, consumers' consumption and shopping behaviours have been altered not only by social characteristics but also by the advent of technology. Consumers who shop via apps seem to prefer a shopping experience that includes both utilitarian and hedonic aspects to meet their ever-evolving shopping needs (Kim, Sullivan and Forney 2007). It has become imperative that researchers revisit consumers' shopping experiences and the effect of the current technological environment on consumers' behaviour, which is characterised by change and innovation.

The importance of hedonic value, utilitarian value and usefulness of grocery delivery apps cannot be ignored. Klepek and Bauerová (2020) confirm that understanding both hedonic and utilitarian factors is crucial for understanding consumers' perception of online grocery shopping in general. Kim, Lee and Kim (2012) postulate that consumers seem to perceive shopping not only as an unavoidable task but may, in contrast, also treat shopping as a leisure activity that provides intangible benefits, including pleasure and an element of fun. In this study, utilitarian and hedonic value derived from online grocery delivery shopping apps is predicted to influence the perceived usefulness of such apps in enhancing consumers' shopping experiences, further influencing their trust in those apps.

Online grocery delivery apps must overcome some challenges to improve consumers' receptivity and ensure their continued use of these apps. The most pressing challenge involves creating trust among new and current users. Academicians are facing the challenge of determining which trust factors affect consumers' online buying behaviour. Although numerous publications (Kalia 2017; Kalia, Singh & Kaur 2016; Khan, Liang & Shahzad 2015; Lian & Yen 2014) and consumer behaviour theories name factors influencing online buying behaviour, yet a conclusive study has not been conducted. Becerra and Korgaonkar (2011) state that trust beliefs affect the intentions of online buyers, and more trust might be needed to increase retailers' online revenue. Trust beliefs concerning online intentions vary, and belief in products and services is increased by brand trust beliefs. It is, therefore, crucial to assess consumers' perceptions and adoption of online grocery delivery apps and to investigate the role of perceived trust in determining the sustainability and relevance of these apps in an ever-changing technological environment.

Martín, Pagliara and Román (2021) provide a systematic literature review that shows that the number of articles on online grocery shopping has increased substantially over the years. Some publications (Van Droogenbroeck & Van Hove 2017; Nielsen 2015) confirm that online grocery shopping is becoming increasingly prevalent, but groceries are still among the least popular e-commerce segments. There are still several gaps in the literature on online grocery shopping. One of these gaps concerns consumer perceptions. Most studies have focused on the USA, the UK, India and China (Van Droogenbroeck & Van Hove 2021). South Africa remains under-researched. In essence, the online grocery shopping literature has thus far mainly focused on the behavioural intention of consumers (Mortimer *et al*. 2016). In response, we examine actual usage in a trust setting.

Against the provided backdrop, the specific objectives that guide this research are the following:

1. To analyse the effect of utilitarian value and hedonic value on the perceived usefulness of online grocery delivery apps,
2. To assess the interaction effect of confirmation and the perceived usefulness of online grocery delivery apps on perceived trust in using grocery delivery apps, and
3. To evaluate the proposed conceptual model for online grocery delivery apps in the context of an emerging economy.

The study further seeks to provide practical guidelines to online grocery retailers to assist them in understanding the usefulness of delivery apps and trust-related promotion of online grocery delivery apps.

This article is organised as follows: the first section presents the literature review of this study, followed by the hypothesis development. Next, the research methodology is presented, followed by the research data and results analysis. These are explored further in discussion and contributions sections, and the article ends with limitations of the study and recommendations for future research.

2. LITERATURE REVIEW

According to Holbrook and Hirschman (1982), hedonic value from shopping is viewed as subjective, experiential and personal, and it involves potential excitement, pleasure and emotional stimulation. Hedonic value can be obtained from enjoying shopping itself and experiencing positive feelings from store ambience (Kim *et al*. 2012) or, in this case, from the aesthetics of grocery delivery apps. As a result, the enjoyment derived from shopping and aesthetic appeal represents the hedonic aspect of shopping orientation. On the other hand, Holbrook and Hirschman (1982) state that the utilitarian value of shopping pertains to the tangible attributes that serve as a fundamental establishment of a functional value rather than that of emotional satisfaction. The value derived from utilitarian shopping is instrumental, functional and purposeful, according to Batra and Ahtola (1990).

Importantly, online marketers should identify the elements that enhance or undermine trust among online grocery shoppers and better understand how such elements affect online grocery customers' perceptions (Constantinides 2004). Trust is vital as online shoppers and retailers cannot engage physically (Jiang, Chen & Wang 2008), and a lack of trust is one of the main reasons why customers do not purchase via online platforms (Limbu, Wolf & Lunsford 2012). The intention to purchase online is influenced by the reliability and trustworthiness of the online retailer (Lee *et al*. 2010). Many online shoppers are generally unwilling to disclose their credit card and banking details to online retailers owing to their low trust intention. The more online shopping users trust online platforms, the more they will engage in online shopping activities (Jiang *et al*. 2008).

Based on the above, it is evident that online shopping trends in South Africa, an emerging economy, seem to differ from those in developed economies. Apart from the poor transport network, high data costs and a lack of broadband accessibility in South Africa (Rudansky-Kloppers 2017), there is also a persistent lack of trust among online users (Mahlaka 2014). This lack of trust negatively affects the acceptance and continued use of online grocery delivery shopping apps. Rudansky-Kloppers (2017) estimates that online shopping in South Africa is five to seven years behind regions such as Europe, Australia, and America. South African consumers visit websites to compare prices and products before purchasing but still make their actual purchases in-store instead of online (Kloppers 2013), owing to a lack of trust.

Van Droogenbroeck and Van Hove (2017) maintain that trust is an important inhibiting factor in app usage since product quality cannot be verified through an app. Consumers tend to have trust concerns with app services as they cannot touch or taste 'high touch' items like fruit and vegetables (Ramachandran, Karthick & Sarvana Kumar 2011) via online grocery delivery apps. Research into this situation would help retailers obtain crucial knowledge of consumers' perceptions of grocery delivery apps so they can incorporate the right mix of trust-establishing factors in the online grocery delivery app environment. Trust in online technology is critical for consumer acceptance of new technology in grocery shopping and for e-commerce expansion in various retail product categories (Muslikhin *et al*. 2021; Vos *et al*. 2014). Trust is positively influenced by several factors, such as technical security features, simplicity of navigation, information display method and an individual's verification (Habib & Hamadneh 2021). Yet few studies have verified the influence of the perceived usefulness of online technology on consumers' trust. Research into trust in online buying decisions relating to products in specific product categories is thus imperative.

As more and more studies of trust and its antecedents are conducted in the context of online grocery delivery apps, researchers will be able to discover which antecedents are more important than others, further helping researchers build robust theories of behaviour concerning online grocery delivery apps. Therefore, this research focuses on an extensive review to identify and propose factors that affect consumers' trust in online grocery delivery apps. The study involves empirical work for practice and academicians in the context of online grocery delivery apps. An existing gap in the literature provides an avenue for this study to add to the extant literature by proposing the key variables that affect consumers' perceptions of and trust in online grocery delivery apps.

3. THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

The expectation confirmation model (ECM) proposed by Bhattacherjee (2001) is extended in this study by including utilitarian and hedonic values as precursors of perceived usefulness to understand how they influence the dependent variable (trust). The original expectation confirmation model only considers confirmation as a determinant of perceived usefulness. Oliver and Swan (1989) refer to confirmation as the degree to which performance exceeds equals or falls short of an individual's expectations. Confirmation can occur in three scenarios: (1) expectations are confirmed when the information system performance is as expected; (2) positive confirmation arises when information system performance exceeds expectations; and (3) negative disconfirmation arises when experienced performance is less than expectations (Bhattacherjee, 2001). Perceived usefulness signifies belief in the usefulness of an action. When a user believes that using a system will enhance their performance, their belief positively impacts their intention to use the system (Venkatesh & Davis, 2000). Therefore, an individual's frequent use of information systems results from positive beliefs about using it.

Therefore, utilitarian value and hedonic value were incorporated in this study to increase the explanatory power for perceived usefulness in the proposed conceptual model. Consequently, the other reason was that the only factor predicting usefulness in the original expectation confirmation model and several extant studies was confirmation (Kim 2010; Chong 2013; Chou *et al*. 2013; Chung, Chun & Choi 2016; Hung, Yang & Hsieh 2012). Subsequently, confirmation resulted in a low predictive power of 20% on usefulness in the original expectation confirmation model (Bhattachajee 2001). This was attributed to confirmation as the solitary usefulness predictor. Thus, this study adds to the body of knowledge in information systems including utilitarian and hedonic values as crucial precursors that might better explain usefulness and boost the prediction power of perceived usefulness in the expectation confirmation model with trust as the dependent variable.

3.1 CONFIRMATION AND HEDONIC VALUE

Hsu and Lin (2015:49) define confirmation as 'a users' level of appropriateness between their actual performance and expectation of the usage of information systems and services'. Whereas Oliver and Swan (1989) assert that confirmation is the degree to which performance exceeds, equals, or falls short of an individual's expectations, resulting in positive, zero, and negative disconfirmation. In other words, confirmation captures pre-consumption expectations and validation of those expectations after the use of technology. Bhattacherjee (2001) reiterates that confirmation denotes a technology user's perception of the congruence between the expectation of using the technology and the actual performance of the technology. In this study, in line with prior studies (Almazroa & Gulliver 2018; Shang & Wu 2017; Hsu & Lin 2015; Bhattacherjee 2001), confirmation is operationalised as online grocery delivery app users' perception of the congruence between expectation and actual performance.

Hedonic value refers to a user's positive emotions or feelings towards using a system, representing an overall judgment based on the user experience (Zhou, Jin & Fang 2014; Babin, Darden & Griffin 1994). The hedonic aspect of online shopping is based on the playful and aesthetic nature of virtual stores (Mathwick, Malhotra, & Rigdon, 2001), which creates a stimulating shopping environment. According to Childers *et al*. (2001), hedonic value would consist of consumers experiencing high-resolution graphics, video clips, acoustic stimuli, chat rooms and interactive games that may entertain the technology user and create an exciting online atmosphere. Confirmation expectations influence hedonic value when using social mobile apps (Chou *et al*. 2013). Thong, Hong and Tam (2006) and Chen *et al*. (2010) state that the confirmation factor is a critical determinant of hedonic value. Confirmed online technology users tend to view the target system as being more playful and relatively easy to use (Hong, Thong & Tam 2006; Hsieh & Wang 2007; Lin, Wu & Tsai 2005).

Similarly, this study affirms that the confirmation of expectations when using online grocery delivery apps positively influences hedonic value. In line with the provided discussion, this study proposes the following hypothesis:

H_1: Confirmation of expectations when using online grocery delivery apps positively influences the hedonic value of online grocery delivery apps.

3.2 CONFIRMATION AND UTILITARIAN VALUE

Utilitarian value refers to the cognitive evaluation of the utility of using a system according to purpose fulfilment and problem-solving (Zhou *et al*. 2014; Babin *et al*. 1994). Chong (2013) confirms the positive relationship between the confirmation of expectations and utilitarian value in mobile commerce. The findings of a study by Chon (2013) are in line with the cognitive dissonance theory outcomes. Similarly, users of smart wearable devices perceive greater degrees of utilitarian value when their expectations are confirmed at the beginning and end of usage (Park 2020). The utilitarian value of internet shopping is influenced positively when users' expectations are met (Kim, *et al*. 2012). Therefore, a confirmed online grocery delivery app user is more likely to find that the system assists in improving the efficiency and effectiveness of grocery shopping (Lin, *et al*. 2012). Lai, Liao and Zhu (2006) also confirmed the confirmation and value relationship. The same study revealed a positive relationship between service recovery confirmation and customer lifetime value (Lai *et al*. 2006). Confirmation has also been found to have both a direct and an indirect effect on value derived from quality (Bolton & Drew 1991).

Following the studies mentioned above, it is expected that confirmation of expectations of using online grocery delivery apps would influence the utilitarian value derived from the same app. Therefore, the following hypothesis is formulated for this study:

H_2: Confirmation of expectations of using online grocery delivery apps positively influences the utilitarian value of online grocery delivery apps.

3.3 CONFIRMATION AND PERCEIVED USEFULNESS

Technology users display post-usage delight when their pre-adoption usefulness expectations are exceeded or met during or after their use of shopping technology (Lee 2010). Perceived usefulness is a post-adoption construct reflecting behavioural belief in the usefulness of a product after the assimilation of expected and actual consumption values (Bhattacherjee, Perols & Sanford 2008; Wixom & Todd 2005). In addition, Bhattacherjee (2001) postulates that confirming or disconfirming users' experiences with initial usefulness expectations will adjust their post-adoption perceived usefulness downwards or upwards.

Perceived usefulness has been defined as 'the prospective user's subjective probability that using a specific application system will increase his or her job performance within an organizational context' (Davis, Bagozzi & Warshaw 1989) and 'the belief that using the application will increase one's performance' (Davis 1989). Chiu *et al*. (2009) postulate that perceived usefulness is 'the extent to which a consumer believes that online shopping will enhance his or her transaction performance'. It has been shown that there is a statistically significant relationship between confirmation and perceived usefulness in the online environment (Bhattacherjee 2001), which aligns with the expectation confirmation model. The relationship between confirmation and perceived usefulness has been validated in several technology-related contexts, such as mobile shopping apps (Chabata 2021), mobile data services (Kim *et al.* 2012), m-banking (Susanto, Chang & Ha 2016; Yuan *et al*. 2016), m-shopping (Shang & Wu 2017) and desktop services (Huang 2019). These findings align with the cognitive dissonance theory proposed by Festinger (1962), which states that technology users tend to feel psychological dissonance when perceived benefits are not significantly allowed nor confirmed in their actual usage (Park 2020). Chen *et al*. (2010) indicate that improving the feeling of usefulness can be an effective resolve to minimise the accrued dissonance with the perception of the benefits. Bhattacherjee (2001) has established that confirmed online technology users tend to evaluate perceived usefulness highly, and that a feeling of disconfirmation potentially reduces such perceptions.

This study postulates that a positive relationship between confirmed expectations and perceived usefulness in the context of online grocery delivery apps hypothetically exists. Thus, we set forth the following hypothesis:

H_3: Confirmed expectations of using online grocery delivery apps positively influence the perceived usefulness of online grocery delivery apps.

3.4 HEDONIC VALUE AND PERCEIVED USEFULNESS

Value will always be uniquely and phenomenologically determined by the beneficiary in the context in which it is derived (Vargo & Lusch 2008). Hirschman (1984) explains that all shopping endeavours are associated with the stimulation of thoughts and/or senses and may be viewed as a process that provides an online user with cognitive and affective benefits. Hirschman and Holbrook (1982) assert that hedonic value is perceived through the holistic emotional sensations of fun, entertainment and pleasure embedded in shopping behaviour instead of through goal achievement. Similarly, hedonic value is the desire to have fun and be playful; it is an experience-based enjoyment derived from the entire process of using online technology (Yeo, Goh & Rezaei 2017). A study by Koufaris (2002) confirms that an online consumer requires both shopping enjoyment and perceived usefulness. These two aspects strongly predict an individual's intention to re-use the online platform. Including hedonic value in the empirical study is like including it in the UTAUT model (Venkatesh, Thong & Xu 2012) to complement the theory's focus on intentionality as the overarching mechanism and key driver of behaviour. Venkatesh *et al*. (2012) explain that hedonic motivation is a critical determinant of behavioural intention, and the researchers in this study assume it to be a critical determinant of perceived usefulness.

Mun and Hwang (2003) have studied the prediction of web-based information systems use and found a positive relationship between online enjoyment and the perceived usefulness of the platform. In the context of e-commerce acceptance, Ha and Stoel (2009) have also identified a relationship between enjoyment and perceived usefulness. Enjoyment is associated with experiencing hedonic value. In this regard, we contend that hedonic value can be a determinant of perceived usefulness.

H_4: The hedonic value of using online grocery delivery apps positively influences the perceived usefulness of online grocery delivery apps.

3.5 UTILITARIAN VALUE AND PERCEIVED USEFULNESS

Utilitarian value is one of the key reasons why users of online grocery delivery apps use them. A study by Lee, La and Yeon (2009) has shown that when firms provide location and context-specific services that resemble utility in a timely manner, customers feel that the services are increasingly useful. When firms propose discounted mobile commerce coupons for restaurants based on location and proximity, which aid in utilitarian value at lunch or dinner, customers perceive that such offers enhance mobile service usefulness (Lee & Jun 2005). Similarly, acquisition and transaction value are associated with utilitarian value (Grewal *et al*. 1998) and resemble the net gain to app users when they buy a product via the grocery app. Users of online technology find online platforms to be useful, as they can save both monetary as well as non-monetary costs for the user (López-Nicolás, Molina-Castillo & Bouwman 2008; Amoako-Gyampah & Salam 2004). We therefore assume that the following relationship exists:

H_5: The utilitarian value of using online grocery delivery apps positively influences the perceived usefulness of online grocery delivery apps.

3.6 PERCEIVED USEFULNESS AND PERCEIVED TRUST

Chung and Kwon (2009) define perceived trust as a safe feeling towards others and something that individuals can depend on (Pauzi *et al*. 2017). Pauzi *et al*. (2017) further emphasise that trust is crucial in the online environment owing to the various risks that online users may encounter during the buying process. Trust further determines online consumers' intention to use online grocery shopping because of its highly influential nature and increasing importance in the online shopping environment (Human, Ungerer & Azémia 2020). Online shopping retailers should consider achieving greater success by assuring customers that their online platforms are user-friendly, guaranteeing the safety of customers' personal information and increasing customers' trust by providing safe payment options.

Although several studies have confirmed the relationship between usefulness and behavioural intention to use information systems (Lu & Su 2009; Davis *et al*. 1989; Taylor & Todd 1995), few have tested the relationship between perceived usefulness and trust. Studies confirm that perceived usefulness is considered one of the crucial predictors

of using a specific technology (Kasilingam 2020; Khalifa & Shen 2008). However, there seem to be very few studies that investigate the relationship between perceived usefulness and trust in technology-oriented settings in general. Moreover, trust takes time to emerge. Online retailers must nurture trust and continuously prove to customers that a trust relationship can be mutually achieved.

It has been found that tangibility is associated with increased consumer loyalty, while responsiveness, reliability and assurance are associated with increased consumer trust (Gefen 2002). If app users believe that grocery delivery apps will enhance their performance and productivity, individuals are likely to build trust when conducting transactions via the app. Evidence presented by Lim, Osman and Halim (2014) indicates that perceived usefulness has an important effect on the online shopping behaviours and perceptions of consumers. Trust can emerge through a process of capability, which refers to another party's ability to meet obligations (Alagarsamy, Mehrolia & Singh 2021). Customers are motivated to participate in relational exchanges when they can save money, whichleads to increased trust (Peterson 1995). A structural bond can be improved via integrated services, technologies that aid two-way information exchange, product customisation and industry-related knowledge (Teng & Huang 2016; Chang *et al*. 2019). This promotes a sense of community and builds brand trust. Non-monetary benefits also encourage online shopping users to engage in relationships with a particular retailer, in turn leading to more trust and attachment (Alagarsamy *et al*. 2021)

We predict that perceived usefulness positively predicts users' trust in online grocery delivery apps. We therefore formulate the following hypothesis:

H_6: Perceived usefulness positively influences perceived trust in online grocery delivery apps.

3.7 CONCEPTUAL MODEL

Figure 1 illustrates the conceptual model adopted by this study. The conceptual model affirms the focal construct in the theorised model as trust, while utilitarian value, hedonic value and usefulness are the antecedents.

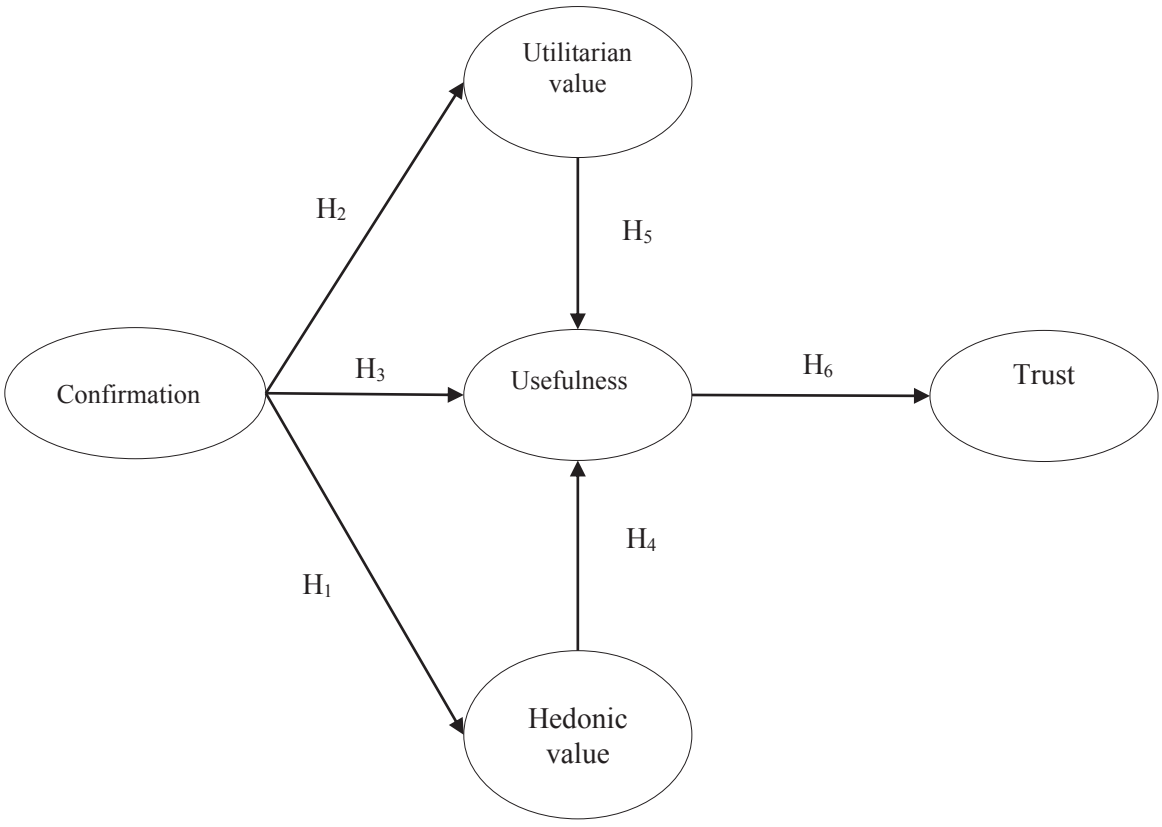

FIGURE 1 RESEARCH MODEL

Source: Developed by author (2024)

4. METHODOLOGY

4.1 MEASUREMENT

The study used an electronic questionnaire, and its items were adapted from previous related research studies. The measurement items pertaining to trust, perceived usefulness, and confirmation were adapted from Thusi (2022). Reflective items were derived from Babin *et al*. (1994) and Chiu *et al*. (2013) to measure all the primary constructs. The study used a Likert scale from 1 (strongly disagree) to 7 (strongly agree).

4.2 SAMPLING, DATA GATHERING AND SAMPLE CHARACTERISTICS

Consumers between the ages of 18 and 65 who had used an online grocery service (app) in South Africa at least once were part of the study population. Convenience sampling, a non-probability sampling method, was used to choose participants as there was no accessible sample frame. A permission form outlining the purpose of the study and the participants' rights was included on the first page of the online questionnaire. The permission form was followed by screening questions about respondents' age range and whether or not they had used an online grocery app before. Those whose answers to the screening questions were 'yes' were directed to complete the online survey; those who selected 'no' were thanked for their time but were not allowed to proceed as they did not meet the requirements for inclusion. The information was gathered using online surveys that participants self-administered. The questionnaire was pre-tested on a convenient sample of 25 respondents before it was fielded to ensure that the instructions and the questions/statements were clear. The 25 respondents in the pilot testing phase were not included in the final 462 sample size. The pilot test findings showed that most respondents understood the purpose and wording of the questionnaire. The online survey was distributed with the assistance of a professional research consulting firm over a two-month period and was contracted because of their extensive experience in data collection best practices.

5. DATA ANALYSIS AND RESULTS

Data were collected over two months. A total of 462 usable responses were obtained. According to a gender breakdown, there were 297 (64.29%) female participants, 153 (33.12%) male participants and 12 (2.59%) participants who selected 'other'. Age-wise, the majority (42.7%) of participants were in the 30 to 45 age bracket, followed by 32.2% in the 46 to 54 years bracket. 15.6% and 9.5% of the participants were in the 55 to 65 and 18 to 29 age brackets, respectively.

The research model was tested using the structural equation modelling software AMOS. The internal reliability of the items of interest was verified by computing Cronbach's alpha (Nunnally 1978). According to Tavakol and Dennick (2011), Lee Cronbach developed Cronbach's alpha (α) in 1951 to measure the internal consistency of a test or scale. The guidelines proposed by Tavakol and Dennick (2011) were used to assess the reliability of constructs: $\alpha \geq 0.9$ means excellent; $0.9 > \alpha \geq 0.8$ means good; $0.8 > \alpha \geq 0.7$ means acceptable; $0.7 > \alpha \geq 0.6$ means questionable; $0.6 > \alpha \geq 0.5$ means poor; and $\alpha < 0.5$ is unacceptable. Composite reliability and average variance extracted (AVE) were computed for each construct or scale using the formula proposed by Fornell and Larcker (1981). Composite reliability had to exceed the estimated criteria of greater than 0.70 to ensure the internal consistency of the constructs under study. AVE had to be above 0.4 to be considered acceptable (Fraering & Minor 2006). The construct reliability and convergent validity results for this study are presented in Table 1.

TABLE 1 CONSTRUCT RELIABILITY AND CONVERGENT VALIDITY RESULTS

	Factor loading	Cronbach's alpha	Composite reliability	AVE
Confirmation		0.787	0.788	0.553
CON1	.760			
CON2	.760			
CON3	.715			
Usefulness		0.802	0.804	0.578
PU3	.781			
PU4	.714			
PU5	.718			
Hedonic value		0.839	0.851	0.589
HV1	.780			
HV2	.811			
HV3	.783			
HV4	.718			
Utilitarian value		0.830	0.832	0.623
UV1	.780			
UV2	.824			
UV3	.763			
Trust		0.824	0.825	0.611
TR1	.768			
TR2	.808			
TR3	.769			

Source: Developed by author (2024)

The result estimation for confirmation was 0.788; usefulness was 0.802; hedonic value was 0.839; utilitarian value scale was 0.830; and trust was 0.824. The Cronbach's alphas in this study were all much higher than 0.7, so the constructs were deemed good and acceptable.

The study adopted Fornell and Larcker's (1981) technique regarding terms of discriminant validity. They advise that all ratios of correlations should be less than 0.85 (Fornell & Larcker, 1981). Table 2 depicts the discriminant validity results of this study.

TABLE 2 RATIOS OF CORRELATIONS

		1	2	3	4	5
1	Utilitarian value	**0.789**				
2	Confirmation	0.720	**0.744**			
3	Usefulness	0.748	0.724	**0.760**		
4	Hedonic value	0.565	0.646	0.613	**0.768**	
5	Trust	0.543	0.717	0.580	0.726	**0.782**

Source: Developed by author (2024)

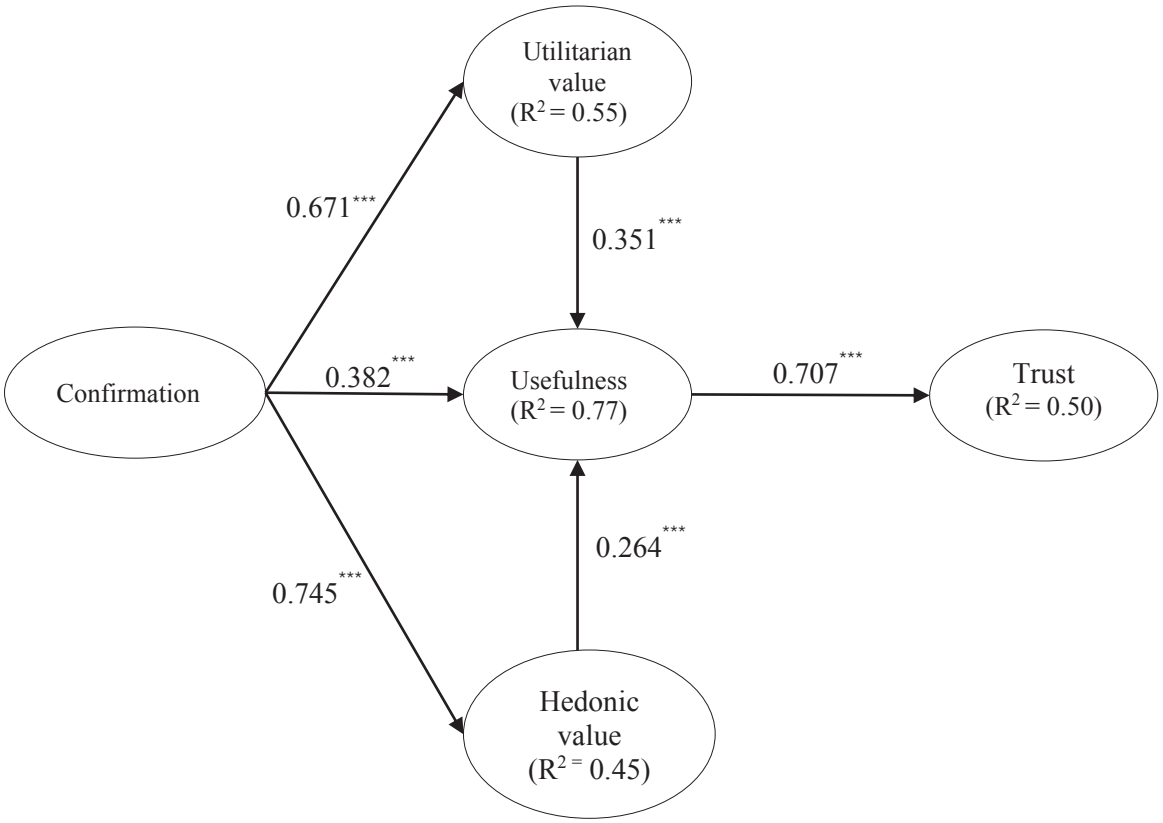

FIGURE 2 RECONCEPTUALISED MODEL WITH EMPIRICAL RESULTS OF THE STUDY.

Source: Developed by author (2024)

Table 3 summarises the hypothesised relationships.

TABLE 3 RESULTS OF HYPOTHESES TESTING

		Path coeff	T-value	P
H_1	Confirmation → Hedonic value	.745	11.434	***
H_2	Confirmation → Utilitarian value	.671	10.272	***
H_3	Confirmation → Usefulness	.382	4.099	***
H_4	Hedonic value → Usefulness	.264	4.361	***
H_5	Utilitarian value → Usefulness	.351	4.777	***
H_6	Usefulness → Trust	.707	11.939	***

Source: Developed by author (2024)

Table 3 and Figure 2 reveal that H_1 to H_6 are statistically significant in the prediction model. The empirical results also clearly support hypotheses H_1 to H_6. The respective results show that confirmation has a significant positive impact on hedonic value ($\beta = 0.745$; $t = 11.434$; $p < 0.001$; $\beta = 0.671$; $t = 10.272$; $p < 0.001$); on utilitarian value ($\beta = 0.671$; $t = 10.272$; $p < 0.001$); and usefulness ($\beta = 0.382$; $t = 4.099$; $p < 0.001$).The results also show that hedonic value has a significant positive impact on usefulness ($\beta = 0.264$; $t = 4.361$; $p < 0.001$), and utilitarian value has a significant positive impact on usefulness ($\beta = 0.351$; $t = 4.777$; $p < 0.001$). Lastly, the results indicate that usefulness has a significant positive impact on trust ($\beta = 0.707$; $t = 11.939$; $p < 0.001$).

The next section provides details of the results and a discussion of the study.

6. RESULTS DISCUSSION

The findings of the study corroborate H_1 ($\beta = 0.745$; $t = 11.434$; $p < 0.000$) by demonstrating a positive and significant relationship between confirmation and hedonic value. These results support the findings of researchers (Oghuma *et al*. 2016), suggesting that consumers' expectations regarding the hedonic value of mobile purchasing are supported. This result supports the findings of Oghuma et al. (2016) and indicates a strong correlation between perceived enjoyment and confirmation.

H_2 is supported by the results of the study, which also show a positive and significant association between confirmation and utilitarian value ($\beta = 0.671$; $t = 10.272$; $p < 0.001$). These findings are consistent with previous studies (Oghuma *et al*. 2016), which have repeatedly demonstrated a positive link between confirmation and utilitarian value. These results suggest that the timesaving, price-saving/discounting, service convenience and product selection/ assortment expectations of grocery shopping app users are met.

The findings also support H_3 by confirming a positive correlation between perceived usefulness and confirmation ($\beta = 0.382$; $t = 4.099$; $p < 0.001$). This is in line with the arguments of the expectation confirmation model (Bhattacherjee 2001) and the findings of other studies (Oghuma et al. 2016; Tam, Santos, & Oliveira, 2020). These results suggest that users of online grocery shopping apps will find them useful, provided that their expectations are met.

The results further demonstrate a strong association between hedonic value and perceived usefulness, which supports H_4 ($\beta = 0.264$; $t = 4.361$; $p > 0.01$). These results are consistent with those of Amenuvor *et al*. (2019). This demonstrates that consumers seek fun/pleasure when using online grocery shopping apps. Thus, consumers can benefit from grocery shopping apps that include hedonic features. It should be noted that these findings conflict with those of Inani *et al*. (2020) and Thusi (2022), where an insignificant relationship was found between hedonic value and perceived usefulness.

The study's findings corroborate H_5 ($\beta = 0.351$; $t = 4.777$; $p < 0.001$) by showing a positive relationship between utilitarian value and perceived usefulness. These findings echo those of earlier studies (such as Evelina, Kusumawati & Nimran 2020) and show that users are more inclined to view online grocery shopping apps favourably if they believe the apps offer practical advantages and meet their daily needs. Lastly, the results confirm that there is a positive and significant correlation between perceived usefulness and trust, hence supporting H_6 ($\beta = 0.707$; $t = 11.939$; $p < 0.001$). These results indicate that customers are more likely to trust innovation if they believe the online apps are useful (Wilson *et al*., 2021).

7. MANAGERIAL AND THEORETICAL IMPLICATIONS

The empirical results of this study could assist online retailers in actively enhancing consumers' perceptions of the value of online grocery shopping apps and creating trust in these apps. Based on the structural model analysis, three aspects (confirmation, hedonic value and utilitarian value) were identified as factors that determine the usefulness of online grocery shopping apps. The study concludes that South African consumers generally perceive online grocery shopping apps as beneficial if their initial expectations have been satisfied. Additionally, they believe that the hedonic and utilitarian aspects of using grocery shopping apps contribute to their perceived usefulness. Given the significance of utilitarian and hedonic values, grocery app service providers should prioritise utilitarian value, excitement, and enjoyment before focusing on other app features. This can be accomplished by obtaining the needed products and providing accurate and helpful product information. Therefore, to increase the utilitarian appeal of grocery shopping apps, service providers should devote more resources to creating grocery applications that feature rich product information, offer substitutes for unavailable main products, promote combos (products that are used together), include links to potential recipes, and allow consumers to purchase groceries at any time (even late at night), no matter where the consumer is located. It goes without saying that a wide range of products should be available. The study emphasises the importance of usefulness in creating trust in apps among users who buy their groceries online. This suggests that users will have faith in the apps if they think they are beneficial and secure, and if the apps enable

users to meet their grocery needs without leaving their homes or places of business while also saving time. Therefore, to earn customers' trust, online grocery service providers must highlight the features and advantages of their apps. It is suggested that they promote online grocery apps as helpful inventions meant to solve customers' problems. Online grocery service providers could step up their awareness-raising efforts to remind customers of and educate them about grocery apps, their advantages and how using them would make their lives easier.

The findings of the study significantly advance the field of e-commerce research. Firstly, the proposed integrated research model provides a good explanation of the usefulness of grocery shopping apps and has strong predictive power as the factors together explain 77.0% of the variance. This exceeds the percentage variance in the research of Joo and Choi (2016) and Thusi (2022), which were 20% and 58.4%, respectively. Secondly, as far as the researchers are aware, this is the first study to explore the usefulness of grocery shopping apps from the perspective of an emerging South African economy using an integrated model that combines theoretical factors from the literature on expectation confirmation model, utilitarian value, hedonic value, and trust.

Lastly, the only factor in the expectation confirmation model that predicts usefulness is confirmation. The findings of this study support the significance of utilitarian value and hedonic value as further factors that explain perceived usefulness. The predictive power of usefulness (R^2 = 77.0%) is significantly higher with the addition of these variables than with the original expectation confirmation model (that is, 21%), which only includes confirmation as a usefulness predictor. Thus, by including utilitarian and hedonic values as crucial elements that might explain usefulness and boost the prediction power of perceived usefulness in the expectation confirmation model, our work adds considerable value to the body of literature.

8. LIMITATIONS AND FUTURE RESEARCH

Although this empirical study adds to our understanding of the perceived use of online grocery shopping apps, it has numerous shortcomings that would benefit from more research in the future. Firstly, based on the outcomes of the empirical results, modifying the proposed conceptual model may help to maximise its predictive efficacy (Moon & Kim 2001). Variables associated with trust, such as habit and self-identity (Karijin et al. 2007), could be included in future research. Thirdly, the study ignores potential barriers and solely investigates the positive factors that indicate how helpful and trustworthy online grocery shopping apps are. Future research should investigate any negative elements that might affect consumers' belief in app innovation, usefulness and trustworthiness. Negative elements, such as privacy risks, could be incorporated into the model once more research has been done. This study adopted a cross-sectional approach that could limit knowledge of changes in customer perceptions of online grocery apps over time; thus, future research could adopt a longitudinal approach. Lastly, South African customers were the subjects of this investigation. Further studies could replicate the findings in different countries in Africa and elsewhere to improve the generalisation of the results.

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