FACTORS INFLUENCING THE ADOPTION OF SMARTPHONE APPLICATIONS BY GENERATION Y UNIVERSITY STUDENTS IN SOUTH AFRICA

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Abstract

This study explored the factors influencing the adoption of smartphone applications among Generation Y students enrolled at universities in KwaZulu-Natal, South Africa. Data was collected through a descriptive research approach, involving 350 participants who completed structured questionnaires distributed at various campus venues. The investigation was guided by two key dimensions: brand identity and adoption considerations such as convenience, entertainment, access to information, cost savings, and opportunities for social interaction. The responses were analyzed using descriptive statistical methods. Findings indicated a preference among students for popular, innovative, fashionable applications with brand identity acting as a powerful influence on selection decision-making. Convenience use, use for entertainment, and knowledge provision were determined to be most central selection criteria while monetary savings and socializing played a lesser role. Implications in regard to both brand perception and functional criteria characterizing smartphone application use among university students features in the findings. Implications for app programmers and teachers concerning how to improve use and uptake in further education contexts serve to highlight this research's findings.

Keywords

Keywords: Smartphone applications, Generation Y, brand identity, adoption criteria, university students, South Africa

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Introduction

Mobile applications continue to sit at the heart of modern life worldwide, transforming how individuals communicate, how people learn, how finances are managed, and how social and healthcare services are accessed. By 2023, global mobile connectivity had surpassed 5.4 billion distinct mobile subscribers and 6.5 billion smartphone connections, positioning mobile applications as a leading medium for digital engagement (GSMA, 2023). However, uptake is shaped not only by accessibility but also by infrastructure, regulatory environments, cultural norms, and affordability.

In Sub-Saharan Africa, digitalization has been driven largely by expanding mobile coverage. Affordable smartphones, alongside the rollout of 4G and 5G networks, have accelerated app usage. Yet adoption remains uneven, constrained by high data costs, low digital literacy, and patchy infrastructure. Within African universities, the integration of mobile technologies into teaching and administration underscores the need to understand the factors influencing students' adoption of mobile applications, as this is key to inclusive access to digital learning. South Africa illustrates this growth clearly: with more than 118 million active SIM cards—almost double the population—smartphones and mobile connections are pervasive. National ICT surveys confirm a steady rise in mobile services and data consumption, highlighting the growing importance of apps in academic and social contexts. Nonetheless, obstacles such as costly data, unequal connectivity between urban and rural areas, recurring power outages that disrupt networks, and privacy concerns continue to undermine user confidence and adoption. Against this backdrop, Generation Y (born 1981–1996) remains a large, digitally active group within South Africa's universities.

This research applies the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model—the constructs of performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, and habit. We extended the UTAUT2 model by adding contextual factors including sensitivity to mobile data prices, service interruptions, and privacy concerns. This study investigates how these elements, alongside the original model's constructs, shape the willingness of Generation Y students in South Africa to adopt and consistently use smartphone applications.

Methodology

A descriptive research framework was chosen to examine the factors influencing smartphone application usage among Generation Y university students in KwaZulu-Natal. The approach was anchored in the research onion model, drawing on a positive philosophy to allow objective measurement, quantitative analysis, and generalizable results. The population comprised all students at universities in KwaZulu-Natal, with a sample of 350 students at the University of KwaZulu-Natal

selected through simple random sampling. Participants were approached in libraries, cafeterias, and lecture halls, informed of voluntary participation, and assured of confidentiality.

A structured questionnaire with closed-ended questions and a five-point Likert scale captured attitudes, perceptions, and intentions. Demographic questions were added for context. A pilot test ensured clarity, followed by minor adjustments before large-scale administration. Data was coded and analyzed using IBM SPSS Statistics 24, applying descriptive statistics such as means and standard deviations. Ethical standards were observed throughout, with voluntary participation, informed consent, confidentiality, and anonymity maintained.

Results

The research sample consisted of 350 students, with 52% female and 48% male. Most respondents were aged 18–23 years (72%) and primarily Black (65%), followed by Indian (26%). Undergraduates made up 67%, and postgraduates 33%. By field of study, Law and Management respondents were 39%, Health Sciences 24%, Agriculture/Engineering/Sciences 24%, Humanities 10%, and Other 2%.

Table 1: Socio-Demographic Characteristics of Research Participants (n = 350)

Variable	Category	Frequency	Percemtage
Gender	Female	183	52
	Male	167	48
Age group (years)	18–23	252	72
	24–28	70	20
	29–32	21	6
	33+	3	1
Racial group	Black	228	65
	Indian	91	26
	White	22	6
	Coloured	6	2
	Other	3	1
Level of study	Undergraduate	235	67
	Postgraduate	115	33
Field of study	Law/Management	137	39
	Health Sciences	84	24
	Agriculture/Eng./Sci.	84	24
	Humanities	35	10
	Other	10	2
Year of study	First year	112	32
	Second year	56	16
	Third year	93	27
	Fourth year	42	12
	Other	47	13

As shown in Table 2, mean scores for the brand identity questions of smartphone applications were overall between 4 or higher, while most standard deviations were less than 1. This shows that

respondents' ratings were highly concentrated around the mean and indicate a high level of agreement. Specifically, respondents indicated adopting popular applications (mean = 3.84, SD = 0.732), stylish applications (mean = 4.16, SD = 0.675), novel applications (mean = 3.76, SD = 0.764), applications conveying long life (mean = 3.48, SD = 0.855), primarily free applications (mean = 3.84, SD = 0.881), applications they'd pay rather than free applications (mean = 3.84, SD = 0.881), and applications provided by leaders in certain technologies (mean = 3.92, SD = 1.018). Overall, these findings indicate that most respondents perceive brand identity to be a critical influence on smartphone application adoption among university students in South Africa.

Table 2: Brand identity of apps

Variable	Mean	Standard Deviation
I adopt only well-known apps	3.84	0.732
I adopt apps that are fashionable to own	4.16	0.675
I adopt apps that are known for being innovatory	3.76	0.764
I adopt apps that show signal of longevity	3.48	0.855
I adopt apps that are mostly free	3.84	0.881
I would rather pay for an app than download a free app	3.84	0.881
I adopt apps from mostly market leaders in specific technologies	3.92	1.018

Table 3 shows that criteria considered in app adoption also recorded mean scores near or above 4, while standard deviations were mostly below 1, indicating uniform agreement among respondents. Respondents indicated that knowledge and information (mean = 4.20, SD = 0.401) and entertainment (mean = 4.16, SD = 0.675) were chief determinants in app adoption, while convenience (mean = 3.92, SD = 0.846) and monetary savings (mean = 3.68, SD = 0.883) took somewhat lesser importance. Socialising (mean = 3.36, SD = 0.890) was negligible. These findings suggest that university students in South Africa consider a large number of criteria, while knowledge, entertainment and convenience still remain chief determinants in deciding on whether to adopt smartphone application

Table 3: Criteria for adopting apps

Variable	Mean	Standard Deviation
Convenience is the most important factor I consider before adopting an app	3.92	0.846
Monetary savings is the most important factor I consider before adopting an app	3.68	0.883
Entertainment is the most important factor I consider before adopting an app	4.16	0.675
Knowledge and information are the most important factors I consider before adopting an app	4.20	0.401
Socialising is the most important factor I consider before adopting an app	3.36	0.890

Discussion

In this study, we tried to identify determinants of smartphone application use among university students in South Africa in respect to selection criteria and brand identity. It was discovered that users of applications prefer applications having established brand identities like fashionable, popular, and innovational applications. This is consistent across the globe whereby brand awareness determines consumers' choice to a large extent (Keller, 2023). Contrary to this study's interest in brand identity, however, some other researchers asserted that university students in South Africa keep an eye on application functionality and application content quality while making choices about application selection (Potgieter, 2015).

For consideration regarding adoption criteria, findings from research reveal that knowledge and information dissemination, enjoyment, and convenient use remain ahead of the rest among learners. This follows previous research identifying these features as chief drivers behind university student use of mobile applications (Smith & Jones, 2023). However, decreased relevance attached to financial savings and socialization regarding criteria for adoption is contrary to other research labelling these features as chief drivers behind mobile application use (Balakrishnan & Raj, 2012).

Such preferences within this study can be impacted by the unique socio-economic and cultural climate within South Africa. Access to the internet, prices of data, and socio-economic disparities can influence students' attitudes and behaviours within mobile application adoption. For instance, owing to pricey data within South Africa, students may be prone to adopt applications that can create value regarding functionalities and information rather than brand popularity (Chisango et al., 2020).

In spite of valuable information accrued, this research has some limitations. First, research was carried out among university students in Kwa-Zulu Natal, hence limiting the extendibility of findings to other places or non-students in South Africa. Secondly, research was dependent upon self-reported data prone to social desirability bias since participants may exaggerate their adoption behaviours or preferences. Thirdly, cross-sectional design only reveals perception and behaviour at a certain instant

in time and hence unable to establish causality or change in adoption behaviours over time. Lastly, though sample size of students was a respectable 350 sufficient to allow statistical analysis, it might not be fully reflective of diversity of all students across studies and socio-economic backgrounds.

Conclusion

Although this research contributes immensely to identifying determinants of smartphone app adoption among university students in South Africa, it reveals a gap in identifying how brand image moderates' determinants of adoption and how situational determinants moderate. It further recommends future studies to apply longitudinal studies and investigate new technology effects on preference in application among students.

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