




South African young adult males' behavioural intentions when purchasing apparel via mobile apps

**Authors:**

Miguel Correia¹ 
 Nicole Cunningham¹ 
 Mornay Roberts-Lombard² 

Affiliations:

¹Department of Marketing Management, College of Business and Economics, University of Johannesburg, Johannesburg, South Africa

²Private, Cape Town, South Africa

Research Project Registration:
Project Research Number: 37

Corresponding author:

Nicole Cunningham,
 ncunningham@uj.ac.za

Dates:

Received: 05 Apr. 2023
 Accepted: 05 Mar. 2024
 Published: 20 June 2024

How to cite this article:

Correia, M., Cunningham, N., & Roberts-Lombard, M. (2024). South African young adult males' behavioural intentions when purchasing apparel via mobile apps. *South African Journal of Business Management*, 55(1), a4024. <https://doi.org/10.4102/sajbm.v55i1.4024>

Copyright:

© 2024. The Authors.
 Licensee: AOSIS. This work is licensed under the Creative Commons Attribution License.

Read online:

Scan this QR code with your smart phone or mobile device to read online.

Purpose: More consumers are using mobile applications (apps) to shop for apparel, specifically young adult males. As these young adult males increase their presence on mobile shopping apps, they are becoming the focus of mobile application retailers who historically have not served this target market. Thus, this study aims to determine the behavioural intentions of young adult males.

Design/methodology/approach: A descriptive research design was followed, and data were collected from 633 respondents and analysed using structural equation modelling (SEM).

Findings/results: The results confirm the combined use of the Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB), substantiating that perceived usefulness, perceived ease of use, and attitude were significant contributors to the behavioural intentions of young adult males purchasing menswear apparel via mobile applications.

Practical implications: The study offers retailers a better understanding of young adult males' mobile application usage patterns, and strategic guidance on developing and marketing mobile applications to this generation.

Originality/value: The study provides a comprehensive understanding of behavioural intention by combining constructs from both the TAM and TPB. The study's findings demonstrate that perceived usefulness, perceived ease of use and attitude are important considerations for young adult males when shopping for apparel via mobile apps. Furthermore, a number of studies have proposed that young adults are prone to complying with the expectations of their social groups, yet, this study demonstrated that this is not the case for young adult males when purchasing apparel via mobile apps, which demonstrates a level of independence.

Keywords: Technology Acceptance Model; Theory of Planned Behaviour; behavioural intention; mobile commerce (m-commerce); mobile applications (apps); young adult males.

Introduction

Retailers are increasingly leveraging digital platforms, particularly mobile apps, to enrich consumer offerings and provide seamless shopping experiences (Akroush et al., 2020). The surge in online retailing, facilitated by smartphones and mobile apps, is notably pronounced in emerging markets like South Africa, where limited access to other technological devices makes smartphones the primary gateway to the digital economy (Galal, 2022; Neves, 2020). With 78.6% of South Africans accessing the Internet via smartphones (Galal, 2022), the country has emerged as a leader in mobile digital commerce in sub-Saharan Africa. In addition, the shopping sector of mobile applications (apps) has increased in sales from \$ 14.95 in 2017 to \$ 40.25 in 2023 (Statista, 2023). This shift towards mobile commerce (m-commerce) is underscored by its increasing contribution to overall online retail sales in South Africa, rising from 52.4% in 2016 to 72.9% in 2021 (Coppola, 2021). Factors driving this trend include the convenience of m-commerce platforms, particularly appealing to young adult males who exhibit a growing interest in fashion and prefer the autonomy offered by mobile shopping apps (Smith, 2022; Thusi & Maduku, 2020). This is confirmed in the prediction that the menswear apparel category will grow from \$483 billion in 2018 to \$741 billion by 2025 (Smith, 2022), making young adult males the most attractive cohort for mobile app retailers (Thusi & Maduku, 2020).

Scholars have extensively explored the adoption of mobile apps in retail contexts, often employing the Technology Acceptance Model (TAM). In their review of the technological frameworks used

in m-commerce, Chhonker et al. (2017) reported that of the 201 studies conducted, 138 students used the TAM. Although the TAM provides a sound understanding of technological acceptance, additional constructs and varying contexts should be studied to fully understand the intention towards using mobile apps (Mehra et al., 2022; Ngubelanga & Duffett, 2021). Faqih and Jaradat (2015) added that the original TAM is insufficient in providing a complete understanding of the causes that influence a person's intention to adopt the technology. To overcome the shortcomings of the TAM, researchers (Arora & Sahney, 2018; Lu et al., 2009; Tavallae et al., 2017) have suggested the combination of the TAM and the Theory of Planned Behaviour (TPB).

This study aims to bridge this gap by integrating key constructs from both the TAM and the TPB to better understand young adult males' perceptions of mobile apps and their behavioural intentions towards mobile shopping. As guided by Chhonker et al.'s (2017) review of 201 studies, behavioural intention (used in 146 studies), perceived usefulness (119 studies), perceived ease of use (155 studies), attitude (63 studies), and subjective norms (83 studies) are the most common constructs used within technology-adoption research. Including the core constructs of the TAM and the subjective norms construct (from the TPB) is also justified because of the context of the study. Males are generally very task-oriented, meaning their behavioural intentions are strongly linked to their perceptions of usefulness and attitude towards the context (Haider et al., 2018), thus making it imperative to include constructs like behavioural intention, perceived ease of use, perceived usefulness, and attitude. Moreover, in emerging markets, consumers' use of technology is primarily driven by strong social influences because of their need to conform with their social group's expectations (Chhonker et al., 2017). This supports the need to measure the influence that one's subjective norms may have on behavioural intention. By focussing on this demographic and gender-specific preferences in technology adoption, the study not only contributes to theoretical frameworks but also offers practical insights for retailers aiming to optimise their mobile app strategies for this growing consumer segment.

The paper outlines the study's focus, provides an overview of the apparel industry, introduces the theoretical framework, discusses the study's constructs, details the research methodology, presents findings, and discusses implications and limitations.

Theoretical background

Theories grounding the study

The study is positioned within the context of the generational cohort theory (young adults), the TAM, and the TPB. The generational cohort theory places individuals in certain groupings, depending on when they were born (Ladhari et al., 2019). The focus is not necessarily on their age, but rather the consumers' shared experiences and socio-economic experiences. This provides similarities in terms of attitudes,

expectations, and values, which influence their purchasing behaviour throughout their lives (Eger et al., 2021; Thangavel et al., 2021). From a marketing perspective, this is useful, as it is more reliable than segmenting on demographic variables like age and gender alone (Ladhari et al., 2019). Given the context of this study and apparel retailers reporting growth among young adult males, this study classified young adults as forming part of Generation Y. Typically, these consumers are referred to as young consumers born between 1981 and 2000 (Thangavel et al., 2021). Focussing on this particular cohort is rooted in the fact that these consumers have a high level of spending power accounting for 33% – 35% of retail spending, are digital natives, are sophisticated shoppers, are influenced by their social groups, and prefer online shopping (Eger et al., 2021; Ladhari et al., 2019; Thangavel et al., 2021).

The TAM was developed from the Theory of Reasoned Action (TRA) (Davis et al., 1989, p. 983), originating from the field of social psychology, which clarifies individuals' behaviours through their intents. The TAM was founded by Davis in 1986 and posits that perceived usefulness and perceived ease of use are predictors to the adoption of new technologies (Ayeh, 2015). Sohn (2017) described perceived usefulness as 'the degree to which consumers believe that using mobile online stores enhances their shopping task performance'. The perceived usefulness of a particular technology has the ability to guide a consumer's attitude towards using a mobile app – for instance, being able to perform searches, share information, and purchasing fashion products (Davis, 1989; Moon & Domina, 2015). Perceived ease of use is defined as 'the degree of ease associated with the use of the system' (Venkatesh et al., 2012). Perceived ease of use is another significant motivational factor in creating a positive attitude towards mobile app use (Moon & Domina, 2015). Specifically focussing on the interface and the capabilities of the mobile app all lead to apps that are perceived as easy to use (Fong & Wong, 2015; Moon & Domina, 2015). Because of the TAM being based in these two drivers, it has resulted in TAM being one of the most used models in testing the adoption of different technologies in different contexts (Godoe & Johansen, 2012).

The TPB was developed by Ajzen in 1991 and extended the TRA (Ajzen, 1991). The underlying application of the TPB (like other models) was focussed on the fact that an individual's behaviour is guided by their intention (Thoradeniya et al., 2015). However, the TPB includes attitude, subjective norms, perceived behavioural control (PBC), and behavioural intention (Bray, 2008) as a way to measure intention using causal relationships.

Attitude towards a behaviour is defined as the 'degree to which a person has a favorable or unfavorable evaluation of the behaviour in question' (Ajzen, 1991, p. 188). According to several studies, attitude is one of the most significant predictors of a consumer's behavioural intention to purchase

apparel using a mobile app, which implies that a consumer's attitude has the ability to amplify one's behavioural intention (Moon & Domina, 2015). Intentions are 'indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behaviour' (Ajzen, 1991). When an individual forms an intention for a specific task or behaviour, it is likely the behaviour will be carried out (David & Rundle-Thiele, 2018). Subjective norms are 'the perceived social pressure to perform or not to perform the behaviour' (Ajzen, 1991), and are thus internally controlled (Hegner et al., 2017). Subjective norms significantly influence users' intentions to utilise mobile apps through the creation of positive peer group opinions about mobile apps (Fong & Wong, 2015). Perceived behavioural control is 'the perceived ease or difficulty of performing the behaviour' (Ajzen, 1991), and reflects historical experiences and expected difficulties (Ajzen, 1991). Considering the above, the TAM deploys perceived ease of use to describe factors of control (Yousafzai et al., 2010). This indicates that both PBC and perceived ease of use concern individuals' perceptions of their ability to execute a given behaviour (Dinev & Hu, 2007). Because perceived ease of use is being more widely used and conversant in a technological setting and this research is conducted within a technological setting (mobile apps), the current study has omitted PBC.

Integrating the constructs from the TPB into the TAM delivers a comprehensive understanding of how consumers intend to adopt mobile apps (Ghazali et al., 2018). By integrating both the TAM and the TPB models, it provides the opportunity to use the advantages of both the models in order to develop a comprehensive model that provides the role of technology (TAM), while the TPB provides a comprehensive understanding of the decision-making process, focussing on intention (Arora & Sahney, 2008; Nasri & Charfeddine, 2012).

Theoretical model development

The interrelationships between perceived usefulness, attitude, and behavioural intention

When consumers perceive an activity as useful, they form a positive attitude. The influence that perceived usefulness exhibits on attitude and, subsequently, behavioural intention is based on the premise that consumers intend on making use of a product or service because of its potential to improve their performance (Davis et al., 1989). In addition, perceived usefulness has a direct effect on intention to use (Leon, 2018; Sanakulov & Karjaluoto, 2015), as long as the users of the system believe the technology will benefit them and achieve the intended outcome (Sanakulov & Karjaluoto, 2015). Specific aspects that relate to a mobile app being regarded as useful relate to the app offering convenient payment methods, faster shopping transactions and overall improved performance (Oliveira et al., 2016). This is of particular relevance, considering that young adult males have been exposed to technology their

entire lives, thus embracing technology (Bilgihan et al., 2014) and considering themselves skilful technology users (Leon, 2018). Therefore, the following hypotheses are proposed:

- H₁: Perceived usefulness has a significant and positive influence on young adult males' behavioural intentions to use mobile apps when purchasing menswear apparel.
- H₂: Perceived usefulness has a significant and positive influence on young adult males' attitude towards using mobile apps when purchasing menswear apparel.

The interrelationships between perceived ease of use, perceived usefulness, and attitude

Perceived ease of use influences attitude and behaviour through self-efficacy and instrumentality (Davis et al., 1989; Eyuboglu & Sevim, 2017). Therefore if a system is perceived as being easy to use, the consumer would most likely feel as though they have the ability to use the mobile app (Eyuboglu & Sevim, 2017), resulting in a higher degree of control and effectiveness felt by the user, which positively influences perceived ease of use. Perceived usefulness is a function of perceived ease of use. For instance, perceived usefulness can be enhanced by offering an improved system performance such as easier navigation (Davis et al., 1989; Godoe & Johansen, 2012). Regarding the influence of perceived ease of use over attitude, scholars like Chi (2018) have validated the significant influence of perceived ease of use on attitude towards apparel mobile apps among respondents who were mostly young adults. This is because a consumer's attitude towards mobile apps is shaped by the level of ease they experience in using the mobile app (Ghazali et al., 2018). Thus, the following hypotheses are proposed:

- H₃: Perceived ease of use has a significant and positive influence on young adult males' perceived usefulness to use mobile apps when purchasing menswear apparel.
- H₄: Perceived ease of use has a significant and positive influence on young adult males' attitude to use mobile apps when purchasing menswear apparel.

The interrelationship between subjective norms and behavioural intentions

Subjective norms have a positive and significant influence on behavioural intention when shopping via mobile apps (Zhang et al., 2012). This has been shown in the study conducted by Faqih and Jaradat (2015), where it was found that if consumers perceive that the use of a mobile app may enhance their social standing – for example, social acceptance – the consumer would be more receptive to using the mobile app. This can be seen in young adults, as they view shopping as a high involvement purchase where young adults spend a significant amount of time conducting research and using various sources blogs (e.g. food and fashion) to keep updated (Dhanapal et al., 2015). Consequently, the following hypothesis is proposed:

- H₅: Subjective norms have a significant and positive influence on young adult males' behavioural intentions to use mobile apps when purchasing menswear apparel.

The interrelationship between attitude and behavioural intention

Attitude is a key predictor to intention as indicated in the TAM, the TPB and various theories that support the influence of attitude in influencing behavioural intention (Ayeh, 2015). If using a new technology is seen favourably (for instance, the person's attitude is positive), the individual is likely to form an intention to use the system (when made available to them). The same applies to a mobile app, where the advantages it provides for its users shape their attitude towards it, which leads to positive intentions to utilise the mobile app (Muñoz-Leiva et al., 2017). When young adults have confidence in an online retailer and a positive attitude towards purchasing via mobile apps, they will use the mobile app. This is because mobile apps can offer fast access to the Internet, customisation, and convenience, as well as foster a more positive attitude towards the platform, resulting in young adults' intent to utilise the platform (Groß, 2015). Thus, the following hypothesis is proposed:

H₆: Attitude has a significant and positive influence on young adult males' behavioural intentions to use mobile apps when purchasing menswear apparel.

Considering the above discussion, the research model for the study is presented in Figure 1.

Methodology

Research context and sample

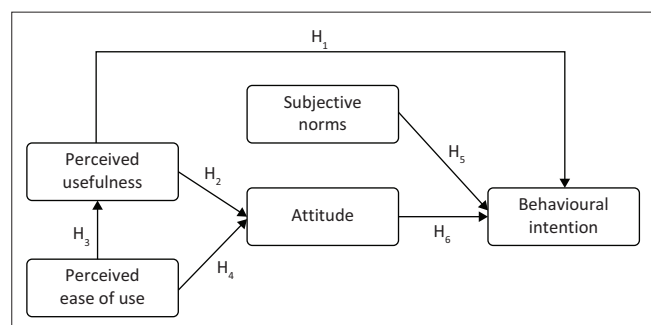
A descriptive research design was followed in this study and data were collected from young adult males born between 1981 and 2000, who had used a mobile shopping app to browse menswear apparel. These respondents constituted the study's sampling unit. To ensure the respondents represented the sample, screening questions and quotas were used. The study applied a two-pronged quota sampling approach based on population ethnicity and city size in the Gauteng province of South Africa. Gauteng was selected as it consists of a diverse group of the population and is regarded as South Africa's economic hub, where over 15 million people, the majority of the South African population, reside (Galal, 2021). As Gauteng comprises multiple metropolitan areas and a diverse group of individuals, quota sampling was required to ensure

representativity. Specifically, quota sampling was applied whereby the three main metropolitan areas were included (including City of Johannesburg, City of Ekurhuleni, and City of Tshwane) according to their population size and ethnicity. This allowed an equal representation of the respondents within Gauteng.

The researchers utilised a reputable data collection agency to collect the data. Fieldworkers were briefed on the study and were monitored throughout the data collection process whereby periodic reviews of the fieldworker collecting the data were conducted. In addition, fieldworkers were engaged frequently to determine whether there were areas of uncertainty or potential confusion.

A total of 680 questionnaires were collected with 633 questionnaires deemed suitable for further analysis. This resulted in a 93% response rate which can be considered high because of the use of person-administered questionnaires. Respondents were informed that their answers were voluntary and anonymous, with no personal information being transferred or credited to any individual or questionnaire. In addition, respondents were afforded the opportunity to disengage in the study at any time. The data for this study were collected through person-administered questionnaires across Gauteng, the economic hub of South Africa, (Galal, 2021) to test the hypotheses. Trained fieldworkers were deployed by the research agency to major cities in Gauteng, where respondents were approached in public places, such as shopping centres, and were asked to participate in the study. The items used to measure the study's constructs (perceived usefulness, perceived ease of use, attitude, subjective norms, and behavioural intention) were measured using a previously validated seven-point Likert-type scale, ranging from 1 ('strongly disagree') to 7 ('strongly agree').

All measurement items were reflective, and 12 items sourced from McLean et al. (2018) were used to measure perceived usefulness (six items) and perceived ease of use (six items); 5 items sourced from Cheung and To (2017) were used to measure attitude, 4 items sourced from Hew et al. (2015) were used to measure subjective norms, and 5 items sourced from Groß (2015) were used to measure behavioural intention. Refer to Appendix 1 which outlines the scales and their corresponding items.



H, hypothesis.

FIGURE 1: Conceptual model.

Data analysis

The data were analysed to present the descriptive analysis, and covariance based structural equation modelling (CB-SEM) was used to test the study's Hypotheses (H₁–H₆), where a significance level of 0.05 was used to determine acceptance or rejection of the hypotheses. First of all, a multivariate normality test of the data gathered from the items quantifying the constructs was conducted, utilising Mardia's coefficient method resulting in a value of 74.598 which is significantly higher than the required threshold of 3 as recommended by Bentler (2006). The Mardia coefficient value resulted in robust

fit statistics being used as suggested by Bentler (2006). The results of the statistics are presented in Table 2.

Thereafter, Statistical Package for the Social Sciences (SPSS) version 26 and Equations with Software (EQS) were utilised to analyse the data. Cronbach's alpha (> 0.70) and composite reliability (CR) (≥ 0.70) were used to measure the reliability and internal consistency of the variables (Awang, 2015).

Additionally, construct validity was determined by scrutinising its association with other constructs, both related (convergent validity) and unrelated (discriminant validity), and whether the association was present in previous research, known as nomological validity (Hair et al., 2019). Convergent validity was confirmed by the average variance extracted (AVE) being greater than 0.5 for each construct (Awang, 2015). Discriminant validity was confirmed by the AVE exceeding the shared variance with all other variables (maximum shared squared variance [MSV]), and being greater than the squared correlation estimates (average shared squared variance [ASV]) (Hair et al., 2019). All validity statistics are presented in Table 3.

The goodness-of-fit tests and indices were used in the confirmatory factor analysis (CFA) (structural model), where the Chi-square (χ^2) required a value < 3.0 (Awang, 2015); the root mean square error of approximation (RMSEA) required a value ≤ 0.05 to indicate good fit, and a value < 0.06 as acceptable (Hooper et al., 2008); the normed fixed index (NFI) required a value > 0.80 or ≥ 0.90 to indicate good fit; the non-normed fit index (NNFI) (Tucker-Lewis index [TLI]) required a value ≥ 0.90 to indicate acceptable fit, and ≥ 0.95 to indicate good fit; and the comparative fit index (CFI) required a value ≥ 0.90 to indicate good fit (Hair et al., 2019; Hooper et al., 2008). After the confirmation of good model fit, the structural model and its hypotheses were tested, whereby the central influences between perceived usefulness, perceived ease of use, subjective norms, attitude, and behavioural intention were evaluated (H_1-H_6).

Ethical considerations

Ethical clearance to conduct this study was obtained from the University of Johannesburg School of Consumer Intelligence and Information Systems Ethics committee on 20 September 2019. The ethics number is 2019SCiiS37.

Results

Respondent profile

All respondents identified as male with the majority being aged between 25 and 29 years. Most respondents lived in Johannesburg (41.6%), followed by Ekurhuleni (30.6%), and then Tshwane (27.8%). The highest qualification passed by most of the respondents was Matric or Grade 12 (43.7%),

TABLE 1: Demographic profile.

Demographics	%
Age (years)	
19–24	29.7
25–29	36.7
30–34	24.9
35–39	8.7
City	
Johannesburg	41.6
Ekurhuleni	30.6
Tshwane	27.8
Highest qualification	
Matric/grade 12 (high-school education)	43.7
National diploma/certificate	21.0
University degree	30.3
Post-graduate degree	5.0
Employment status	
Self-employed	15.0
Full-time employed by organisation	46.3
Part-time employed by organisation	13.2
Full-time student	13.7
Part-time student	3.0
Home executive	0.3
Unemployed	8.5
Retired	0.0

which is a high school-level exit qualification, followed by a university degree (30.3%), and a national diploma or certificate (21). Of the respondents, 46.3% were employed full-time by an organisation, 15.0% were self-employed, and 13.7% were full-time students see Table 1.

Measurement assessment

A CFA was performed on the 26-item five-construct model to evaluate the psychometric properties of the model. The model was validated and adapted by considering modification indices determined to improve the model fit, namely the normed Chi-square (χ^2/df) (refer to Table 2). As shown in Table 2, reliability was confirmed through the assessment of the Cronbach Alpha scores and composite reliability, while validity was confirmed through convergent and discriminant validity (refer to Appendix 2 for the Fornell and Larcker procedure).

Convergent validity was assessed using the AVE method across all items linked to a particular construct, which was calculated using the mean of the squared loadings of each indicator associated with a construct. Standardised loadings, or the AVE score, should be 0.50 or higher to indicate adequate convergent validity (Hair et al., 2019, p. 663). This score ensures that, on average, the construct explains more than 50% of the variance of its items. Discriminant validity was determined by ensuring that shared variance within a construct (AVE) always exceeds the shared variance with other constructs (MSV) (Hair et al., 2019). In Table 2, most values range between 0.50 and 0.75, and only one item fell below the 0.50 mark, namely A2 (0.441). This was still deemed acceptable, as Urbach and Ahlemann (2010) indicated that a score of 0.333 is considered moderate regarding the validity of the item. This successfully confirmed nomological validity

TABLE 2: Measurement model results.

Construct	Scale items	Item loadings	AVE	MSV	ASV	SQRT	Cronbach's alpha	CR
Perceived usefulness	PU1	0.674	0.695	0.498	0.265	0.834	0.931	0.932
	PU2	0.673	-	-	-	-	-	-
	PU3	0.674	-	-	-	-	-	-
	PU4	0.735	-	-	-	-	-	-
	PU5	0.718	-	-	-	-	-	-
	PU6	0.701	-	-	-	-	-	-
Perceived ease of use	PEOU1	0.850	0.785	0.465	0.233	0.886	0.930	0.948
	PEOU2	0.828	-	-	-	-	-	-
	PEOU3	0.788	-	-	-	-	-	-
	PEOU4	Item removed	-	-	-	-	-	-
	PEOU5	0.712	-	-	-	-	-	-
	PEOU6	0.749	-	-	-	-	-	-
Subjective norms	SN1	0.863	0.824	0.156	0.087	0.908	0.948	0.949
	SN2	0.858	-	-	-	-	-	-
	SN3	0.892	-	-	-	-	-	-
	SN4	0.684	-	-	-	-	-	-
Attitude	A1	0.611	0.617	0.498	0.270	0.785	0.882	0.889
	A2	0.441	-	-	-	-	-	-
	A3	0.688	-	-	-	-	-	-
	A4	0.756	-	-	-	-	-	-
	A5	0.589	-	-	-	-	-	-
Behavioural intention	BI1	0.804	0.754	0.397	0.224	0.868	0.937	0.939
	BI2	0.804	-	-	-	-	-	-
	BI3	0.772	-	-	-	-	-	-
	BI4	0.766	-	-	-	-	-	-
	BI5	0.625	-	-	-	-	-	-

R^2 , R square; AVE, average variance extracted; MSV, maximum shared squared variance; ASV, average shared squared variance; SQRT, square root of AVE; CR, composite reliability.

TABLE 3: Measures for goodness-of-fit (structural model).

CMIN	df	p	CMIN/df	NFI	TLI	CFI	RMSEA
1489.52	584	0.000	2.551	0.895	0.928	0.933	0.052

CMIN, Chi-square minimum; *df*, degree of freedom; NFI, normed fixed index; TLI, Tucker-lewis index; CFI, comparative fit index; RMSEA, root mean square error of approximation; *p*, *p*-value.

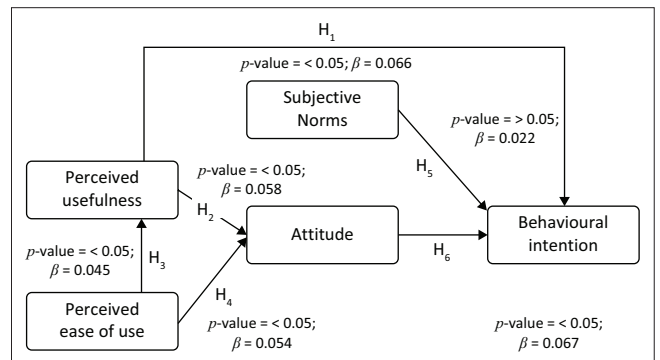
TABLE 4: The structural model estimates.

Structural paths	Structural model		
	Parameter estimate (β)	T-statistic (<i>t</i>)	<i>p</i>
H ₁ : Perceived usefulness → Behavioural intention	0.066	5.189	< 0.001
H ₂ : Perceived usefulness → Attitude	0.068	7.071	< 0.001
H ₃ : Perceived ease of use → Perceived usefulness	0.045	13.620	< 0.001
H ₄ : Perceived ease of use → Attitude	0.054	4.466	< 0.001
H ₅ : Subjective norms → Behavioural intention	0.022	0.477	0.634
H ₆ : Attitude → Behavioural intention	0.067	5.806	< 0.001

and allowed the next phase, the construction of the structural model, to take place.

Structural model

The structural model was put through goodness-of-fit testing before the final hypotheses testing. The goodness-of-fit test provided the following outcomes: $\chi^2 = 2.551$, which is below the required mark of 3.0 (Awang, 2015); RMSEA = 0.052, which is still considered acceptable being below 0.06 (Hooper et al., 2008); CFI = 0.933, indicating good fit being



H, hypothesis.

FIGURE 2: Conceptual model including results.

above 0.9 (Hair et al., 2019); NFI = 0.895, indicating acceptable fit; and NNFI (TLI) = 0.928, indicating acceptable fit (Hooper et al., 2008). Table 3 shows that all goodness-of-fit measures fall within the limits, as prescribed by Hair et al. (2019).

The structural model estimates are presented in Table 4.

Table 4 indicates that the path coefficients for the following relationships were significant: perceived usefulness and behavioural intention (H₁: $\beta = 0.066$, $p < 0.001$), perceived usefulness and attitude (H₂: $\beta = 0.068$, $p < 0.001$), perceived ease of use and perceived usefulness (H₃: $\beta = 0.045$, $p < 0.001$), perceived ease of use and attitude (H₄: $\beta = 0.054$, $p < 0.001$), and attitude and behavioural intention (H₆: $\beta = 0.067$, $p < 0.001$). This shows that H₁, H₂, H₃, H₄, and H₆ were all supported in the study, while the relationship between

subjective norms and behavioural intention (H_5 : $\beta = 0.022$, $p = 0.634$) was the study's only rejected relationship.

This study confirmed the influence of perceived ease of use on perceived usefulness (H_3 : $\beta = 0.045$, $p < 0.001$), which in a study conducted by Sanakulov and Karjaluoto (2015), could indirectly affect behavioural intention given perceived ease of use's influence on perceived usefulness. Please refer to Figure 2 for the study's results.

Discussion of results

The purpose of this paper was to determine young adult males' behavioural intentions to purchase menswear apparel using mobile apps through the use of an integrated TAM and TPB model. Overall, the study has shown that there is a significant relationship between: perceived usefulness and behavioural intention (H_1), perceived usefulness and attitude (H_2), perceived ease of use and perceived usefulness (H_3), perceived ease of use and attitude (H_4), and attitude and behavioural intention (H_6). The only insignificant relationship was between subjective norms and behavioural intention (H_5).

The results support that the higher the perceived usefulness of an apparel mobile app, the greater the influence over behavioural intention (H_1) and attitude (H_2). The finding relating to perceived usefulness and behavioural intention is consistent with the findings in the studies by Mehra et al. (2021, 2022), which focussed on mobile phones and mobile apps among young adults. In a study by Vahdat et al. (2021), centring on mobile app adoption in a banking context, the relationship between perceived usefulness and attitude was found to be insignificant. This may be because of the nature of the banking industry, since bank customers are reluctant to switch banks on account of the perceived difficulty and processes involved (Van der Crujisen & Diepstraten, 2017). This suggests that the perceived usefulness of a mobile banking app may not influence customers' attitudes, as they would likely continue to utilise the mobile app regardless of its perceived usefulness. In contrast, studies focussing on m-commerce adoption and in an emerging market perspective (Akroush et al., 2020; Indarsin & Ali, 2017) confirm there is a significant and positive relationship between perceived usefulness and attitude. Thus, given the context, the relationship between perceived usefulness and attitude towards mobile apps may differ. As this study found a positive and significant relationship between perceived usefulness and attitude, it indicates that mobile apparel shopping apps providing convenience and entertainment (Hsiao, 2017), availability and accessibility (Yang & Kim, 2012), greater security (Oliveira et al., 2016; Taylor & Levin, 2014), mobile payments, faster shopping, productivity gains, and improved performance (Oliveira et al., 2016) have the potential to increase users' perceived usefulness to the extent that it significantly impacts their attitude towards and their behavioural intentions to use a mobile app.

Furthermore, the results support that the higher the perceived ease of use of an apparel mobile app, the greater the influence over perceived usefulness (H_3) and attitude (H_4). This is consistent with studies by Akroush et al. (2020) and Ngubelanga and Duffett (2021) – both conducted in an emerging market context. This finding suggests that where mobile shopping apps provide simple access to the platform, little mental exertion in their operation (Lu, 2014), features like functional buttons that users can operate with one hand, easy navigation, simple language, and icons (Hew et al., 2015), the greater users' perceived ease of use will be, which will increase their perceived usefulness and aid in shaping an overall positive attitude toward the use of the mobile app. This is important in an m-commerce context as attitudes shape consumers' behaviour. Thus, influencing attitude positively leads to a greater possibility of consumers' intentions in an m-commerce context (Manchanda & Deb, 2021).

Nevertheless, the results show no support for the relationship between subjective norms and behavioural intention (H_5). Considering that the use of mobile shopping apps is completely voluntary, the influence of subjective norms on behavioural intention seems all the more important (Zhang et al., 2012). This finding is consistent with research by Hew et al. (2015), Mehra et al. (2022) and Miladinovic and Xiang (2016), who found the relationship to be insignificant. A possible reason for this is that users are able to consult app reviews and expert opinions online, which would mean they are able to make their decisions based on these reviews without consulting those closest to them (Miladinovic & Xiang, 2016), thus limiting their reliance on their direct social group. In addition, although young adults may seek social approval in the apparel purchased (Ladhari et al., 2019), young adult males may not necessarily be influenced by their social group's expectations when adopting technology (Maree et al., 2019). Riquelme and Rios (2010) found that females are more influenced by social influences when adopting new technologies.

The final hypothesis, regarding the relationship between attitude and behavioural intention (H_6), was supported by the study. This is supported by the findings from Akroush et al. (2020) and Manchanda and Deb (2021). This indicates that a strong correlation exists between consumers' attitude towards the mobile shopping app and their intention towards it (Taylor & Levin, 2014), where attitude towards mobile shopping apps is guided by elements like emotions, use frequency, cost, perceived usefulness, perceived ease of use, and physical aspects of the app (Akroush et al., 2020). This finding proves that young adult males' attitudes towards the mobile app can determine whether or not they develop the behavioural intention to utilise it to purchase menswear apparel.

The combination of the TAM and the TPB was based on the TAM's ability to determine information technology usage and the TPB's ability to uncover consumer behaviour. This proved to be successful in the study and is because of the

combination of the two models providing a positive outcome for both, as their constructs complement one another by adding factors of analysis that the other leaves out. The TAM, with its perceptible capabilities of perceived ease of use and perceived usefulness, and the TPB, with its consumer decision insights (subjective norms), both have either a direct (perceived usefulness, attitude, subjective norms) or indirect (perceived ease of use) influence on behavioural intention to use a new technology.

Theoretical and managerial implications

This study makes various theoretical contributions to the field of marketing with an improved understanding of the factors that influence attitude and ultimately behavioural intention within an e-commerce context. Chhonker et al. (2017) reviewed over 200 articles and reported that the constructs included in this study (e.g., perceived usefulness, perceived ease of use, attitude, subjective norms, and behavioural intention) guide the frameworks used by researchers when focussing on m-commerce. Although these constructs have been used in previous research, limited studies have focussed on young adult males. Consequently, the following theoretical and practical implications are provided.

Theoretical implications

The study offers a greater understanding of the antecedents of behavioural intention, strengthening the attitude-behavioural intention link among young adult males in an emerging market. This study showed that perceived usefulness has a direct and positive influence over behavioural intention, while perceived ease of use has a significant and positive influence over attitude. The study proves that, within an emerging market context, utilitarian benefits – such as convenience that leads to time and monetary savings when using mobile apps (Groß, 2015), and a mobile app platform that is easier for consumers to use, while allowing them to achieve a greater degree of performance in their task output during use – have a strong influence on the development of a positive attitude towards mobile apps (Groß, 2015). This is because mobile app platforms that are able to offer fast access to the Internet, user-friendly interfaces requiring little mental effort, trustworthy transaction mechanisms, better performance, customisation, convenience, and shopping-related functionality (e.g. searching, viewing, comparing, and purchasing goods immediately) foster a more positive attitude towards the platform, resulting in the intent and use of the platform (Groß, 2015). These findings correspond with the characteristics that young adults display – namely convenience, efficient shopping (Ladhari et al., 2019) – as well as males typically considered to be task-oriented (Haider et al., 2018).

A further implication relates to the improved understanding of the role of subjective norms in fostering behavioural intentions among young adult males in an emerging market.

The study found that subjective norms played no significant role in influencing young adult males' behavioural intentions towards the use of mobile shopping apps. This finding is consistent with research by Hew et al. (2015) and Miladinovic and Xiang (2016) who found the relationship between subjective norms and behavioural intentions towards mobile app use to be insignificant. A possible reason for this is that app reviews and expert opinions are available online, meaning users can make their decisions based on these reviews without consulting those closest to them. Moreover, many people who the users might deem important to them may not even use the mobile shopping app, making it impossible for these individuals to significantly influence their choice to either intend to use or not use the mobile shopping app (Miladinovic & Xiang, 2016).

This is a significant contribution as young adults are classified as consumers who are highly susceptible to their social group's influence (Ladhari et al., 2019). However, as this study demonstrated, young adult males' behavioural intentions towards mobile shopping apps are not driven by their need to conform to their social group's norms. This finding adds to the understanding of how males may behave towards mobile apps – an under-researched area (Verma et al., 2021).

The last theoretical contribution focussed on enhancing the understanding of the role of attitude in fostering behavioural intention. As attitudes drive consumer behaviour (Manchanda & Deb, 2021), understanding what influences attitude and ultimately behavioural intention assists in understanding why young adults intend to use mobile shopping apps. The study provides support for the role of attitude towards a young adult male's behavioural intention to utilise a mobile shopping app within an emerging context. This is because the advantages that a mobile app provides to users shape their attitude towards it, which leads to their positive intention to use the mobile app (Muñoz-Leiva et al., 2017). Some of these advantages include availability of instant contact with retailers, mobile app services without time and locational constraints, and allowing consumers to experience the on-the-go omnipresent functionality of mobile apps, which deliver localised and personalised shopping information directly to consumers (Yang, 2012). This finding suggests that as attitude plays an important role in influencing behavioural intention, research should continue to focus on understanding how attitudes influence behavioural intentions towards mobile apps. Chakraborty (2019) concurred, stating that attitude is a significant contributor to behavioural intention and should be considered influential in better understanding online consumers' future intentions.

Managerial implications

The study brings forth several implications for retailers, predominantly focussing on the intended use of mobile

shopping apps. Retailers who are targeting young adult males should consider introducing or enhancing their mobile apps as these consumers are considered digital natives and seek efficient shopping methods (Ladhari et al., 2019). These consumers are also searching for innovative and practical methods of shopping that could secure improved convenience, pleasantness, and visual engagement during the shopping journey (Mehra et al., 2021).

This research found that attitude is a significant influencer of behavioural intentions among young male adults. To foster a positive attitude towards a mobile shopping app, retailers could employ numerous tactics, including customising mobile apps and allowing consumers a more personal experience by ensuring their profile is based on their historical usage patterns, such as their likes and dislikes. This would assist in enhancing the perceived usefulness and ease of use of the app, ultimately leading to positive attitudes. Moreover, retailers could ensure that their mobile apps are designed with their target market in mind. For instance, as young adult males search for simple, convenient, and efficient shopping interactions (Eger et al., 2021), ensuring that mobile apps offer a seamless experience in terms of finding apparel (ease of use) and including a range of apparel (usefulness) would likely lead to positive attitudes. In addition, retailers need to develop apps that are informative, delivering a fun but meaningful experience when young male consumers are shopping for apparel. The app also needs to secure access to functions that provide easy access to shopping, visualise product options, and are informative in terms of product categories, prices, and shopping outlets.

In this study, perceived usefulness influences both an individual's attitude towards and behavioural intention to use a mobile shopping app. Recommendations for strengthening the perceived usefulness and attitude relationship include ensuring that the mobile app is reliable in achieving a 100% uptime to allow users consistent access to it and its content, and ensuring the mobile app has low latency or is highly responsive (under one second). Regarding strengthening the relationship between perceived usefulness and behavioural intention, retailers should consider the full capability of the mobile devices that they are developing the mobile app for, which can include limitations in screen size, while simultaneously satisfying user quality requirements and expectations.

Additionally, retailers can advertise the features that foster perceived usefulness, such as the comparative advantages over competitors, savings on time and effort, task performance improvements, and promotional offers. Furthermore, perceived ease of use was found to be a significant influencer of both perceived usefulness and attitude in the process of users determining their overall behavioural intentions towards using a mobile app. Consequently, retailers need to ensure their apps are developed to secure fast and convenient access to online shopping that could positively stimulate young male

consumers' online shopping experiences. These consumers also prefer apps that are useful when pursuing online shopping options, thus necessitating retailers to stimulate the online shopping productivity and performance of consumers through the provision of their apps.

To strengthen the relationship between perceived ease of use and perceived usefulness, retailers can create mobile apps that are easy to use from the perspective of the target audience, which can be achieved by designing simple, convenient interfaces with functional button placement. To strengthen the perceived ease of use and attitude relationship, retailers should take advantage of usability pretesting and continuous usability testing through customer feedback on the mobile app features and functions that allow for shopping in a productive, timeous, and trouble-free manner. Moreover, ensuring the transactional process that is employed by the mobile app is simple and efficient will put users at ease when paying for their purchases.

The above factors are crucial in determining a user's behavioural intention towards using a mobile shopping app. If these factors are studied closely and continuous effort is made to provide improvements and innovations for retailer mobile apps, a higher share of users will be generated by the retailer.

Limitations of the research

This study had a few limitations in its implementation. The first being that the study comprised entirely of young adult respondents (born between 1981 and 2000). Even though young adults use mobile apps much more than other groups, the exclusion of people in other age brackets did not allow the study to paint a picture of the entire industry – only a portion of the apparel industry. The second limitation of the study relates to the gender quota. Only young adult male candidates were selected for the study, thus excluding female candidates. Historically, women have been found to be the greatest consumers of apparel goods and their exclusion limits the study to slightly less than half of the total apparel industry.

The third limitation of the study was the inclusion of just three main regions in Gauteng, namely Johannesburg, Ekurhuleni, and Tshwane. Even though these three municipalities have the greatest population density and Gauteng has the highest gross domestic product in the country (Galal, 2021), this geographical restriction did not allow for a holistic picture of South Africa and limited the study to a few areas that are, arguably, favourable from a mobile app usage perspective. A study in a different province might have yielded different or less favourable results. The fourth limitation of the study was the inclusion of perceived ease of use at the expense of PBC. Future research could include PBC and exclude perceived ease of use to determine whether PBC provides a better measure of control than perceived ease of use.

Conclusion

The purpose of the study was to establish young adult males' behavioural intentions in an emerging African market. The need for the research is supported when considering that as more retailers start introducing mobile apps, understanding how young adult males intend to use mobile apps is becoming increasingly important. This is because of young adult males accounting for 33% – 35% of the retail spending power (Thangavel et al., 2021). Using well-established theories – the TAM and the TPB – and combining constructs according to previous research, this study has offered a range of contributions to researchers and retailers. The study concluded that perceived usefulness, perceived ease of use, and attitude influence young adult males' behavioural intentions towards mobile shopping apps. From an emerging market perspective, it becomes imperative for retailers to understand that young adult males require mobile apps that allow them to accomplish shopping tasks in a fast and efficient manner, to improve on their overall shopping experience, and to make it easier to shop. In addition, retailers need to further secure that young male adults find the use of an app to purchase apparel easy and convenient as well as that the app is interactive, secures visual stimulation, and delivers on flexibility of functionality. These are important aspects, because they influence the attitude of male consumers, and ultimately their behavioural intentions. Attitude is validated as an important precursor to behavioural intention, where characteristics like the app being fun to use, making a meaningful difference in the online shopping experience of the consumer, and being informative, are vital to stimulate a positive attitude. Subsequently, it should be noted that as retailers intend to introduce mobile apps, they may not fully understand their consumers' behavioural intentions. Equipped with this study's findings, retailers in emerging markets will be in a better position to develop mobile shopping apps that are useful and easy to use to positively impact their attitudes and increase the likelihood of behavioural intentions.

Acknowledgements

Competing interests

The authors declare that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article.

Authors' contributions

M.C., N.C. and M.R.-L. contributed equally to this research article.

Funding information

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Data availability

The data that support the findings of this study are available from the corresponding author, N.C., upon reasonable request.

Disclaimer

The views and opinions expressed in this article are those of the authors and are the product of professional research. It does not necessarily reflect the official policy or position of any affiliated institution, funder, agency, or that of the publisher. The authors are responsible for this article's results, findings, and content.

References

- Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Akroush, M.N., Mahadin, B., ElSamen, A.A., & Shoter, A. (2020). An empirical model of mobile shopping attitudes and intentions in an emerging market. *International Journal of Web Based Communities*, 16(2), 150–179. <https://doi.org/10.1504/IJWBC.2020.107156>
- Arora, S., & Sahney, S. (2018). Antecedents to consumers' showrooming behaviour: An integrated TAM-TPB framework. *Journal of Consumer Marketing*, 35(4), 438–450. <https://doi.org/10.1108/JCM-07-2016-1885>
- Awang, Z. (2015). *SEM made simple: A gentle approach to learning structural equation modelling*. MPWS Rich Resources.
- Ayeh, J.K. (2015). Travellers' acceptance of consumer-generated media: An integrated model of technology acceptance and source credibility theories. *Computers in Human Behaviour*, 48, 173–180. <https://doi.org/10.1016/j.chb.2014.12.049>
- Bentler, P.M. (2006). *EQS 6 Structural equations program manual* (6th ed.). Multivariate Software, Inc.
- Bilgihan, A., Peng, C., & Kandampully, J. (2014). Generation Y's dining information seeking and sharing behaviour on social networking sites: An exploratory study. *International Journal of Contemporary Hospitality Management*, 26(3), 349–366. <https://doi.org/10.1108/IJCHM-11-2012-0220>
- Bray, J.P. (2008). *Consumer behaviour theory: Approaches and models* (Discussion paper). Bournemouth University. Retrieved from http://eprints.bournemouth.ac.uk/10107/1/Consumer_Behaviour_Theory_-_Approaches_&_Models.pdf
- Chakraborty, D. (2019). Indian shoppers' attitude towards grocery shopping apps: A survey conducted on smartphone users. *Metamorphosis: A Journal of Management Research*, 18(2), 83–91. <https://doi.org/10.1177/0972622519885502>
- Cheung, M.F.Y., & To, W.M. (2017). The influence of the propensity to trust on mobile users' attitudes toward in-app advertisements: An extension of the theory of planned behaviour. *Computers in Human Behaviour*, 76, 102–111. <https://doi.org/10.1016/j.chb.2017.07.011>
- Chhonker, M.S., Verma, D., & Kar, A.K. (2017). Review of technology adoption frameworks in mobile commerce. *Procedia Computer Science*, 122, 888–895. <https://doi.org/10.1016/j.procs.2017.11.451>
- Chi, T. (2018). Understanding Chinese consumer adoption of apparel mobile commerce: An extended TAM approach. *Journal of Retailing and Consumer Services*, 44(2018):274–284. <https://doi.org/10.1016/j.jretconser.2018.07.019>
- Coppola, D. (2021, October 13). *Global mobile retail commerce sales share 2016–2021*. Statista. Retrieved from <https://www.statista.com/statistics/806336/mobile-retail-commerce-share-worldwide/>
- David, P., & Rundle-Thiele, S. (2018). Social marketing theory measurement precision: A theory of planned behaviour illustration. *Journal of Social Marketing*, 8(2), 182–201. <https://doi.org/10.1108/JSOCM-12-2016-0087>
- Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3):319–340. <https://doi.org/10.2307/249008>
- Davis, F.D., Bagozzi, R.P., & Warshaw, P.R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982–1003. <https://doi.org/10.1287/mnsc.35.8.982>
- Dhanapal, S., Vashu, D., & Subramaniam, T. (2015). Perceptions on the challenges of online purchasing: A study from "baby boomers", Generation "X" and Generation "Y" point of views. *Contaduría y Administración*, 60(Suppl. 1), 107–132. <https://doi.org/10.1016/j.cya.2015.08.003>
- Dinev, T., & Hu, Q. (2007). The centrality of awareness in the formation of user behavioural intention toward protective information technologies. *Journal of the Association for Information Systems*, 8(7), 386–408. <https://doi.org/10.17705/1jais.00133>
- Eger, L., Komárková, L., Egerová, D., & Mičík, M. (2021). The effect of COVID-19 on consumer shopping behaviour: Generational cohort perspective. *Journal of Retailing and Consumer Services*, 61, 102542. <https://doi.org/10.1016/j.jretconser.2021.102542>
- Eyuboglu, K., & Sevim, U. (2017). Determinants of contactless credit cards acceptance in Turkey. *International Journal of Management Economics and Business*, 13(2), 331–346. <https://doi.org/10.17130/ijmeb.2017228687>
- Faqih, K.M.S., & Jaradat, M.-I.R.M. (2015). Assessing the moderating effect of gender differences and individualism-collectivism at individual-level on the adoption of mobile commerce technology: TAM3 perspective. *Journal of Retailing and Consumer Services*, 22, 37–52. <https://doi.org/10.1016/j.jretconser.2014.09.006>

- Fong, K.K.-K., & Wong, S.K. S. (2015). Factors influencing the behaviour intention of mobile commerce service users: An exploratory study in Hong Kong. *International Journal of Business and Management*, 10(7), 39–47. <https://doi.org/10.5539/ijbm.v10n7p39>
- Galal, S. (2021, July 15). *Total population of South Africa 2019, by province*. Statista. Retrieved from <https://www.statista.com/statistics/1112169/total-population-of-south-africa-by-province/>
- Ghazali, E.M., Mutum, D.S., Chong, J.H., & Nguyen, B. (2018). Do consumers want mobile commerce? A closer look at m-shopping and technology adoption in Malaysia. *Asia Pacific Journal of Marketing and Logistics*, 30(4), 1064–1086. <https://doi.org/10.1108/APJML-05-2017-0093>
- Godoe, P., & Johansen, T.S. (2012). Understanding adoption of new technologies: Technology readiness and technology acceptance as an integrated concept. *Journal of European Psychology Students*, 3(1), 38–52. <http://doi.org/10.5334/jeps.aq>
- Groß, M. (2015). Exploring the acceptance of technology for mobile shopping: An empirical investigation among smartphone users. *The International Review of Retail, Distribution and Consumer Research*, 25(3), 215–235. <https://doi.org/10.1080/09593969.2014.988280>
- Haider, M.J., Changchun, G., Akram, T., & Hussain, S.T. (2018). Exploring gender effects in intention to Islamic mobile banking adoption: An empirical study. *Arab Economic and Business Journal*, 13(1), 25–38. <https://doi.org/10.1016/j.aebj.2018.01.002>
- Hair, J.F., Jr., Black, W.C., Babin, B.J., & Anderson, R.E. (2019). *Multivariate data analysis* (8th ed.). Cengage.
- Hegner, S.M., Fenko, A., & Teravest, A. (2017). Using the theory of planned behaviour to understand brand love. *Journal of Product & Brand Management*, 26(1), 26–41. <https://doi.org/10.1108/JPBMM-06-2016-1215>
- Hew, J.-J., Lee, V.-H., Ooi, K.-B., & Wei, J. (2015). What catalyses mobile apps usage intention: An empirical analysis. *Industrial Management & Data Systems*, 115(7), 1269–1291. <https://doi.org/10.1108/IMDS-01-2015-0028>
- Hooper, D., Coughlan, J., & Mullen, M.R. (2008). Structural equation modelling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods*, 6(1), 53–60.
- Hsiao, K.-L. (2017). Compulsive mobile application usage and technostress: The role of personality traits. *Online Information Review*, 41(2), 272–295. <https://doi.org/10.1108/OIR-03-2016-0091>
- Indarsin, T., & Ali, H. (2017). Attitude toward using m-commerce: The analysis of perceived usefulness, perceived ease of use, and perceived trust: Case study in Iken's wholesale trade, Jakarta – Indonesia. *Saudi Journal of Business and Management Studies*, 2(11), 995–1007.
- Ladhari, R., Gonthier, J., & Lajante, M. (2019). Generation Y and online fashion shopping: Orientations and profiles. *Journal of Retailing and Consumer Services*, 48, 113–121. <https://doi.org/10.1016/j.jretconser.2019.02.003>
- Leon, S. (2018). Service mobile apps: A millennial generation perspective. *Industrial Management & Data Systems*, 118(9), 1837–1860. <https://doi.org/10.1108/IMDS-10-2017-0479>
- Lu, J. (2014). Are personal innovativeness and social influence critical to continue with mobile commerce? *Internet Research*, 24(2), 134–159. <https://doi.org/10.1108/IntR-05-2012-0100>
- Lu, Y., Zhou, T., & Wang, B. (2009). Exploring Chinese users' acceptance of instant messaging using the theory of planned behaviour, the technology acceptance model, and the flow theory. *Computers in Human Behaviour*, 25(1), 29–39. <https://doi.org/10.1016/j.chb.2008.06.002>
- Manchanda, M., & Deb, M. (2021). On m-commerce adoption and augmented reality: A study on apparel buying using m-commerce in Indian context. *Journal of Internet Commerce*, 20(1), 84–112. <https://doi.org/10.1080/15332861.2020.1863023>
- Maree, R.B., Gilal, A.R., Waqas, A., & Kumar, M. (2019). Role of age and gender in the adoption of m-commerce in Australia. *International Journal of Advanced and Applied Sciences*, 6(10), 48–52. <https://doi.org/10.21833/ijaas.2019.10.009>
- McLean, G., Al-Nabhani, K., & Wilson, A. (2018). Developing a mobile applications customer experience model (MACE) – Implications for retailers. *Journal of Business Research*, 85, 325–336. <https://doi.org/10.1016/j.jbusres.2018.01.018>
- Mehra, A., Paul, J., & Kaurav, R.P.S. (2021). Determinants of mobile apps adoption among young adults: Theoretical extension and analysis. *Journal of Marketing Communications*, 27(5), 481–509. <https://doi.org/10.1080/13527266.2020.1725780>
- Mehra, A., Rajput, S., & Paul, J. (2022). Determinants of adoption of latest version smartphones: Theory and evidence. *Technological Forecasting and Social Change*, 175, Article 121410. <https://doi.org/10.1016/j.techfore.2021.121410>
- Miladinovic, J., & Xiang, H. (2016). *A study on factors affecting the behavioural intention to use mobile shopping fashion apps in Sweden* [Bachelor thesis, Jönköping University]. Jönköping University Diva Portal. Retrieved from <https://www.diva-portal.org/smash/get/diva2:933382/FULLTEXT01.pdf>
- Moon, E., & Domina, T. (2015). Willingness to use fashion mobile applications to purchase fashion products: A comparison between the United States and South Korea. *Journal of Textile and Apparel, Technology and Management*, 9(3), 1–15.
- Muñoz-Leiva, F., Climent-Climent, S., & Liébana-Cabanillas, F. (2017). Determinants of intention to use the mobile banking apps: An extension of the classic TAM model. *Spanish Journal of Marketing – ESIC*, 21(1), 25–38. <https://doi.org/10.1016/j.sjme.2016.12.001>
- Nasri, W., & Charfeddine, L. (2012). Factors affecting the adoption of Internet banking in Tunisia: An integration theory of acceptance model and theory of planned behaviour. *The Journal of High Technology Management Research*, 23(1), 1–14. <https://doi.org/10.1016/j.hitech.2012.03.001>
- Neves, J. (2020, December 04). SA has most developed digital economy in sub-Saharan Africa, says study. *BizNews*. Retrieved from <https://www.biznews.com/global-citizen/2020/12/04/sa-digital-economy>
- Ngubelanga, A., & Duffett, R. (2021). Modeling mobile commerce applications' antecedents of customer satisfaction among millennials: An extended TAM perspective. *Sustainability*, 13(11), 5973. <https://doi.org/10.3390/su13115973>
- Oliveira, T., Thomas, M., Baptista, G., & Campos, F. (2016). Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology. *Computers in Human Behaviour*, 61, 404–414. <https://doi.org/10.1016/j.chb.2016.03.030>
- Riquelme, H.E., & Rios, R.E. (2010). The moderating effect of gender in the adoption of mobile banking. *International Journal of Bank Marketing*, 28(5), 328–341. <https://doi.org/10.1108/02652321011064872>
- Sanakulov, N., & Karjaluoto, H. (2015). Consumer adoption of mobile technologies: A literature review. *International Journal of Mobile Communications*, 13(3), 244–275. <https://doi.org/10.1504/IJMC.2015.069120>
- Smith, P. (2022, January 13). *Size of the global men's apparel market from 2018 to 2025*. Statista. Retrieved from <https://www.statista.com/statistics/1078278/menswear-market-value-worldwide/>
- Sohn, S. (2017). A contextual perspective on consumers' perceived usefulness: The case of mobile online shopping. *Journal of Retailing and Consumer Services*, 38, 22–33. <https://doi.org/10.1016/j.jretconser.2017.05.002>
- Soni, M., Jain, K., & Kumar, B. (2019). Factors affecting the adoption of fashion mobile shopping applications. *Journal of Global Fashion Marketing*, 10(4), 358–376. <https://doi.org/10.1080/20932685.2019.1649165>
- Statista. (2023). *App – South Africa*. Retrieved from <https://www.statista.com/outlook/dmo/app/south-africa>
- Tavallaee, R., Shokouhyar, S., & Samadi, F. (2017). The combined theory of planned behaviour and technology acceptance model of mobile learning at Tehran universities. *International Journal of Mobile Learning and Organisation*, 11(2), 176–206. <https://doi.org/10.1504/IJMO.2017.084279>
- Taylor, D.G., & Levin, M. (2014). Predicting mobile app usage for purchasing and information-sharing. *International Journal of Retail & Distribution Management*, 42(8), 759–774. <https://doi.org/10.1108/IJRDM-11-2012-0108>
- Thangavel, P., Pathak, P., & Chandra, B. (2021). Millennials and Generation Z: A generational cohort analysis of Indian consumers. *Benchmarking: An International Journal*, 28(7), 2157–2177. <https://doi.org/10.1108/BIJ-01-2020-0050>
- Thoradeniya, P., Lee, J., Tan, R., & Ferreira, A. (2015). Sustainability reporting and the theory of planned behaviour. *Accounting, Auditing & Accountability Journal*, 28(7), 1099–1137. <https://doi.org/10.1108/AAAJ-08-2013-1449>
- Thusi, P., & Maduku, D.K. (2020). South African millennials' acceptance and use of retail mobile banking apps: An integrated perspective. *Computers in Human Behaviour*, 111, 106405. <https://doi.org/10.1016/j.chb.2020.106405>
- Urbach, N., & Ahlemann, F. (2010). Structural equation modeling in information systems research using partial least squares. *Journal of Information Technology Theory and Application*, 11(2), 2.
- Vahdat, A., Alizadeh, A., Quach, S., & Hamelin, N. (2021). Would you like to shop via mobile app technology? The technology acceptance model, social factors and purchase intention. *Australasian Marketing Journal*, 29(2), 187–197. <https://doi.org/10.1016/j.ausmj.2020.01.002>
- Van der Cruisen, C., & Diepstraten, M. (2017). Banking products: You can take them with you, so why don't you? *Journal of Financial Services Research*, 52, 123–154. <https://doi.org/10.1007/s10693-017-0276-3>
- Venkatesh, V., Thong, J.Y.L., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 36(1), 157–178. <https://doi.org/10.2307/41410412>
- Verma, D., Tripathi, V., & Singh, A.P. (2021). From physical to digital: What drives Generation Z for mobile commerce adoption? *Journal of Asia Business Studies*, 15(5), 732–747. <https://doi.org/10.1108/JABS-05-2020-0207>
- Yang, K. (2012). Consumer technology traits in determining mobile shopping adoption: An application of the extended theory of planned behaviour. *Journal of Retailing and Consumer Services*, 19(5), 484–491. <https://doi.org/10.1016/j.jretconser.2012.06.003>
- Yang, K., & Kim, H.-Y. (2012). Mobile shopping motivation: An application of multiple discriminant analysis. *International Journal of Retail & Distribution Management*, 40(10), 778–789. <https://doi.org/10.1108/09590551211263182>
- Yousafzai, S.Y., Foxall, G.R., & Pallister, J.G. (2010). Explaining internet banking behaviour: Theory of reasoned action, theory of planned behaviour, or technology acceptance model? *Journal of Applied Social Psychology*, 40(5), 1172–1202. <https://doi.org/10.1111/j.1559-1816.2010.00615.x>
- Zhang, L., Zhu, J., & Liu, Q. (2012). A meta-analysis of mobile commerce adoption and the moderating effect of culture. *Computers in Human Behaviour*, 28(5), 1902–1911. <https://doi.org/10.1016/j.chb.2012.05.008>

Appendix 1

TABLE 1-A1: Construct and corresponding items.

Construct	Scale item	Source
PU	<i>Making use of mobile apps to purchase menswear apparel items ...</i>	McLean et al. (2018)
	<i>PU1. allows me to accomplish shopping tasks more quickly</i>	
	<i>PU2. improves my shopping performance</i>	
	<i>PU3. increases my shopping productivity</i>	
	<i>PU4. enhances my shopping effectiveness in task completion</i>	
	<i>PU5. makes it easier for me to shop</i>	
PEOU	<i>PEOU1. Learning to operate mobile apps to purchase menswear apparel items is easy for me</i>	
	<i>PEOU2. I find it easy to navigate mobile apps when used to purchase menswear apparel items</i>	
	<i>PEOU3. I find the use of mobile apps to purchase menswear apparel items understandable</i>	
	<i>PEOU4. I find interacting with mobile apps when purchasing menswear apparel accommodating (e.g. flexible)</i>	
	<i>PEOU5. It is easy for me to become skilful in the use of mobile apps to purchase menswear apparel items</i>	
	<i>PEOU6. I find mobile apps to purchase menswear apparel items easy to use</i>	
SN	<i>SN 1. People who are important to me think that I should use mobile apps to purchase menswear apparel items</i>	Hew et al. (2015)
	<i>SN2. People who influence my behaviour think that I should use mobile apps to purchase menswear apparel items</i>	
	<i>SN3. People whose opinions that I value prefer that I use mobile apps to purchase menswear apparel items</i>	
	<i>SN4. People around me consider it appropriate to use mobile apps to purchase menswear apparel items</i>	
Attitude	<i>Mobile apps are ...</i>	Cheung and To (2017)
	<i>A1. informative when purchasing menswear apparel items</i>	
	<i>A2. meaningful when purchasing menswear apparel items</i>	
	<i>A3. fun when purchasing menswear apparel items</i>	
	<i>A4. likable when purchasing menswear apparel items</i>	
BI	<i>A5. relevant to me when purchasing menswear apparel items</i>	Groß (2015)
	<i>BI1. Given the chance, I intend to shop for menswear apparel through mobile apps</i>	
	<i>BI2. Assuming that I have access to mobile apps, I intend to shop for menswear apparel through mobile apps</i>	
	<i>BI3. I expect to continue using my mobile app in future to purchase menswear apparel</i>	
	<i>BI4. In the future I intend to shop more for menswear apparel using mobile apps than I do today</i>	
	<i>BI5. I would recommend making use of mobile apps to shop for menswear apparel to others</i>	

Note: Please see the full reference list of the article, Correia, M., Cunningham, N., & Roberts-Lombard, M. (2024). South African young adult males' behavioural intentions when purchasing apparel via mobile apps. *South African Journal of Business Management*, 55(1), a4024. <https://doi.org/10.4102/sajbm.v55i1.4024>, for more information.

PU, Perceived usefulness; PEOU, Perceived ease of use; SN, Subjective norms; BI, Behavioural intention.

Appendix 2

TABLE 1-A2: Discriminant validity (Fornell and Larcker).

Constructs	PU	PEOU	SN	ATT	BI
PU	0.834	-	-	-	-
PEOU	0.682	0.886	-	-	-
SN	0.321	0.250	0.908	-	-
ATT	0.706	0.620	0.395	0.785	-
BI	0.618	0.615	0.270	0.630	0.868

PU, Perceived usefulness; PEOU, Perceived ease of use; SN, Subjective norms; ATT, attitude; BI, Behavioural intention.