



A Model to Measure Brand Loyalty at Private Higher Education Institutions in South Africa

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ABSTRACT

The business environment for private higher education is highly competitive. Brand loyalty is one possible competitive strategy. This study aims to validate a theoretical model to measure brand loyalty and, in the process, provide a model that can be applied to measure brand loyalty of private higher education institutions. The quantitative research design collected data using a 5-point Likert-scale questionnaire from 399 alumni of private higher education institutions in South Africa. (376 thereof were usable). The results show that although the data are somewhat negatively skewed and exhibit leptokurtic kurtosis, these deviations remain within acceptable norms. Exploratory factor analyses validate the measuring criteria for each respective antecedent. The empirical findings demonstrate that customer satisfaction, service quality, brand trust, brand image, perceived value, customer relationships, dependability and reliability, technology, waiting time, switching costs, and brand involvement show strong, statistically significant positive relationships with brand loyalty. These results support the proposed theoretical model. Although the study is valuable to future researchers, its core value lies in managerial application. Management can apply the validated brand loyalty model to measure alumni brand loyalty and, furthermore, determine the influence of each brand loyalty antecedent.

Keywords: Brand Loyalty, Model, Antecedents, Attitude, Behaviour, Strategy

JEL Classifications: M31, M39

1. INTRODUCTION

Private higher education institutions increasingly operate within a highly competitive, market-oriented environment characterised by student mobility, technological disruption, regulatory oversight and heightened service expectations. The private higher education sector has expanded over the last ten years, positioning educational institutions not only as knowledge providers but also service-oriented brands fighting for student loyalty and long-term sustainability (Cassim et al., 2024). According to the Department of Higher Education and Training report from 2025, graduates from private HEIs reached 60,927 in 2023, an increase of 6.3% (3,625) when compared to 57,302 in 2022. d) The majority of students in private HEIs in 2023 graduated in higher certificates with 120 credits (16,765 or 27.5%), bachelor's degrees with 360 credits (16,544 or 27.2%) and diplomas with 360 credits

(7,654 or 12.6%). The lowest proportion of graduates with doctoral degrees (360-Credits) was 0.1% (56 Students). They are no longer passive recipients of education but active consumers who evaluate institutions based on service quality, institutional credibility, relational engagement, and brand reputation (Mejía et al., 2025).

Brand loyalty has emerged as an important asset for private higher education institutions, as loyal students are more likely to persist with their studies, re-enrol for further qualifications, engage positively with institutional offerings, and generate favourable word-of-mouth recommendations (Rehman et al., 2025). Private higher education institutions differ from traditional consumer markets because they are shaped by an interplay of academic, relational, technological, and experiential factors that extend beyond transactional factors alone (Banu et al., 2024).

From a theoretical perspective, brand loyalty has been examined in marketing literature through frameworks such as the brand equity theory, relationship and marketing theory. However, applying these theories to higher education is complex. Unlike fast-moving consumer goods, higher education services are high-involvement, long-duration, reliance-based services, characterised by co-creation, emotional attachment, and identity formation.

Recent studies emphasise that student loyalty is influenced by both cognitive and affective evaluations, including perceived student quality, institutional trust, brand image, perceived value and the quality of student institutional relationships (Changwen et al., 2025). Recent empirical studies show that major brand-loyalty antecedents can explain substantial proportions of the variance in loyalty. For example, in a structural model of student brand loyalty, *satisfaction* exhibited a strong total effect ($\beta = 0.92$), and trust also showed a strong effect ($\beta = 0.84$), with the predictors explaining up to 92-95% of the variance in loyalty in some models (Todea et al., 2022).

Despite the growing importance of brand loyalty in higher education, empirical models tailored specifically for private higher education institutions, especially in South Africa, remain limited.

Against this background, this study seeks to empirically validate a theoretically grounded model to measure brand loyalty in South African private higher education institutions. By identifying and testing the key antecedents that influence student brand loyalty, the study contributes to both theory development and managerial practice.

2. THEORETICAL REVIEW

The theoretical basis of this study is grounded in four studies that successfully developed and developed researched brand loyalty models. The different application settings across these studies and their validity measures enhance the applicability of a similar methodology used in this study.

2.1. Model 1: Moolla's Brand Loyalty Model of Fast-moving Consumer Goods

Ahmed Moolla's (2010) original model aimed to develop a measure of brand loyalty in fast-moving consumer goods. Delving deep into the history and the evolution of brand loyalty since its conceptualisation in 1940, this study identified 19 brand loyalty models and identified 96 different validated brand loyalty antecedents from several studies (such as Aaker, 1996; Day, 1996; Goodyear, 1969; Guest, 1944; Jacoby and Chestnut, 1971; Chaudhuri and Holbrook, 2001; Dick and Basu, 1994; Rundle-Thiele, 2005; Punniyamoorthy and Raj, 2007 and others). These 96 antecedents were reduced to 12 commonly used antecedents, namely customer satisfaction, switching costs, brand trust, relationship proneness, involvement, perceived value, commitment, repeat purchase, brand effect, brand relevance and culture (Moolla and Bisschoff, 2012a).

The multidimensional nature of brand loyalty has been well established in the work of Moolla and Bisschoff (2012a; 2012b)

and later refined by Bisschoff (2015). This model has also been used successfully in several other studies to measure brand loyalty across other industries such as banking, club membership, crop production, livestock, agriculture and over-the-counter medicine (Bisschoff, 2015, 2022; Els, 2023; Hill, 2018; Joubert, 2020; Bisschoff and Du Plooy, 2014, and others).

The data were collected using a 50-question questionnaire and a 7-point Likert scale. The targeted sample of business managers completed 541 questionnaires. Three key fast-moving consumer goods were used to measure customers' brand loyalty (coffee, bread and milk). Statistically, there was no difference between the three datasets ($P \leq 0.05$), and the data were combined for final analysis (Moolla and Bisschoff, 2012b). The sample was adequate, as indicated by the Kaiser, Meyer and Olkin measure of adequacy (0.75), significant according to Bartlett's test of sphericity ($P \leq 0.05$), and reliable, as indicated by Cronbach's alpha ($\alpha = 0.81$). The measuring criteria were confirmed with exploratory factor analysis, and the Comparative Fit Index was satisfactory (CFI = 0.815). However, the exploratory study's Root Mean Squared Error of Approximation did not fit well (RMSEA = 0.131).

Moolla's fast-moving consumer goods model identified and measured the validity of the 12 selected brand-loyalty antecedents and their respective measurement criteria. As such, the model provided a strong theoretical basis of brand loyalty throughout its evolution since 1940. The model showed broad adaptability to other industries, including the services sector, such as banking and membership. This adaptability to services makes Moolla's findings noteworthy for a study of brand loyalty in higher education (Els, 2023; Joubert, 2020).

2.2. Model 2: Kumaresan and Chandramohan's Theoretical Framework of Brand Loyalty

The theoretical framework developed by Kumaresan and Chandramohan (2024) provides a conceptual examination of brand loyalty by analysing key theoretical perspectives and determinants that influence consumers' brand loyalty. The primary objective of the study was to investigate brand loyalty through a comprehensive review of scholarly literature and theoretical analysis of previously published research.

The study adopted a conceptual research approach informed by a systematic theoretical analysis to identify brand loyalty determinants (Kumaresan and Chandramohan, 2024). The study integrated previously validated research findings to provide a broader conceptual understanding of the factors that influence brand loyalty (Kaynak et al., 2008; Zikienė et al., 2024). This approach enabled the researchers to synthesise existing knowledge and develop a comprehensive theoretical framework outlining the major determinants of brand loyalty.

This study viewed brand loyalty as based on its traditional definition (Goodyear, 1969; Jacoby and Chestnut, 1971; Rundle-Thiele, 2005), namely that a consumer's favourable behavioural response toward a particular brand over time, reflecting both commitment and preference for that brand (Oliver, 1999; Dick and Basu, 1994). This behavioural response is shaped by psychological

and relational factors such as perceived value, brand identity, customer satisfaction and brand trust (Chaudhuri and Holbrook, 2001). According to Kumaresan and Chandramohan (2024), in line with earlier findings by other researchers (e.g., Rundle-Thiele, 2005; Punniyamoorthy and Raj, 2007), these factors collectively influence the development and maintenance of long-term relationships between consumers and brands (Morgan and Hunt, 1994). In support, Fournier (1998) emphasised that brand loyalty is often interpreted as a manifestation of strong consumer-brand relationships and that it is a key indicator of the strength of those relationships (Martensen, 2007). The framework further confirms Oliver's (1999) model stating that brand loyalty develops through four progressive stages: cognitive loyalty (the consumer's belief in the superiority of a brand), affective loyalty (the emotional attachment consumers develop toward the brand), conative loyalty (the intention to repurchase the brand), and action loyalty (the actual behavioural act of repeated purchase) (He et al., 2012).

Recent research (Zikienė et al., 2024; Patil et al., 2025) confirms that both rational and emotional components must be examined together to gain a holistic understanding of brand loyalty. These two modern studies confirmed that emotional attachment, customer engagement, and brand trust significantly strengthen consumer loyalty and long-term brand relationships. Furthermore, digital engagement and brand-consumer interactions through modern communication channels increasingly contribute to the formation of strong brand loyalty among consumers (Kumar et al., 2016; Nkosi, 2024). As such, the framework contributes to the theoretical understanding of brand loyalty by emphasising the combined influence of cognitive, emotional and behavioural drivers in sustaining consumer loyalty.

The findings confirmed that brand loyalty is influenced by a combination of cognitive, emotional and behavioural factors (Kumaresan and Chandramohan, 2024). The analysis revealed that customer trust, perceived value, brand identity, customer satisfaction and brand recognition play critical roles in shaping consumer loyalty toward brands (Oliver, 1999; Dick and Basu, 1994; Sivadas and Baker-Prewitt, 2000).

The study further concludes that brand loyalty is strengthened when consumers develop a strong emotional connection with a brand (Evanschitzky and Wunderlich, 2006). Emotional attachment, together with rational evaluation of the brand's benefits, contributes significantly to the development and maintenance of long-term brand loyalty (Patil et al., 2025). In addition, recent research suggests that innovative customer engagement strategies and loyalty programmes can further enhance both attitudinal and behavioural brand loyalty among consumers (Zikienė et al., 2024). The authors therefore emphasise that organisations should focus on building trust, strengthening brand equity and fostering emotional connections with customers to cultivate sustainable brand loyalty.

2.3. Model 3: Damaschi, Aboueldahab and D'Addario's Brand Loyalty Decomposition Model

Damaschi et al. (2025) examined brand loyalty by decomposing the behavioural and psychological components into subcomponents. This study investigated how brand loyalty relates to product price

range, consumer personality traits and consumers' willingness to pay premium prices for preferred brands.

This study employed a quantitative research design to examine the relationships between brand loyalty subcomponents, product price range, consumer personality traits and willingness to pay. Data were collected through a structured survey administered to consumers who reported their brand preferences and purchasing behaviours across different product categories (Damaschi et al., 2025), measuring the attitudinal and behavioural aspects of brand loyalty, consumer personality traits, and respondents' willingness to pay premium prices for preferred brands.

Brand loyalty has traditionally been conceptualised as a multidimensional construct involving both attitudinal and behavioural elements (Oliver, 1999; Chaudhuri and Holbrook, 2001). Building on this perspective, Damaschi et al. (2025) proposed that brand loyalty can be better understood by analysing its individual subcomponents and how each interacts with consumers' personality characteristics and price perceptions. As such, this approach aimed to comprehensively understand the psychological mechanisms that influence consumers' loyalty toward specific brands.

The model further emphasises the role of personality traits in shaping brand preferences and loyalty behaviours. Personality dimensions such as conscientiousness, energy, and emotional stability may influence how consumers evaluate brands and their willingness to maintain long-term relationships with preferred brands (Damaschi et al., 2025). In addition, the study highlights the importance of willingness to pay as a behavioural indicator of brand loyalty, suggesting that highly loyal consumers are more likely to accept higher prices for brands they trust and value (Keller, 2008).

The relevance of this model lies in its integration of psychological variables with economic and behavioural outcomes. By linking personality traits, price perceptions and loyalty components, the model contributes to a deeper understanding of the drivers of brand loyalty in contemporary consumer markets.

The findings confirmed that brand loyalty comprises multiple subcomponents that interact with consumers' personality traits and economic considerations. The results also identified personality characteristics that significantly influence consumers' loyalty behaviours and their willingness to pay higher prices for preferred brands (Damaschi et al., 2025). The results show that consumers who exhibit stronger attitudinal loyalty are more likely to demonstrate behavioural loyalty, including repeat purchases and a willingness to pay premium prices. The analysis indicated that the relationship between brand loyalty and willingness to pay varies across price ranges, suggesting that loyalty manifests differently depending on the brand's perceived value and market positioning, and by doing so, supports earlier findings of Chaudhuri and Holbrook (2001) and Keller (2008) in a modern application setting.

Overall, the model demonstrates that brand loyalty is a complex construct influenced by psychological, behavioural and economic

factors. These findings highlight the importance of consumer personality characteristics and value perceptions in brand loyalty strategies, and to encourage consumers to pay more for premium brands.

2.4. Model 4: Sari, Artha and Hadi's Brand Loyalty Literature Review Model

The authors Sari et al. (2023) re-examined brand loyalty by analysing the key determinants and theoretical perspectives of existing brand loyalty models. Their aim was to identify brand loyalty variables by synthesising existing research to better understand the factors that drive consumer loyalty.

This study adopted a qualitative research design using a systematic literature review approach. Sari et al. (2023) conducted a literature review analysing 22 scholarly articles from reputable journals and databases to identify the main determinants of brand loyalty and to synthesise these into a conceptual framework of brand loyalty factors. The selected articles were carefully reviewed to identify recurring themes, theoretical constructs and empirical findings related to brand loyalty. Bibliographic references within the articles were also examined to ensure the completeness and validity of the review and to minimise the possibility of omitting important studies. This approach enabled the researchers to synthesise existing knowledge and identify key variables associated with brand loyalty. This systematic literature review methodology enabled the authors to evaluate and summarise previous research findings, providing a comprehensive understanding of the factors influencing brand loyalty across different contexts and industries.

Researchers have historically identified several brand loyalty factors since the 1940s (Moolla, 2010), as brand loyalty confers a significant competitive advantage, and contributes to sustained profitability and long-term business performance (Aaker and McLoughlin, 2010). Loyal customers tend to demonstrate stronger repurchase behaviour (Ballantyne et al., 2006; Keller, 2008), positive word-of-mouth communication (Trinh and Dawes, 2020) and resistance to competitive marketing efforts (Roy et al., 2014).

The study focused on the two traditional primary dimensions of brand loyalty, namely attitudinal loyalty (the psychological commitment and emotional attachment consumers develop toward a brand) and behavioural loyalty (the repeated purchase behaviour of consumers over time) (Yeh et al., 2016). However, in their analysis, the authors identified six factors influencing brand loyalty. These include brand satisfaction, brand identity, relationship commitment, brand trust, emotional attachment, and positive consumer attitudes (Keller, 2008). Brand satisfaction, brand identity, and relationship commitment all contribute to developing long-term consumer-brand relationships by strengthening trust, emotional attachment, and positive attitudes, with customer satisfaction as a mediating variable. The model therefore provides a comprehensive overview of the theoretical determinants that shape brand loyalty and highlights the importance of customer relationship management in sustaining loyal customer bases.

The review further suggests that brand loyalty has significant implications for business performance. Loyal customers are

more likely to engage in positive word-of-mouth communication, demonstrate lower sensitivity to price changes and resist switching to competing brands (Roy et al., 2014; Kim et al., 2020). As a result, organisations that successfully cultivate brand loyalty can achieve greater market stability and sustained profitability.

Additionally, the study highlights that brand loyalty can influence other variables such as affective place image and consumer attitudes toward brands. The authors conclude that organisations should prioritise strategies that enhance customer satisfaction, strengthen brand identity, and build strong relational bonds with consumers to maintain long-term brand loyalty.

2.5. Synthesis of Brand Loyalty Models

The four models reviewed in this study collectively provide a comprehensive theoretical foundation for understanding the determinants and dynamics of brand loyalty. Although the studies differ in their research designs, industry contexts and analytical approaches, they converge on several key determinants that consistently influence the development and maintenance of brand loyalty.

Moolla's empirical model provides one of the most comprehensive measures of brand loyalty by identifying 12 validated antecedents, drawn from an extensive review of historical research on brand loyalty. These antecedents highlight the importance of customer satisfaction, perceived value, switching costs, commitment and brand trust as fundamental drivers of consumer loyalty. The model further demonstrates that brand loyalty is not limited to consumer goods markets but can be applied across various industries, including service sectors such as banking and membership organisations.

Complementing this empirical perspective, the conceptual framework developed by Kumaresan and Chandramohan emphasises the psychological and relational dimensions of brand loyalty. Their framework confirms that brand loyalty develops through the progressive stages of cognitive, affective, conative and action loyalty, as proposed by Oliver. This progression illustrates how consumers first evaluate brands rationally, then develop emotional attachment, then form purchase intentions, and ultimately repeat purchasing behaviour. The framework, therefore, highlights the importance of both rational evaluation and emotional engagement in fostering long-term consumer-brand relationships.

The behavioural decomposition model proposed by Damaschi et al. extends this understanding by linking loyalty to economic and psychological factors, particularly consumer personality traits and willingness to pay premium prices for preferred brands. Their findings demonstrate that highly loyal consumers often display stronger behavioural commitment and greater price tolerance, suggesting that loyalty is closely associated with perceived brand value and market positioning.

The literature review conducted by Sari et al. further consolidates these perspectives by identifying six key determinants that consistently influence brand loyalty, namely brand satisfaction, brand identity, relationship commitment, brand trust, emotional

attachment, and positive consumer attitudes. These determinants underscore the importance of relationship-based marketing strategies that strengthen the emotional and psychological bonds between consumers and brands.

Collectively, these models confirm that brand loyalty is a multidimensional construct influenced by cognitive, emotional, relational and behavioural factors. Despite differences in methodological approaches, the studies consistently highlight the central role of customer satisfaction, brand trust, perceived value and emotional attachment in fostering sustained consumer loyalty. These insights provide a strong theoretical foundation for the present study and support the selection of key brand-loyalty determinants examined in the context of higher education.

2.6. Linking the Brand Loyalty Theory to Higher Education

Although brand loyalty has traditionally been studied in consumer goods and service industries, the fundamental principles underlying loyalty formation are equally applicable to higher education institutions. Universities increasingly operate in competitive environments where students are viewed as long-term stakeholders whose perceptions, experiences and relationships with institutions influence institutional reputation, student retention and alumni engagement (Annamdevula and Bellamkonda, 2016). Like consumers in commercial markets, students develop loyalty toward educational institutions based on their satisfaction with the educational experience, as satisfied students are more likely to maintain positive attitudes toward the institution and demonstrate continued commitment and advocacy (Mesta, 2019; Changwen et al., 2025). Emotional attachment and institutional identification may further strengthen this loyalty as students form personal connections with the institution's culture, reputation and academic community (Helgesen and Nettet, 2007). In this context, determinants such as customer satisfaction, perceived value, brand trust, relationship commitment and emotional attachment become particularly relevant in explaining how loyalty toward higher education institutions develops. Drawing on insights from the four brand loyalty models reviewed above, this study examines these determinants in the higher education environment to better understand the factors that influence institutional brand loyalty among students (Figure 1).

2.7. Problem Statement

Brand loyalty has been researched in consumer goods and service marketing literature where it is conceptualised as a multi-dimensional construct encompassing behavioural commitment, attitudinal attachment, and resistance to competitive alternatives. There are brand loyalty models that have been examined in other sectors but have not yet been conceptualised in private higher education, for example. Recent advances in brand loyalty research propose more comprehensive and integrative models that go beyond the traditional satisfaction-loyalty link. For example, a meta-model consolidates 275 antecedents into four overarching constructs: brand offer, consumer-brand alignment, brand experience, and consumer-brand bonding, showing how these

interact to shape loyalty outcomes (Desveaud et al., 2024). This integrative model demonstrates that loyalty is shaped not only by satisfaction and trust but also by experiential and relational bonding mechanisms operating simultaneously within a structural system. Similarly, Helgesen and Nettet (2007) highlight the growing importance of experiential and affective brand dimensions in shaping long-term loyalty outcomes.

Private higher education institutions in South Africa face increasing pressure to attract and retain students in a highly competitive educational marketplace. While increasing student numbers remains a priority, long-term sustainability increasingly depends on the institution's ability to maintain loyal relationships with its students. Many private institutions are aware of the importance of brand loyalty but lack empirically validated measurement models that capture the specific antecedents driving brand loyalty in a higher education context. Existing brand loyalty models are adapted from commerce and industry and may not adequately reflect the complex nature of higher education institutions, where trust, academic credibility, and relational engagement are critical (Rehman et al., 2025).

The problem addressed in this study is therefore the absence of a validated context-specific theoretical model to measure brand loyalty of private higher education institutions in South Africa. Without such a model, managers of private higher-education institutions lack a reliable framework for diagnosing drivers of loyalty, evaluating institutional performance, and implementing targeted interventions to strengthen student loyalty.

2.8. Research Objectives

The primary objective is to empirically validate a theoretical model to measure brand loyalty at a private higher education institution in South Africa.

The secondary objective is to determine if significant relationships exist between the selected antecedents and brand loyalty.

2.9. Research Hypotheses

The following hypotheses articulated objectives:

- H_0 : No significant positive relationships exist between the antecedents and brand loyalty of a private higher education institution
- H_1 : A significant positive relationship exists between the antecedent Customer satisfaction and Brand loyalty of a private higher education institution
- H_2 : A significant positive relationship exists between the antecedent Switching costs and Brand loyalty of a private higher education institution
- H_3 : A significant positive relationship exists between the antecedent Brand trust and Brand loyalty of a private higher education institution
- H_4 : A significant positive relationship exists between the antecedent Service quality and Brand loyalty of a private higher education institution
- H_5 : A significant positive relationship exists between the antecedent Brand involvement and Brand loyalty of a private higher education institution

- H_6 : A significant positive relationship exists between the antecedent Customer relationships and Brand loyalty of a private higher education institution
- H_7 : A significant positive relationship exists between the antecedent Brand image and Brand loyalty of a private higher education institution
- H_8 : A significant positive relationship exists between the antecedent Waiting time and Brand loyalty of a private higher education institution
- H_9 : A significant positive relationship exists between the antecedent Dependability and reliability on and Brand loyalty of a private higher education institution
- H_{10} : A significant positive relationship exists between the antecedent Perceived value and Brand loyalty of a private higher education institution
- H_{11} : A significant positive relationship exists between the antecedent Technology and Online learning and Brand loyalty of a private higher education institution.

3. RESEARCH METHODOLOGY

This study used a positivist epistemological paradigm and assumed that reality is objective, observable, and independent of the researcher's perceptions. Positivism is grounded in a realist ontology, asserting that reality consists of discrete phenomena that can be perceived and measured through human senses (Karupiah, 2022; Creswell and Creswell, 2023). From this perspective, knowledge is considered value-free, objective, and discoverable through systematic empirical investigation, with the researcher remaining independent from the object of study (Wati, 2024).

Consistent with this paradigm, the study prioritised observable and measurable phenomena, reflecting the positivist view that scientific knowledge is derived exclusively from empirical evidence (Ali, 2024). Objectivity was maintained with structured measurement instruments and a clear separation between the researcher and the participants. Hypotheses were tested using established statistical procedures to generate empirically verifiable findings that contribute to theory development and validation (Park et al., 2020).

In accordance with these positivist methodological principles, data were collected using a structured questionnaire incorporating a five-point Likert scale. Inferential statistical techniques were employed to examine relationships among variables and to test model parameters. Exploratory factor analysis assessed the validity of the measurement criteria for each antecedent, thereby reducing model complexity. The use of a large sample, quantitative analysis, and statistical inference ensured generalisability, replicability, and the identification of causal relationships, consistent with a positivist mode of scientific inquiry (Alhoussawi, 2023; Creswell and Creswell, 2023).

The sample size was calculated using Cochran's (1977) formula. The population is undefined. In such cases, Cochran's formula incorporates the maximum variability to determine the proportion. Hence, at the 95% confidence interval with 5% margin of error, the minimum sample required is 385 ($Z = 1.96$; $P = 0.5$). This study exceeded the required minimum responses by collecting 399

completed questionnaires. However, only 376 of these respondents (94.2%) provided informed consent and were therefore eligible for inclusion in the study. As such, the 23 questionnaires from respondents who did not consent to the use of their data were excluded from the study. Subsequent data screening and cleaning procedures did not find any other unusable or incomplete questionnaires.

The data analysis was conducted using IBM SPSS Statistics (Version 31) (IBM Corp., 2025). The analyses include normality tests (kurtosis and skewness), reliability (Cronbach's coefficient alpha), sample adequacy (Kaiser's criterion), sphericity (Bartlett's test) and structural validity (exploratory factor analysis) (Nag et al., 2025; Field, 2017; Cassim et al., 2024; Cortina, 1993; Imandin et al., 2016; Pallant, 2020; Tshivhase and Bisschoff, 2023).

4. RESULTS

4.1. Suitability of the data

4.1.1. Cleaning of the data

Following the procedure outlined by Nag et al. (2025), the dataset was cleaned using a three-step process to enhance data quality and eliminate potential errors. First, minimum and maximum values were examined to identify data-capturing errors and to remove any values falling outside the defined Likert-scale range (Pallant, 2020). Second, missing values were systematically screened and statistically imputed using IBM SPSS (Version 31) to ensure compatibility with IBM AMOS for the computation of modification indices during structural model development (Arbuckle, 2021; IBM Corp., 2025). Finally, the dataset was examined for any remaining inconsistencies or anomalies, which were corrected where necessary. Following this data-cleaning process, all 376 responses were retained and deemed suitable for subsequent analysis.

4.1.2. Normal distribution of data

Data normality refers to the extent to which a data distribution deviates from a normal distribution. Perfectly normal data have kurtosis and skewness values of zero (Field, 2017). Table 1 presents the normality statistics. Several variables exhibit questionable skewness and kurtosis.

The analysis shows that the data exhibit leptokurtic kurtosis (McLeod, 2023). The distributions (with positive kurtosis for most variables) range from -1.05 to 8.44 . This means that the responses are tightly clustered with limited dispersion, reflecting respondent consensus rather than randomness. According to Hair et al. (2019), a kurtosis <7.0 is a conservative guideline for data acceptability. In support, Kline (2016) sets the kurtosis guideline for usable data at 10. Kline (2016) also notes that data with a kurtosis of 10 are suitable for structural equation modelling and confirmatory factor analysis. Guideline. The highest kurtosis value (8.44) remains below 10; hence, the data's kurtosis is acceptable (Van den Berg, 2020).

The skewness profile shows moderate-to-high negative skewness, ranging from -0.31 to -2.51 . This indicates that responses are concentrated at the upper end of the scale (4-5), indicating strong agreement and positive perceptions. This phenomenon is common

Table 1: Normality statistics, means and standard deviations

Measuring Criteria	n	Minimum	Maximum	Mean	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Standard error	Statistic	Standard error
CS Service delivery	376	1	5	4.65	-2.282	0.126	7.717	0.251
CS Correct choice	376	1	5	4.73	-2.511	0.126	8.436	0.251
CS Positive WOM	376	1	5	4.70	-2.163	0.126	6.731	0.251
CS Programme added value	376	1	5	4.63	-1.699	0.126	3.470	0.251
SQ Student support	376	1	5	4.55	-1.546	0.126	3.127	0.251
SQ Academics accessible	376	1	5	4.65	-2.195	0.126	7.244	0.251
SQ Feedback on assessments	376	1	5	4.59	-1.904	0.126	5.501	0.251
SQ Cafeteria	376	1	5	4.23	-0.731	0.126	-0.275	0.251
Tech Online portal and website	376	1	5	4.68	-2.271	0.126	6.168	0.251
Tech Assignment download and submission	376	1	5	4.70	-2.175	0.126	6.201	0.251
Tech Website academic info	376	1	5	4.67	-2.103	0.126	5.876	0.251
Tech Communication	376	1	5	4.51	-2.049	0.126	4.933	0.251
Trust Institution brand	376	1	5	4.65	-2.137	0.126	7.054	0.251
Trust Delivered on promise	376	1	5	4.59	-2.217	0.126	7.512	0.251
Trust Recommend brand	376	1	5	4.65	-2.227	0.126	7.153	0.251
Trust Brand confidence	376	1	5	4.62	-1.608	0.126	3.592	0.251
Trust Switch brand	376	1	5	3.47	-0.311	0.126	-1.047	0.251
Trust Enrol again	376	1	5	4.48	-1.744	0.126	2.971	0.251
BI Positive brand	376	1	5	4.58	-1.853	0.126	5.308	0.251
BI Good image	376	1	5	4.57	-1.468	0.126	3.341	0.251
BI Reputation	376	1	5	4.60	-1.578	0.126	3.906	0.251
BI Long-term relationship	376	1	5	4.57	-1.471	0.126	3.078	0.251
SC High cost implications	376	1	5	4.11	-1.116	0.126	0.685	0.251
SC Effort	376	1	5	4.14	-1.172	0.126	0.965	0.251
SC Risk	376	1	5	4.05	-1.072	0.126	0.647	0.251
SC Economic conditions	376	1	5	3.74	-0.608	0.126	-0.390	0.251
SC Losing benefits	376	1	5	4.23	-1.416	0.126	1.854	0.251
BI increases interest	376	1	5	4.45	-1.654	0.126	3.739	0.251
BI Low involvement leads to other brands	376	1	5	3.81	-0.624	0.126	-0.340	0.251
BI Choice is influenced by involvement	376	1	5	3.98	-0.944	0.126	0.214	0.251
WT Student queries	376	1	5	4.46	-1.600	0.126	3.472	0.251
WT Account statements	376	1	5	4.51	-1.354	0.126	2.147	0.251
WT Assessment results	376	1	5	4.56	-1.731	0.126	4.087	0.251
WT Study info	376	1	5	4.53	-1.882	0.126	4.868	0.251
WT Admission	376	1	5	4.59	-1.567	0.126	3.564	0.251
DR Brand dependable	376	1	5	4.50	-1.602	0.126	3.444	0.251
DR Brand reliable	376	1	5	4.57	-1.885	0.126	5.378	0.251
DR Brand is well recognised	376	1	5	4.49	-1.606	0.126	3.295	0.251
PV Price=Value	376	1	5	4.49	-1.494	0.126	3.022	0.251
PV Received what was advertised	376	1	5	4.46	-1.582	0.126	4.049	0.251
PV V Brand experience	376	1	5	4.18	-0.938	0.126	0.731	0.251
PV Address complaints	376	1	5	4.24	-0.905	0.126	0.518	0.251
PV Customer-focused service	376	1	5	4.41	-1.394	0.126	3.182	0.251
PV Maintains contact	376	1	5	4.43	-1.638	0.126	3.892	0.251
PV Feedback on surveys	376	1	5	4.37	-1.574	0.126	3.231	0.251

in service quality, branding and performance measurement research (Hair et al., 2019; Parasuraman et al., 1988).

The negatively skewed distributions observed in the service quality and related perceptual measures are consistent with established trends in service quality research. Studies employing Likert-type scales to assess service performance, satisfaction, trust, and brand-related constructs frequently report response clustering toward the upper end of the scale, reflecting generally favourable evaluations by respondents (Parasuraman et al., 1988; Hair et al., 2019). (This is evident from the high mean values in the table). One possible reason is that dissatisfied respondents simply do not participate in the surveys. Such distributions are particularly common in studies involving existing customers or students, where continued engagement implies a baseline level of satisfaction.

Methodological literature further notes that moderate departures from normality, including negative skewness and positive kurtosis, are theoretically expected and do not compromise the validity of large-sample structural equation modelling, given the robustness of maximum likelihood estimation under these conditions (Byrne, 2016; Kline, 2016).

The data are, according to Kline (2016), acceptable because the skewness is <3.0. The data does not exceed this threshold; hence, it is usable. The data can also be used in multivariate statistics (such as structural equation modelling). In support, the Central Limit Theorem states that skewness is not problematic for large samples ($N > 20$); this study's sample was 376 (IBM Corp., 2025; Bisschoff and Tshivhase, 2024). As such, skewness is within acceptable parameters, and the data is suitable for further analysis.

Given the relatively large sample size ($n = 376$) and the robustness of maximum likelihood estimation to moderate violations of normality, the observed deviations from univariate normality were considered acceptable for subsequent confirmatory factor analysis and structural modelling (Byrne, 2016).

4.1.3. Sample adequacy, sphericity and reliability

Table 1 shows that the data is usable. However, only suitable data can be used in multivariate analysis. The sample must be adequate (possessing sufficient data entries) (as per the Kaiser, Meyer and Olkin test), be significant at the 95% confidence level (as measured by the sphericity with Bartlett's test), and possess sufficient reliability (Cronbach's coefficient alpha). Table 2 shows the sample adequacy, sphericity and reliability of the data (Field, 2017; Hair et al., 2019; Pallant, 2020).

Table 3 presents the results of the reliability and factorability assessments. The measurement scale demonstrated excellent internal consistency, with a Cronbach's alpha of 0.933, exceeding the recommended threshold of 0.70 (Field, 2017). Sampling adequacy was confirmed by a Kaiser-Meyer-Olkin (KMO) measure of 0.963, indicating superb suitability for factor analysis. Bartlett's test of sphericity was statistically significant ($P \leq 0.001$), confirming that the correlation matrix was not an identity matrix ($\chi^2[990] = 14599,746$, $P \leq 0.001$). Furthermore, the rule of thumb is that factor analysis should account for at least 50% (preferably 60%) of the variance. In this case, the extracted factors accounted for 67.98% of the total variance, exceeding the recommended minimum level for

social science research (Nag et al., 2025). Collectively, these results confirm that the data were appropriate for subsequent factor and structural equation modelling analyses (Hair et al., 2019; Field, 2017).

4.2. Validity of the Data

Several studies (Nag et al., 2025; Rehman et al., 2025; Imandin et al., 2016; Bisschoff and Salim, 2014; Moolla and Bisschoff, 2012a,b) confirmed theoretical construct validity by testing the criteria and antecedents with exploratory factor analysis. A varimax rotation was used because this rotation maximises the total variance explained (Maskey et al., 2021; Field, 2017). Table 3 shows the exploratory factor analysis results. The table also shows each criterion's factor loading, the factor's reliability, the variance explained and each factor's name.

All the criteria measuring the respective antecedents show high validity. All the criteria load onto each antecedent, showing that no sub-antecedents exist and that the criteria indeed measure the specific antecedent. These factor loadings all exceed the required 0.35, with most exceeding 0.70. Only one criterion has a questionable factor loading: The Brand trust criterion, BTS05, which concerns switching brands when the opportunity arises (0.174). Further investigation showed that removing this criterion as a measure of Brand trust increases Cronbach's alpha from 0.668 to 0.882. Based on this supportive evidence, the criterion BTS05 was removed from the empirical model.

4.3. Significance of the Relationships

Pearson correlation coefficients were calculated to assess the significance of relationships between antecedents and brand loyalty. The correlation coefficients also determined relationships between the antecedents. Table 4 shows that strong positive significant relationships exist between the antecedents and ($P \leq 0$; $r \geq 0.50$) (Field, 2017). Likewise, significant strong, positive relationships exist among the antecedents (Figure 2).

Table 2: Reliability, sample adequacy, sphericity and variance explained

Cronbach's alpha (Reliability)	KMO (Sample adequacy)	Bartlett (Sphericity)
0.933	0.963	$P \leq 0.001$

$n=376$; items=45

Table 3: Factors and factor loadings

Antecedent	Customer service	Service quality	Technology	Brand image	Dependable/ Reliable	Customer relationships
Factor loadings	CUS01 0.841 CUS02 0.906 CUS03 0.871 CUS04 0.746	SQR01 0.846 SQR02 0.852 SQR03 0.858 SQR04 0.699	TOL01 0.900 TOL02 0.855 TOL03 0.872 TOL04 0.788	BI01 0.885 BI02 0.927 BI03 0.898 BI04 0.873	DR01 0.882 DR02 0.946 DR03 0.874	CR01 CR02 CR03 CR04
Sphericity	$P < 0.001$	$P < 0.001$	$P < 0.001$	$P < 0.001$	$P < 0.001$	$P < 0.001$
Sample adequacy	0.805	0.794	0.822	0.836	0.679	0.841
Variance explained (%)	71.1	66.7	73.06	80.32	81.1	77.0
Reliability	0.859	0.815	0.865	0.917	0.881	0.784
Antecedent	Perceived value	Waiting time	Brand involvement	Trust	Switching cost	
Factor loadings	PVL01 0.926 PVL02 0.907 PVL03 0.700	WT01 0.822 WT02 0.830 WT03 0.878 WT03 0.872 WT04 0.891	INV01 0.738 INV02 0.836 INV03 0.860	BTS01 0.896 BTS02 0.851 BTS03 0.928 BTS04 0.855 BTS05 0.174* BTS06 0.773	SC1 0.851 SC2 0.863 SC3 0.873 SC4 0.660 SC5 0.788	
Sphericity	$P < 0.001$	$P < 0.001$	$P < 0.001$	$P < 0.001$	$P < 0.001$	
Sample adequacy	0.613	0.893	0.655	0.868	0.834	
Variance explained (%)	66.7	73.79	66.12	63.31	65.15	
Reliability	0.784	0.909	0.739	0.882	0.880	

*Removed from the model

Table 4: Pearson correlations between the antecedents and brand loyalty

Brand Loyalty Antecedents	Customer satisfaction	Service quality	Tech	Trust	Image	Switching cost	Involvement	Waiting time	Depend and reliable	Perceived value	Customer relations	Brand loyalty
Customer satisfaction												
Correlation	1	0.764**	0.719**	0.836**	0.802**	0.355**	0.420**	0.649**	0.699**	0.594**	0.662**	0.824**
Sig. (2-tailed)		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
n	376	376	376	376	376	376	376	376	376	376	376	376
Service quality												
Correlation	0.764**	1	0.725**	0.759**	0.768**	0.390**	0.435**	0.697**	0.651**	0.587**	0.693**	0.826**
Sig. (2-tailed)	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
n	376	376	376	376	376	376	376	376	376	376	376	376
Technology												
Correlation	0.719**	0.725**	1	0.738**	0.687**	0.349**	0.434**	0.666**	0.635**	0.602**	0.654**	0.797**
Sig. (2-tailed)	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
n	376	376	376	376	376	376	376	376	376	376	376	376
Trust												
Correlation	0.836**	0.759**	0.738**	1	0.854**	0.370**	0.477**	0.711**	0.750**	0.660**	0.701**	0.868**
Sig. (2-tailed)	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
n	376	376	376	376	376	376	376	376	376	376	376	376
Image												
Correlation	0.802**	0.768**	0.687**	0.854**	1	0.418**	0.511**	0.712**	0.740**	0.650**	0.694**	0.870**
Sig. (2-tailed)	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
n	376	376	376	376	376	376	376	376	376	376	376	376
Switching cost												
Correlation	0.355**	0.390**	0.349**	0.370**	0.418**	1	0.483**	0.424**	0.400**	0.432**	0.448**	0.610**
Sig. (2-tailed)	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
n	376	376	376	376	376	376	376	376	376	376	376	376
Involvement												
Correlation	0.420**	0.435**	0.434**	0.477**	0.511**	0.483**	1	0.527**	0.484**	0.578**	0.549**	0.694**
Sig. (2-tailed)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001
n	376	376	376	376	376	376	376	376	376	376	376	376
Waiting time												
Correlation	0.649**	0.697**	0.666**	0.711**	0.712**	0.424**	0.527**	1	0.761**	0.694**	0.732**	0.849**
Sig. (2-tailed)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001
n	376	376	376	376	376	376	376	376	376	376	376	376
Dependable and reliable												
Correlation	0.699**	0.651**	0.635**	0.750**	0.740**	0.400**	0.484**	0.761**	1	0.677**	0.700**	0.839**
Sig. (2-tailed)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001
n	376	376	376	376	376	376	376	376	376	376	376	376
Perceived value												
Correlation	0.594**	0.587**	0.602**	0.660**	0.650**	0.432**	0.578**	0.694**	0.677**	1	0.777**	0.823**
Sig. (2-tailed)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001
n	376	376	376	376	376	376	376	376	376	376	376	376
Customer relationship												
Correlation	0.662**	0.693**	0.654**	0.701**	0.694**	0.448**	0.549**	0.732**	0.700**	0.777**	1	0.860**
Sig. (2-tailed)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001
n	376	376	376	376	376	376	376	376	376	376	376	376
Brand loyalty												
Correlation	0.824**	0.826**	0.797**	0.868**	0.870**	0.610**	0.694**	0.849**	0.839**	0.823**	0.860**	1
Sig. (2-tailed)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
n	376	376	376	376	376	376	376	376	376	376	376	376

**Correlation is significant at the 0.01 level (2-tailed)

4.4. Demographic Profile of Respondents

The gender distribution shows that more women (59.4%) than men (34.6%) completed the questionnaire. Only one respondent (0.3%) identified as transgender. Nobody preferred not to disclose their gender identity. Regarding respondents' age, most are under 40 years old (72.4%). 23.3% are between 40 and 50 years old, while only one (0.3%) is older than 60. Table 5 shows the respondents' province of residence.

As expected, most respondents reside in the Gauteng province (32.3%), followed by KwaZulu-Natal (16.5%). The Western Cape and Eastern Cape account for 8.5% and 8.3%, respectively, while respondents from all other provinces contributed <6% of the responses.

Table 6 shows the respondents' employment industry.

Most of the respondents are employed in human resources (23.1%), followed by the insurance industry (9.3%) and education (8.5%). The retail and financial alumni represent 5.5% each, while health workers account for 4.3% of the respondents. All other industries are poorly represented among the remaining respondents (below 4%).

The hypothesis developed for this study was tested to examine the factors influencing student brand loyalty in private higher education institutions. Hypothesis testing was conducted using inferential statistical techniques consistent with a positivist research design. All hypotheses were evaluated at the 5% significance level ($\alpha = 0.05$). A hypothesis was accepted when the statistical analysis yielded a p-value <0.05, indicating a statistically significant relationship between the antecedents and student brand loyalty.

5. DISCUSSION

The findings of this study provide empirical support for the proposed theoretical model measuring brand loyalty in private higher education institutions. Among the analysed antecedents,

customer satisfaction, perceived value, service quality, brand trust and brand image showed significant positive relationships with brand loyalty. These results are consistent with recent empirical research demonstrating that student loyalty is a multifaceted construct driven by both affective and cognitive evaluations of the institutions (Kayal and Billah, 2026).

The positive influence of perceived service quality and satisfaction on brand loyalty aligns with prior literature, which identified high service quality as a key driver of student retention (Del Rio-Rama et al., 2021). Brand image and institutional reputation were seen as strong predictors of loyalty.

The preliminary analysis confirmed that the data were suitable for multivariate analysis and structural modelling. Despite negative

Table 5: Province of residence

Province	n	%
Gauteng	129	32.3
Kwa-Zulu Natal	66	16.5
Western Cape	36	9.0
Eastern Cape	34	8.5
North West	33	8.3
Free State	22	5.5
Mpumalanga	22	5.5
Limpopo	18	4.5
Northern Cape	16	4.0

n=376

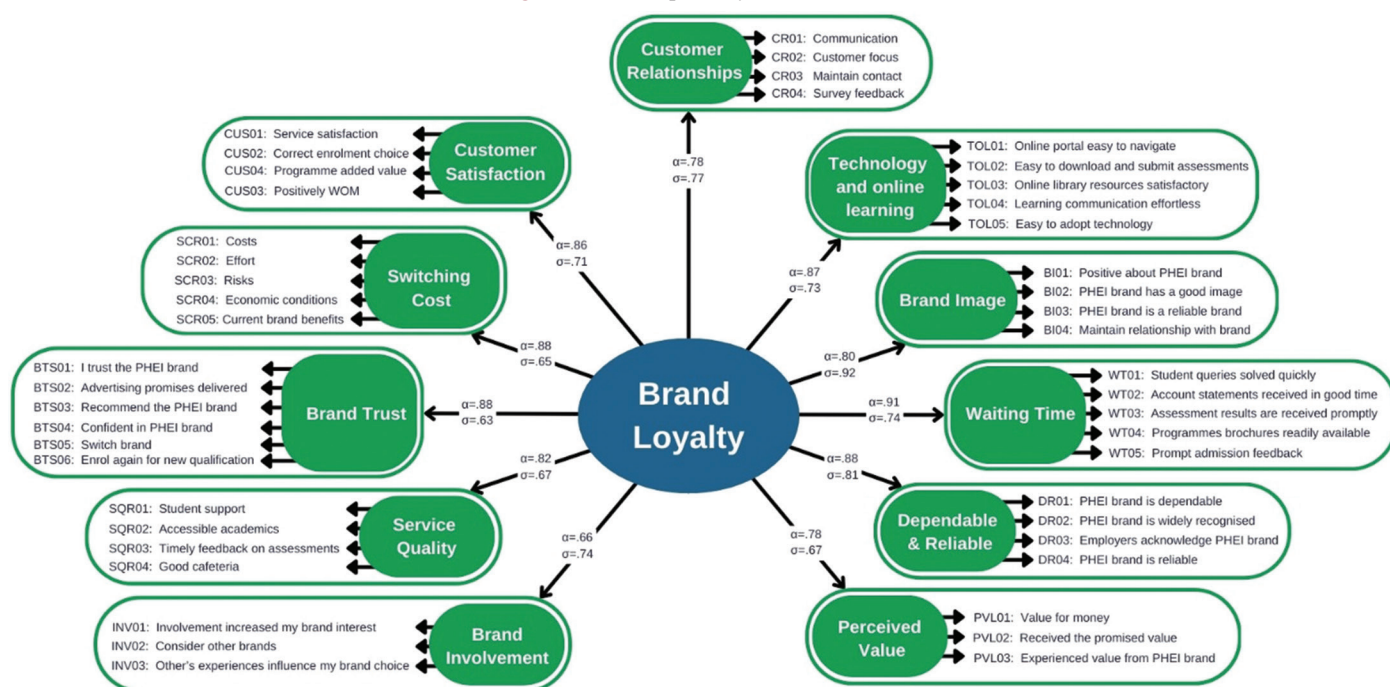
Table 6: Employment industry

Industry	n	%
Human Resources	92	23.1
Insurance	37	9.3
Education	34	8.5
Financial	22	5.5
Retail	22	5.5
Health Care	17	4.3
All other industries	152	40.4%

Figure 1: Theoretical brand loyalty model



Figure 2: The empirically validated model



skewness and leptokurtic kurtosis across several variables, these deviations from univariate normality were within acceptable thresholds for large-sample analysis. The observed skewness reflects substantive rather than methodological concerns. The high mean scores and negatively skewed distributions across service quality, satisfaction, trust and brand image indicate a strong concentration of positive student perception.

The measurement instrument indicated excellent psychometric properties. The overall Cronbach's alpha of 0.933 indicates a high level of internal consistency, confirming that the scale reliably measures the underlying constructs. Sample adequacy was confirmed by a high KMO value of 0.963, which falls within the excellent category, indicating that correlations among items are strong. The statistical significance of Bartlett's test of sphericity further confirms that the correlation matrix is factorable and appropriate for exploratory factor analysis. It provided strong evidence of construct validity.

The correlation analysis revealed strong, positive and statistically significant relationships among all antecedents. These findings suggest that student perceptions of service quality, technology, trust, brand image, perceived value, customer relationships and waiting time are not independent but form an interconnected perceptual system.

6. CONCLUSION

This study set out to develop and empirically validate a comprehensive theoretical model for measuring brand loyalty in South African private higher education institutions. Using a quantitative design and robust multivariate statistical techniques, the study provides strong empirical evidence that student brand loyalty is shaped by a combination of service-related, relational and technological antecedents.

The empirical findings demonstrate that customer satisfaction, service quality, brand trust, brand image, perceived value, customer relationships, dependability and reliability, technology, waiting time, switching costs, and brand involvement show strong, statistically significant positive relationships with brand loyalty. These results support the proposed theoretical model and confirm that loyalty in private higher education institutions extends beyond academic roles.

From a managerial perspective, the findings provide institutional leaders with a diagnostic framework to assess drivers of loyalty and prioritise strategic interventions. Overall, the study successfully validates a theoretically grounded and empirically supported model for measuring brand loyalty in private higher education, thereby advancing scholarship and providing practical value for institutional policy formulation.

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