The Impact of Information Benefits on Confirmation of Digital Loyalty Programmes in a Developing Economy

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Abstract: The rise of the internet and smartphones has enabled retailers to integrate loyalty programmes into mobile applications, allowing consumers to store loyalty cards digitally. This study investigated the impact of information benefits on the confirmation of digital loyalty programmes by township retail shoppers in a developing economy. While prior research had examined the impact of confirmation on information benefits, this study reversed the relationship, exploring the impact of information benefits on confirmation. Following a positivist and deductive methodology, the study employed a survey to collect data from 516 Black South African township retail shoppers who used digital loyalty programmes. Data were analysed using SmartPLS 4 for structural equation modelling. Results indicate that information benefits have a positive but weak impact on confirmation, suggesting that retailers should prioritise information benefits when designing and marketing digital loyalty programmes. The study contributed new knowledge by addressing a previously unexplored relationship through integrating technology continuance and social exchange theories – two theoretical lenses not previously integrated into this setting. Its originality lay in its focus on township shoppers, an underrepresented segment, therefore it enhanced theory and provided actionable guidance for retailers.

Keywords: technology continuance theory; social exchange theory; retail; mobile applications

1. Introduction

For many years, traditional loyalty programmes primarily relied on physical cards as a key tool in loyalty marketing. However, the introduction of the internet and smartphones has provided new opportunities for retailers to engage with shoppers

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(Hajdukiewicz, 2016). These technological developments have transformed loyalty programmes from card-based systems to mobile-based platforms (Son, Yim & Oh, 2017). Digital (mobile) loyalty programmes are integrated into smartphones, allowing consumers to store loyalty cards digitally through mobile applications (Warden, Löffler & Chichava, 2010). Although loyalty programmes continue to evolve, the literature has largely overlooked this trend, with only limited research on digital loyalty programmes (Aydın & Türköz, 2019; Patsiotis, Atik & Perrea, 2020). In addition, the majority of consumers in a developing economy such as South Africa still choose loyalty cards over mobile alternatives (Bizcommunity, 2025). This preference is likely due to limited familiarity with mobile consumer behaviour, which creates a major challenge for retailers seeking to design and implement effective digital loyalty programmes (Doyle, 2017). Furthermore, how information benefits impact confirmation remains unexplored. Instead, a previous study (Huang, Chen, Tang & Huang, 2019) investigated the impact of confirmation on information benefits, but not the reverse. With the evolution of loyalty programmes into mobile-based platforms (Son et al., 2017), it is important to understand whether information benefits impact confirmation of digital loyalty programmes. Accessible and relevant information can enhance consumers' engagement with mobile applications and facilitate better purchase decisions (Smink, Frowijn, Van Reijmersdal, Van Noort & Neijens, 2019; Son & Oh, 2023). High search costs may discourage consumers from actively seeking information, which in turn can negatively impact their willingness to purchase products (Son, Oh, Han & Park, 2020). This study addressed the gap by investigating the impact of information benefits on the confirmation of digital loyalty programmes by township retail shoppers in a developing economy. Understanding consumers in township markets is critical for retailers aiming to serve this market effectively (Mashaba & Wiese, 2016), especially as research into digital loyalty programmes has largely neglected this segment.

2. Literature Review

In the supply chain, manufacturers sell to wholesalers, who then supply retailers. In turn, retailers sell directly to consumers for profit (Van Niekerk, 2020). In a developing economy such as South Africa, the retail industry is dominated by grocery retailers such as Shoprite, Spar, Pick n Pay, Massmart and Woolworths (Deloitte, 2015; Mahlangu & Makhitha, 2019; Teuteberg, 2021). Investments in shopping malls and more informed consumers have reshaped the retail landscape, including the expansion of formal retailers into historically disadvantaged township areas (Strydom, 2013; Masojada, 2019). Townships (i.e. areas designated for Black, Coloured and Indian populations during apartheid) remain home to the majority of the Black population of South Africa (estimated at 51.6 million) (Lester, Menguele, Karuri-Sebina & Krüger, 2009; Donaldson, Mehlomakhulu, Darkey, Dyssel &

Siyongwana, 2013; Mashaba & Wiese, 2016; Suzuki, 2021; Stats SA, 2025). While loyalty programmes in South Africa have traditionally targeted more advantaged communities, township consumers represent significant untapped opportunities (Maharaj, 2008; Sharma & Bhardwaj, 2015). Digital loyalty programmes, which are digital versions of traditional loyalty cards accessible via smartphones (Schneider, 2021), have been adopted by leading retailers like Clicks, Pick n Pay, Checkers, Dis-Chem and Woolworths (Cromhout & Netto, 2018). For example, Clicks' mobile ClubCard (launched in 2017) allows point collection and provides personalised deals and cashback tracking (Clicks, 2023). Pick n Pay's mobile Smart Shopper (launched in 2013) enables QR code scanning, points tracking, viewing personalised discounts and access to shopping lists (Pick n Pay, 2022; Google Play Store, 2020). Checkers' mobile Xtra Savings (launched in 2019) gives shoppers access to personalised offers and live deal updates (Checkers, 2023; Google Play Store, 2022). Dis-Chem's mobile Benefit programme (launched in 2017) allows shoppers to earn points earning and redeem rewards (Dis-Chem, 2023; Google Play Store, 2022). Woolworths' mobile WRewards (launched in 2012) features push notifications, personalised vouchers, digital card scanning and tier tracking (Google Play Store, 2023).

2.1. Underpinning Theoretical Lenses

This study is based on two theoretical lenses, namely technology continuance and social exchange theories. Technology continuance theory, which was developed by Liao, Palvia and Chen in 2009, explains users' continued use of technology (Harasis, 2017; Foroughi, Sitthisirinan, Iranmanesh, Nikbin & Ghobakhloo, 2023). Continuance intention is shaped by satisfaction, attitude and perceived usefulness; satisfaction is influenced by confirmation and perceived usefulness; attitude is driven by perceived usefulness, satisfaction and perceived ease of use; and perceived usefulness is affected by perceived ease of use and confirmation (Foroughi et al., 2023).

Social exchange theory, introduced by Homans in 1958, focuses on understanding relationships and human behaviour through reciprocal exchanges (Van Niekerk, 2020). The theory posits that at least two parties are required for an exchange to occur, resulting in the development and influence of relationships (Thaver, 2019). Ojesina (2020) indicates that the components of social exchange theory are costs and benefits. The theory suggests that consumers are more likely to repeat behaviours that are rewarded, with previously rewarded individuals being more responsive to future benefits (Manunga, 2018). When expected benefits are not fulfilled, consumers may respond negatively (Thaver, 2019).

2.2. Information Benefits and Confirmation

The rise of technology has enabled consumers to access information faster and more cost-effectively (Çalyan, Elbir & Eşiyok, 2021). Through the internet, information is now more readily accessible (Zalloum, Alghadeer & Nusairat, 2019). Information benefits refer to the value consumers gain from using technology to obtain relevant information (Li, Yang, Zhang & Zhang, 2019). This information enhances consumers' knowledge, reduces uncertainty and supports better purchasing decisions (Aydın & Türköz, 2019; Smink et al., 2019). An estimated 85% of South Africans use smartphones to search for information, with consumers searching for product information to make purchases (Roocroft, 2025). According to Zapper (2025), South African consumers want access to loyalty programme information using smartphones. To engage fully with such programmes, consumers require access to details such as points balance, available rewards and transaction history (Wang, Krishnamurthi & Malthouse, 2018). Additional information like point expiration reminders and lists of participating outlets is also essential (Omar, Wel, Aziz & Alam, 2013). Digital loyalty programmes enhance this experience by enabling consumers to track rewards, access personalised deals and stay informed about promotions and programme updates (Raos, 2021).

Confirmation occurs when users perceive that the performance of a technology aligns with their prior expectations (Bölen & Özen, 2020). These expectations are formed before use and may be influenced by past experiences or word-of-mouth communication (Hariguna, Ruangkanjanases, Madon & Alfawaz, 2023). Once the technology is used, consumers assess its performance, and their perceptions either confirm or disconfirm their initial expectations (Lin & Lekhawipat, 2016; Khotimah & Hidayat, 2022). According to Al-Nabhani (2019), the confirmation or disconfirmation of expectations can result in three outcomes. The first two outcomes, namely (1) performance matching expectations and (2) performance exceeding expectations, lead to confirmation. The third outcome is that performance is below expectations, resulting in disconfirmation.

2.3. Hypothesis Development

This study focused on the impact of information benefits on confirmation. While previous research by Huang et al. (2019) had explored the impact of confirmation on information benefits, the reverse relationship had not previously been studied. This study proposed that consumers who perceived digital loyalty programmes as informative would be more likely to confirm after use that their expectations had been met. This assumption is supported by Wang et al. (2018) and Le Roux (2019). Wang et al. (2018) found that information benefits positively influenced consumer participation in loyalty programmes. Similarly, Le Roux (2019) reports that

university students in South Africa preferred loyalty programmes with online access to registration and points tracking. Based on this rationale, a new hypothesis was proposed:

H1: Information benefits positively impact the confirmation of digital loyalty programmes by township retail shoppers in a developing economy.

This hypothesis demonstrates the combination of the study's two underlying theoretical lenses: social exchange theory, through the concept of information benefits; and technology continuance theory, through the concept of confirmation.

3. Research Methods

This study adopted a positivist and deductive methodology to test the proposed hypothesis. A mono-method quantitative design was utilised, with surveys serving as the primary data collection instrument. This cross-sectional study gathered data from 516 Black adult shoppers, aged 18 to 65 years, residing in South African township areas, who used digital loyalty programmes offered by retailers. Participants were randomly drawn from an existing consumer panel, ensuring the use of probability sampling technique. Prior to data collection, ethical clearance was granted by the University of South Africa's MRM Ethics Committee.

Descriptive statistics pertaining to respondents' demographic profiles, measurement items and normality assessments were generated employing SPSS software (v28). Data normality was assessed using the Shapiro-Wilk and Kolmogorov-Smirnov methods. To assess potential non-response bias, SPSS software (v28) was also employed, and a series of Mann-Whitney U tests compared the medians of two subsamples: early respondents (the first 100 respondents); and late respondents (the last 100 respondents) (Bose, 2001; Cohen, Manion & Morrison, 2018).

To mitigate potential common method bias, the study implemented procedural and statistical controls. Procedural remedies included ensuring respondent anonymity during data collection and reporting; clearly defining potentially unfamiliar terms such as "mobile loyalty programme"; and simplifying survey questions to reduce ambiguity (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). Statistically, common method bias was tested using the collinearity method in SmartPLS (v4). Variance inflation factor value from the inner model were computed to detect multicollinearity and evaluate the presence of common method bias (Kock, 2015).

Hypothesis testing was conducted using structural equation modelling in SmartPLS software (v4). Internal consistency was measured using Cronbach's alpha and composite reliability. Convergent validity was assessed using factor loadings and AVE, while discriminant validity was evaluated using the Fornell-Larcker criterion and HTMT ratio. The statistical significance of the hypothesised relationship was

tested using the bootstrapping resampling method (Hair, Hult, Ringle, Sarstedt, Danks & Ray, 2021). Importantly, demographic characteristics were included in the data analysis as control variables to test the study's hypothesis.

4. Research Findings

4.1. Demographics of Respondents

This study focused on Black consumers in South African townships; therefore, all (n = 516) respondents were black and resided in South African townships. Of the total participants, females made up 61.8% and males 38.2%. Respondents were aged 18 to 65 years, the largest group was aged 25-34 years (51.7%), followed by 18-24 years (32.6%), 35-49 years (14.9%) and 50-65 years (0.8%). Regarding education, 62.2% had a degree, diploma or certificate, 27.1% had a secondary education or lower, 8.3% held postgraduate qualifications and 2.3% reported "other". Regarding employment, 35.1% were employed full-time, followed by 30.4% who were students or unemployed, 15.5% part-time workers, 14.1% self-employed and 4.8% listed "other" occupations. Monthly income levels showed that 42.8% earned less than R5,000, followed by 27.5% earning R5,001-R10,000, 17.8% earning R10,001-R20,000, 8.5% earning R20,001-R30,000 and 3.3% earning over R30,000. Most respondents were from Gauteng (51.6%), followed by KwaZulu-Natal (18.8%), Limpopo (7.9%), Mpumalanga (5.0%), Western Cape (4.7%), Eastern Cape (4.1%), North West (3.9%), Free State (3.3%) and Northern Cape (0.8%).

4.2. Descriptive Statistics for Information Benefits and Confirmation

This section presents the descriptive statistics of the study's two constructs. Tables 1 and 2 display the measurement items/codes, mean, standard deviation (SD) and response distributions on a five-point Likert scale (1 = "strongly disagree" to 5 = "strongly agree"), including frequencies and percentages.

Table 3. Information benefits

Measurement items/codes	Mean	SD	1	2	3	4	5
Mobile loyalty programmes are good sources of shopping-related information. (I1)	4.202	0.940	7 1.4%	17 3.3%	93 18.0%	147 28.5%	252 48.8%
Mobile loyalty programmes supply relevant shopping-related information. (I2)	4.174	0.923	7 1.4%	13 2.5%	101 19.6%	157 30.4%	238 46.1%

	Mean	SD	1	2	3	4	5
Mobile loyalty programmes are informative about my shopping-related information. (I3)	4.145	0.939	7 1.4%	17 3.3%	102 19.8%	158 30.6%	232 45.0%

Table 1 summarises the information benefits construct and its three items. Mean scores range from 4.15 (I3) to 4.20 (I1), with standard deviations between 0.92 (I2) and 0.94 (I1). The overall mean of 4.17 shows general agreement with the information benefits, while a standard deviation of 0.84 indicates some variability in responses.

Table 2. Confirmation

Measurement items/codes	Mean	SD	1	2	3	4	5
My experience with using mobile loyalty programmes was better than what I expected. (C1)	4.112	0.983	9 1.7%	20 3.9%	109 21.1%	144 27.9%	234 45.3%
The service level provided by the mobile loyalty programmes' service providers was better than what I expected. (C2)	4.035	0.934	4 0.8%	20 3.9%	132 25.6%	158 30.6%	202 39.1%
Overall, most of my expectations from using mobile loyalty programmes were confirmed. (C3)	4.078	0.976	7 1.4%	22 4.3%	119 23.1%	144 27.9%	224 43.4%

Table 2 summarises the confirmation construct and its three items. Mean scores range from 4.04 (C2) to 4.11 (C1), with standard deviations between 0.93 and 0.98. The overall mean of 4.08 indicates general agreement, while the 0.87 standard deviation shows notable variability in responses.

4.3. Normality Assessment

Table 3 presents p-values from the Shapiro-Wilk and Kolmogorov-Smirnov assessments for both constructs. All p-values were below 0.05, indicating that the data for the two constructs are not normally distributed (Saunders, Lewis & Thornhill, 2019). However, as this study employs partial least squares structural equation modelling that does not require normally distributed data, the non-normality is not considered problematic (Hair et al., 2021).

Table 3. Normality test results

Constructs	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Information benefits	0.197	516	<0.001	0.867	516	<0.001
Confirmation	0.176	516	<0.001	0.890	516	<0.001

4.4. Non-Response Bias

Non-response bias was tested by comparing medians of early and late respondents (n = 100 each) using the Mann-Whitney U test. As shown in Table 4, all p-values were greater than 0.05, indicating no significant differences between the groups (Cohen et al., 2018). This suggests that non-respondents likely held perceptions similar to those of respondents, and therefore non-response bias does not pose an issue in this study.

Table 4. Results from the Mann-Whitney U test

	Null Hypothesis	Test	Sig. (p-value)	Decision
1	The medians of information benefits are the same between early and late respondents.	Independent-Samples Median Test	0.570	Retain the null hypothesis.
2	The distribution of information benefits is the same between early and late respondents.	Independent-Samples Mann-Whitney U Test	0.615	Retain the null hypothesis.
3	The medians of confirmation are the same between early and late respondents.	Independent-Samples Median Test	0.396	Retain the null hypothesis.
4	The distribution of confirmation is the same between early and late respondents.	Independent-Samples Mann-Whitney U Test	0.271	Retain the null hypothesis.

4.5. Common Method Bias (CMB) and Collinearity Assessment

CMB was assessed via collinearity, with variance inflation factor (VIF) value reported in Table 5. The VIF value is below the threshold of 5, indicating no significant issues with common method bias or collinearity in the study's results (Hair et al., 2021).

Table 5. Results from CMB and collinearity assessment

	VIF
Information benefits → confirmation	3.340

4.6. Reliability Analysis

Table 6 presents Cronbach's alpha and composite reliability values assessing internal consistency. Both Cronbach's alpha values exceeded the recommended threshold of 0.70, indicating good reliability (Johnson & Christensen, 2014). These results were supported by composite reliability values, which were above the acceptable threshold of 0.60, demonstrating high internal consistency for both constructs (Hair et al., 2021).

Table 6. Reliability analysis

Constructs	Cronbach's alpha	Composite reliability
Information benefits	0.877	0.924
Confirmation	0.883	0.928

4.7. Validity Analysis

Table 7 presents factor loadings and average variance extracted (AVE) values for convergent validity. All factor loadings exceeded the recommended threshold of 0.50, indicating that the measurement items significantly contributed to their respective constructs (Malhotra, 2019). Similarly, both AVE values were above 0.50, meeting the criterion suggested by Hair et al. (2021). These results confirm that each construct explains over 50% of indicator variance, supporting convergent validity.

Table 7. Convergent validity analysis

Constructs	Item codes	AVE	Factor loadings
Confirmation	C1	0.811	0.908
	C2		0.896
	C3		0.897
Information benefits	I1	0.803	0.895
	I2		0.912
	I3		0.881

Discriminant validity was evaluated using the Fornell-Larcker criterion (1981) and HTMT ratio. Table 8 shows that AVE square roots (bold) exceeded inter-construct correlations, confirming distinct constructs. According to Hair, Hult, Ringle and Sarstedt (2014), this confirms that discriminant validity is not a concern based on the Fornell-Larcker assessment.

Table 8. Fornell-Larcker criterion (1981) results

	Confirmation	Information benefits
Confirmation	**0.900**	
Information benefits	0.659	**0.896**

As shown in Table 9, the HTMT ratio value is below the recommended threshold of 0.90, indicating that discriminant validity is not a concern (Hair et al., 2021).

Table 9. Heterotrait-Monotrait ratio results

	Confirmation	Information benefits
Confirmation		
Information benefits	0.748	

4.8. Hypothesis Results

As shown in Table 10, information benefits positively and significantly affect confirmation ($\beta = 0.173$, $p < 0.05$), supporting H1. This suggests that consumers who perceive greater information benefits from digital loyalty programmes are more likely to have their expectations confirmed. In other words, when consumers receive information benefits through these programmes, it reinforces the belief that their initial expectations have been met. While the effect size is small (effect size < 0.14), indicating a weak relationship, this link is grounded in technology continuance (confirmation) and social exchange (information benefits) theories. Notably, the inclusion of control factors did not alter the results of the hypothesis testing, indicating that the conclusions remained consistent regardless of their presence.

Table 10. Results for Hypothesis 1

Hypothesised relationship	Hypothesis	Beta value	Effect size	P-value	Result
Information benefits → confirmation	+H1	0.173	0.022	0.009	Supported

Since this hypothesis is new, previous studies have not examined how information benefits impact confirmation. Although Zhou, Jia, Skinner, Yang and Claude (2021) identified information benefits as a driver of mobile application use, they did not explore its effect on confirmation. This lack of comparative literature presents a limitation as the absence of relevant prior research limited the contextual understanding and interpretation of the findings. In addition, the results could not be

validated using existing literature. However, the current study provides new knowledge by establishing the impact of information benefits on confirmation.

5. Conclusion and Recommendations for Practice

The study's finding indicates that information benefits significantly impact the confirmation of digital loyalty programmes among retail township consumers in a developing economy. This insight should inform the design and marketing of such programmes to enhance their effectiveness. To deliver meaningful information benefits, retailers should provide relevant shopping-related content, such as product details, store information, promotions, reward point balances and expiry dates, rewards and transaction history through the mobile platform (Omar et al., 2013; Wang & Gutierrez, 2018; Wang et al., 2018; Huang et al., 2019). Additionally, this information should be easily accessible to users.

6. Future Research Directions

This study provides key insights into how information benefits impact confirmation of digital loyalty programmes among township retail shoppers in a developing economy, but there are still areas that future research can explore. First, given the novel nature of the impact of information benefits on confirmation, future studies could replicate this research in different geographic (developing and developed economies) or demographic contexts to validate and generalise the findings. For example, comparing township consumers with those in urban or rural areas could show whether location or culture makes a difference. Additionally, qualitative or mixed-method approaches could be employed to gain richer insights into factors that impact digital loyalty programme confirmation. Future research may also consider integrating other types of benefits, such as social benefits, to assess their role alongside information benefits. Lastly, longitudinal research could observe consumer attitude changes to understand how continued use of digital loyalty programmes evolves and which factors sustain long-term use.

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