

BUILDING A STRONG BRAND IDENTITY FOR COMPETITIVE ADVANTAGE: A STRUCTURAL ANALYSIS OF UNIVERSITY COMPETITIVE FACTORS AND COMPETITIVENESS.

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Abstract

The competitive dynamics in higher education, globally, is transforming competitiveness in the sector such that it is no longer solely based on academic excellence but also has a touch of strategic branding that include brand identity and definition. The study forms part of a broader doctoral research that examine the competitiveness of Nigerian universities. Using a quantitative design, the current study investigates how university competitive factors influence university competitiveness through brand identity and definition. The data used in the study were extracted from the initial research. The dataset comprised of 565 observations, out of which, 207 were respondents from Nigeria's federal universities and represents the sample size for the current study. The data was analyzed using partial least square structural equation modeling (PLS-SEM). Although a few of the results yielded unexpected outcomes, the findings underscore the significance of these factors in brand building; demonstrating how institutional competencies can be transformed into symbolic and distinctive brand identity for competitiveness in the higher education market.

Keywords: Brand Identity and Definition, University Competitiveness, Competitive Factors, Competitive Advantage.

1.0 INTRODUCTION

The competitive dynamics in higher education, globally, is transforming competitiveness in the sector such that it is no longer solely based on academic excellence but also has a touch of strategic branding that include brand identity and definition (Bennett & Ali-Choudhury, 2009; Chapleo, 2015; Hemsley-Brown et al. 2016). The changing nature has necessitated the need for higher institutions such as universities to project a distinctive brand identity that best communicates their values, competencies, culture, and academic excellence (Aaker, 1996; Chapleo, 2015; Hart & Rodgers, 2024; Hemsley-Brown et al. 2016; Nguyen et al., 2016). This is largely attributed to the increasing number of competitors offering similar academic programs. More so, identifying and defining a brand, though fundamental, is an emerging concept in the marketing of higher education institutions that require greater attention. The concept allows institutions to differentiate themselves in the provision of quality higher education and further serves as a symbolic representation of institutional quality, integrity, and commitment to excellence.

In this evolving landscape, university competitive factors represent the tangible and intangible resources that determine an institution's ability to deliver value (Barney, 1991; de Heer, 2020). In Barney's (1991) resource-based theory, these competitive factors—if valuable, rare, difficult to imitate, and non-substitutable—can provide and sustain competitive advantage. Exploring the intangibility of these resources is the strength of brand identity and definition. A strong, coherent brand identity highlights the unique academic strengths, competencies, values, and culture of the institution thereby shaping the strategic competitiveness in the higher education market (Aaker, 1996; Chapleo, 2015; Hemsley-Brown et al. 2016). In a developing country context such as Nigeria, despite noticeable progress in academic programs development and student enrolment in federal universities, majority of these universities still struggle with inconsistencies in their branding strategies (Mogaji, 2019). This, to a large extent, is weakening the institutions global visibility (Ogunode et al., 2019). Therefore, understanding how competitive factors influence university

competitiveness through brand identity and definition is essential in developing effective strategies that promote strong university brand, image, and global relevance.

This study forms part of a broader doctoral research examining the competitiveness of Nigerian universities. In the initial study, the population combines both private and public (federal and state) universities in Nigeria. One of the objectives involves data reduction through exploratory factor analysis to identify the underlying dimensions of university competitiveness. The current study focuses on federal universities and the decision to do so was informed by the need to contextualize the competitive dynamics within a more homogeneous university environment. The focus allows for a more specific examination of how competitive factors, brand identity and definition influence university competitiveness within a particular sub-system of Nigerian university education. The current study contributes to addressing this contextual gap by examining the structural relationships among these variables in Nigeria's federal universities. In specific terms, the study's research questions include: (1). Do university competitive factors significantly contribute to university brand identity and definition? (2) Does university competitive factors have significant contribution to university competitiveness? (3) Does university brand identity and definition has any theoretical relevance in the paths where university competitive factors predict university competitiveness? (4) Does university brand identity and definition has any significant influence on university competitiveness? These questions are conceptualized in the study's conceptual framework as provided in Figure 1.0.

2.0 LITERATURE REVIEW AND CONCEPTUAL FRAMING

2.1 Theoretical Framework

2.1.1 The Resource-Based Theory

The studies by Wernerfelt (1984) and Barney (1991) are two groundbreaking studies in the resource-based theory literature. In particular, Barney provided a comprehensive description of the business-level resources that provide sustained competitiveness adding that they must be valuable, rare, difficult to imitate, and non-substitutable. In these descriptions, Barney provides a good insight into the source of an organization's strength going into the competition. Bates and Flynn (1995), in their arguments, noted that the resource-based theory rested on two critical legs. On the first leg is the organization resources as the basic determining factor of organizational performance. Without these resources, an organization's capacity to accomplish its fundamental business objectives is nothing. This initial leg allows the organization to remain in business but may not be sustainable and competitive. On the second leg are the critical characteristics Barney pointed out regarding organization resources, such as rare, valuable, difficult to imitate, and non-substitutable. To Bates and Flynn, when an organization's resources exhibit these characteristics, a competitive advantage is said to be created. When this happens, an organization is better positioned to provide superior products/services, be the market leader, and be sustainable.

Competitive Factors: In the university context, these resources encompass both tangible assets that include physical and technological infrastructure, and intangible assets that include faculty expertise, reputation, and academic quality. In this, the resource-based theory suggests that higher educational

institutions such as universities with superior internal resources and capabilities are in a better position to achieve competitive advantage and sustain competitiveness in the higher education market (Barney, 1991). The competitive factors represent those factors within the university environment that boost or provide competitive advantage. Scholars have categorized these factors as university internal resources (Dimitrova & Dimitrova, 2017; Koroleva & Kuratova, 2020; Vasiliev, 2022). For example, learning environment, well-equipped laboratories, high-speed Internet connectivity, financial resources, and infrastructure. The next categorization is as university supporting factors (Girard & Pinar, 2020; Khoshtaria et al., 2020; Pinar et al., 2014). For example, quality teaching and instruction, academic programs, quality faculty, and international recognition. For the current study, these competitive factors are adopted from an initial broader doctoral research and categorized as physical and technological infrastructure (PTI), academic quality and effectiveness (AQE), faculty quality and mentorship (FQM), student skill-building and employability (SSE), and global reputation and prestige (GRP).

PTI emphasizes the significant of physical, digital, and institutional infrastructure in fostering quality and accessibility in the delivery of value-driven university education. In AQE is a connection to academic quality and the effectiveness of such quality. The focus of FQM is academic excellence, and faculty-student engagement. SSE is in connecting academic learning with practical skills, ensuring that students are supported academically, and provided with career readiness beyond the requirements of the curriculum. GRP reflects how well the institution is perceived and validated on the global higher education environment in terms of quality, standards, and competitiveness. These competitive factors contribute to institutional differentiation and competitiveness. In them is the foundation upon which universities create competitive advantages.

University Competitiveness (UC): In literature, competitiveness in higher educational institutions such as universities is multidimensional and has been modeled and defined from various perspectives. For instance, scholars have examined the subject from the context of ability to graduate competent graduates (Bautista et al., 2023; Chikazhe et al., 2023; Hadiyanto et al., 2022). Similarly, scholars have also argued that graduating competent graduates, requires quality faculty (Narmania et al., 2021; Nwile & Befii-Nwile, 2023). Another indicator of competitiveness in higher education is the quality of academic programs (Ghanad & Hussin, 2022; Wiek et al., 2011). Wiek et al. (2011) argue that the quality of academic programs in higher educational institutions provides the institution with a framework for strategic competitiveness and sustainability. According to Amout et al. (2024), these programs are the institution strength and must be relevant in the content, operational processes, and to the labor market. More so, scholars have also measured the competitiveness of higher institutions in the context of ability to attract and increase quality students, especially international students (Hart & Rodgers, 2023; Scott & Mhunpiew, 2021).

2.1.2 Brand Theory

In the resource-based theory, the focus is to explain the source of competitiveness. On the other hand, the brand theory provides explanation on how such competitiveness is communicated and perceived by the stakeholders. Though brand theory is not a new phenomenon, there has been contrasting views on its origin. For instance, Hampf and Lindberg-Repo (2011) trace the origin to the Stone Age. In doing so, the authors mention where hunters used weapons of specific “brand

marks” (pp. 1) to succeed in their hunting. To Bastos and Levy (2012), the origin of the theory is as old as the earth’s creation when God placed a “mark” on Cain, which, when interpreted, meant he had been cursed for killing his younger brother, Abel. Cantor (2020) argues that though the brand theory started in the 1500s, it began to experience significant breakthroughs in the 19th and 20th centuries that placed it at the center of research and discourse. Nevertheless, scholars generally agree with the early use of the term “burning” to represent the theory (Cantor, 2020; Rajaram & Shelly, 2012). In this context, the word “brand” is from an old Norse word, “brandr”, which when interpreted, means “to burn”; that is, a mark for identification (Cantor, 2020; Keller, 2013; Maurya & Mishra, 2012).

Brand identity and definition (BID): In existing brand literature, scholars have highlighted brand theory in the context of visual identity (Aaker, 1991; Aaker, 1996; Mindrut et al., 2015; Subbarayalu, 2022). The general view here is that a brand represents a set of elements created by the organization to distinguish it from competitors in the marketplace. Van Den Heaver, a brand expert, describes brand identity as saying what you want your stakeholders to “think and feel” about the services your institution offers (cited in Mindrut et al., 2015, pp. 394). The description embodies how an institution wishes to be perceived by its students, faculty, staff, alumni, parents, partners, and the broader society. For example, if a university wants the stakeholders and the wider society to perceive the institution in the light of providing quality higher education, then in defining its brand, the element of quality, such as “excellence”, must be showcased. Xi et al. (2022) agree with this argument adding that brand identity provides a value customer would want to buy or associate with.

Aaker and Joachimsthaler (2000) describe brand identity as what an institution wants the brand to “stand for” and is regarded as the driver for all brand-building efforts. As Keller (2003) pointed out, brand identity answers the question, “Who are we?” For example, in the case of a university like the American University of Nigeria (AUN), the answer to this question would be, “*We are a Development University.*” This identity clarifies who a university is. To Jenkins (2008), brand identity is the “ability to know who we are, who the other is and for others to know us” (p. 5). Wæraas and Solbakk (2009) argue brand identity as the starting point for defining the brand noting that the university must describe its essential and unique characteristics such as logo, core (organizational) values, slogans, and colors. Jenkins (2008) further argues that university brand identity relates to these characteristics and could represent the university’s buildings, ceremonies, traditions, cultures, and admission process. In a study by Coman et al. (2021), the authors posit that university identity is not fixed as it could change at any time to reflect current trends and realities. The study also categorizes university brand identity as visual identity (logo, name, colors, etc.), visual communication (slogan, tagline, vision and mission statements, values, etc.), behavior, and culture.

In Keller’s (2003) view, brand definition is giving the brand meaning. It answers the question “What are we?” As remarked by Kapferer (2008), brand management begins with defining the brand. This is outlining those set of strategic values the institution wants to be linked to the brand. These sets of values can take the form of tangible and intangible values and must say something about the university in specific terms (not empty phrases). In putting out these values, Wæraas and Solbakk (2009) say the organization is defining for itself the essence of “what” and “who” it is, as well as

“what it stands for?” (pp. 450). This set of values is the institution's character; in this context, the stakeholders see the brand as a culture, not a campaign (Subbarayalu, 2022). For example, AUN can still answer the question, “What are we?” It will be said, “We are *Excellence*”, “We are *Integrity*”, and “We are *Service*.” In other words, “*the AUN brand stands for excellence, integrity and service.*” These values-- excellence, integrity, and service -- are the character of the AUN brand and must not represent empty expressions that neither members of the university community believe in nor provide any specific meaning in the minds of the stakeholders. These arguments provide the foundation for some institutions known to be better at performing or providing quality higher education.

2.1.3 Brand identity and definition in Nigerian Federal Universities

In Nigeria, universities are grouped into first, second, third and fourth generations. The first and second generations' universities are mainly federal universities though they are also listed in the third and fourth. Nigeria currently has 298 universities out of which 72 are federal universities (National Universities Commission, 2025).

In today's higher education, universities are beginning to align their vision to the needs of the market. This, according to Jevons (2006) and Al-Amri et al. (2020), is because when a student's career and professional goal align with the vision of the university, the student is likely to be successful. This understanding is triggering a new global thinking in higher education that is notably about defining the essence of the university to align with the student's goals and values as well as the benefits it will bring to its stakeholders. Strategic branding concepts such as brand identity and definition provides a strategy for defining this essence. But what does this mean? To define a brand essence is to put forward, in distinctive terms, what the university brand represents and stands for (Aaker, 1991; Aaker & Joachimsthaler, 2000; Bennett & Ali-Choudhury, 2009; Chapleo, 2010; Keller, 2003; Wæraas & Solbakk, 2009). So, brand identity and definition is about defining the distinguishing features, attributes, and values of the university and determining how they will benefit its target market. This include crafting a vision and mission statements (Coman et al., 2021; Kapferer, 2008), saying in clear terms who and what the brand stands for (Keller, 2003; Wæraas & Solbakk, 2009), and the set of values that best describe or represent the brand (Wæraas & Solbakk, 2009).

In a study by Mogaji (2019), the author noted that African universities that include Nigeria's federal universities were not exploring the benefit of branding to promote and enhance their brand essence and competitiveness. A search of websites of 63 federal universities throw some surprises but importantly provides credibility to the claim by Mogaji. In the review of these websites, as indicated in Table 1.0, a good number of the universities did not reflect these attributes, features and values on their websites. The inability support Jevon's (2006) arguments that universities were good example of branding going wrong. For instance, as presented in the table, about 49 of these universities had their vision and mission statements posted on the website and this represent 77.78% while 14 representing 22.22% did not. About 25 had their core values posted representing 39.68% while 38 representing 60.32% did not. For these universities, 27 have their slogan/motto and this represents 42.86% and finally, only 9 had a statement that says “who are we” on the website representing 14.29%.

Table 1.0. Federal universities with brand identity and definition features

Brand identity/definition features	Yes		No	
	Freq.	%	Freq.	%
Vision statement	49	77.78	14	22.22
Mission statement	49	77.78	14	22.22
Core Values	25	39.68	38	60.32
Slogan/Motto	27	42.86	36	57.14
Who We Are	9	14.29	54	85.71

We note that the analyses in Table 1.0 are not in terms of the quality of contents or style or degree of practice/implementation of these features but to demonstrate the first step which is to clearly define them. It is also noted that though some of the universities may have these features, it is either they were not listed on their websites or that it was posted but difficult to locate. While it is understandable for universities established in 2025 not to have websites, it was very surprising for universities listed in the first and third generation with no active website for more than 7 consecutive days one of the researchers logged-in to the websites. It is further noted that while the practice in Nigeria is to have the slogan/motto of the university in-scripted on the institution logo, this makes the slogan/motto unreadable when posted on the website. This was the case in most of the institution's website reviewed.

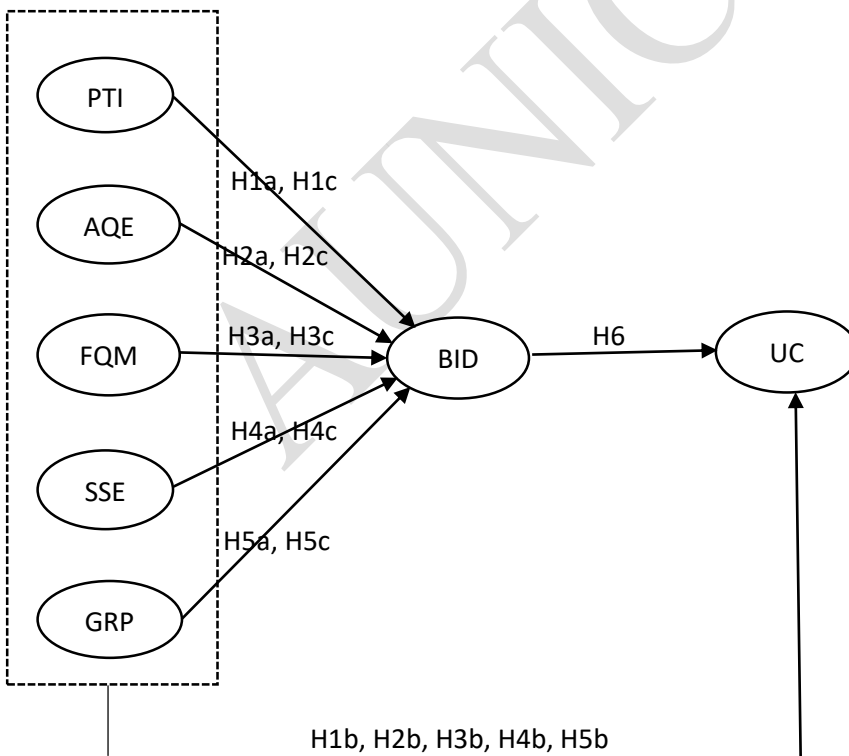


Figure 1.0: Study conceptual framework

2.2 Empirical Review and Hypotheses Development

Hypothesis One (H1) - Physical and technological infrastructure (PTI), brand identity and definition, and university competitiveness

There is a growing body of literature that have investigated those factors that contribute and promote brand identity and definition as well as competitiveness in higher educational institutions. For instance, Hoang et al. (2023) identified university personnel as an important factor in creating a strong brand identity. In Wilkins and Huisman's (2015) findings, factors such as campus heritage and prestige, campus features, interpersonal were found to contribute significantly to the image of the university. Similarly, other studies have also established significant relationship between competitive factors and brand identity and definition (Aghaz et al., 2015; Juříková et al., 2021). Furthermore, previous studies have examined and identified the factors that influence university competitiveness. The studies' findings suggest factors such as study facilities that include well-equipped laboratories (Huong & Khoa, 2019; Nuseir & El-Refae, 2021; Qasim et al., 2020). Thus, the first hypothesis is put forward as follows:

- H1a: Physical and technological infrastructure has a significant positive contribution to brand identity and definition.
- H1b: Physical and technological infrastructure has a significant positive contribution to the competitiveness of Nigerian federal universities.
- H1c: Brand identity and definition mediate the influence of physical and technological infrastructure on the competitiveness of Nigerian federal universities.

Hypothesis Two (H2) – Academic quality and effectiveness (AQE), brand identity and definition, and university competitiveness

In literature, scholars have investigated factors related to academic quality and effectiveness and have found these factors to contribute to and promote brand identity and definition and higher institutions competitiveness. For instance, Qasim et al. (2020) found these factors to include quality of teaching, and employability. Previous studies like in the findings of Kim and Periyayya (2013), listed the programs offered at an institution, future employability of graduates, and teaching quality were significant factors that placed an institution in a trusted position to deliver on its promises. Other studies have investigated these factors that promote university attractiveness and competitiveness and reveal some similar factors (Connie et al., 2022; Huong & Khoa, 2019). Therefore, the second hypothesis is theorized as follows:

- H2a: Academic quality and effectiveness has a significant positive contribution to brand identity and definition.
- H2b: Academic quality and effectiveness has a significant positive influence on the competitiveness of Nigerian federal universities.
- H2c: Brand identity and definition mediate the effect of academic quality and effectiveness on the competitiveness of Nigerian federal universities.

Hypothesis Three (H3): Faculty quality and mentorship (FQM), brand identity and definition, and university competitiveness.

Previous studies have examined factors associated with the quality of faculty in an institution and the studies' findings revealed that they have significant contributions to strengthening the institution

brand identity and its competitiveness in the higher education market. For instance, some of these studies have listed diversity of faculty, research oriented, etc. (Huong & Khoa, 2019; Juříková et al., 2021; Li et al., 2011). Other studies have further investigated this factor in the context of competitiveness in higher education (Huong & Khoa, 2019; Qasim et al., 2020). In the light of these studies, the third hypothesis is outlined as follows:

- H3a: Faculty quality and mentorship has a significant positive contribution to brand identity and definition.
- H3b: Faculty quality and mentorship has a significant positive contribution to the competitiveness of Nigerian federal universities.
- H3c: Brand identity and definition mediate the influence of faculty quality and mentorship on the competitiveness of Nigerian federal universities.

Hypothesis Four (H4): Student skills-building and employability (SSE), brand identity and definition, and university competitiveness.

Higher educational institutions such as universities were established to help foster essential skill-sets in students. These skills are targeted toward making them competent and competitive in the global labor market. For instance, skill and knowledge of mathematics was associated with critical thinking abilities and this is required by graduates in the global labor market (Putri et al., 2020; Urde & Greyser, 2015). Other studies have examined English and writing skills as an essential requirement not just for graduation but in the labor market (Amoakohene, 2017; Erdil-Moody & Thompson, 2020). Thus, the fourth hypothesis is as follows:

- H4a: Student skills-building and employability has a significant positive contribution to brand identity and definition.
- H4b: Student skills-building and employability has a significant positive contribution to the competitiveness of Nigerian federal universities.
- H4c: Brand identity and definition mediate the influence of student skills-building and employability on the competitiveness of Nigerian federal universities.

Hypothesis Five (H5): Global reputation and prestige (GRP), brand identity and definition, and university competitiveness.

In today emerging higher education, university education is increasingly being offered as an international phenomenon (Hart & Rodgers, 2024; Hemsley-Brown & Goonawardana, 2007) that transcend national boundaries (Kakkad & Nair, 2015). In this line of argument, scholars have examined those essential factors that enhance the university brand identity as well as foster competitiveness (Huong & Khoa, 2019; Kim & Periyayya, 2013; Nuseir & El-Refae, 2021; Qasim et al., 2020; Wilkins & Huisman, 2015). Hence, the fifth hypothesis is as follows:

- H5a: University global reputation and prestige has a significant positive contribution to brand identity and definition.
- H5b: Nigerian federal universities having global reputation and prestige significantly influence its competitiveness.

H5c: Brand identity and definition mediate the influence of global reputation and prestige on the competitiveness of Nigerian federal universities.

Hypothesis Six (H6) –Brand identity and definition (BID), and university competitiveness

In branding literature, it has been established that brand identity and definition has a significant positive influence in the competitiveness of higher educational institutions including universities. For instance, in a study by Tammubua (2021), the findings revealed that a university with a strong brand identity increases its competitiveness by strengthening its brand awareness and loyalty. So also in Huu and Minh (2022), the authors found that brand identity and definition were significant in the competitiveness of universities. Similar studies' findings have reported the significant influence brand identity and definition has on the competitive advantage of an institution (Adebayo et al., 2019; Tran & Duc, 2022; Wæraas & Sataøen, 2018). In the light of these, hypothesis, H6, is hypothesized as follows:

H6: Brand identity and definition has a significant influence on the competitiveness of Nigerian federal universities.

3.0 RESEARCH METHODOLOGY

3.1 Research design

The initial doctoral research utilized a mixed-method explanatory sequential design involving quantitative and qualitative data. The current study adopts a quantitative research design based on secondary analysis of the initial collected data.

3.2 Population and Scope of the Study

In the initial study, the population comprised of faculty, undergraduate and graduate students from Nigeria's private, federal, and state universities. For the current study, the population is restricted to same categories of respondents but restricted to federal universities. These universities were selected given that they represent the oldest segment of the Nigerian university education with federal funding structure.

3.3 Sampling Procedure and sample size

The initial study explores both probability and non-probability samplings. Probability sampling had multistage sampling comprising stratified, cluster, and simple random samplings. Stratified sampling was used to group the various universities based on a common homogeneous characteristic—federal, state, and private universities; representing three strata—federal, state, and private. Cluster sampling was applied to allow the grouping of the universities in each stratum into geopolitical regions of Nigeria: north-west, north-east, north-central, south-south, south-east, and south-west. The disproportionate random sampling was applied in each cluster. In this sampling, the lottery method of simple random sampling was used to identify the sample universities in each cluster/stratum. In total, eighteen universities from these three strata were selected. In the non-probability, convenience sampling was used to identify the respondents for the purpose of administering the questionnaire. The dataset comprised of 565 respondents. Out of these, 207 were respondents from federal universities and represents the sample size for the current study.

3.4 Research Instrument

The instrument used in the initial study was both structured questionnaire (quantitative) and semi-structured interview (qualitative). The structured questionnaire was divided into four major sections, with the second, third, and fourth sections following a 5-point Likert scale. On the second section were 63 items related to competitive factors, third section were 5 items related to university competitiveness, and fourth section were 24 items related to 6 strategic branding constructs: brand identity and definition, brand association, brand awareness, perceived quality, brand loyalty, and brand personality.

3.5 Definition and Variable Adaptation

The initial study involves data reduction through exploratory factor analysis to identify the underlying dimensions of university competitiveness. In it were 63 competitive factors comprising internal resources, university supporting factors, and industry-based forces. The study explored the principal axis factoring and promax rotation to extract thirteen factors with eigenvalues greater than 1.0, explaining 46.766% of the total variance. Five factors with factor loadings greater than 0.5, sum of squared loadings greater than 1.0, and having Cronbach alpha reliability were retained. These factors were validated and named as follows: physical and technological infrastructure (PTI), academic quality and effectiveness (AQE), faculty quality and mentorship (FQM), student skill-building and employability (SSE), and global reputation and prestige (GRP). The detailed results of the doctoral research including item loadings, communalities, validity and reliability, are available from the authors upon request.

In the current study, the five factors, PTI, AQE, FQM, SSE, and GRP, were operationalized as independent latent constructs. University competitiveness (UC) was operationalized as dependent latent construct while brand identity and definition (BID) was the mediating construct.

3.6 Data Source

The data used in the current study were extracted from the initial research and collected by one of the researchers. The original dataset comprised of 582 observations from respondents across private, federal, and state universities in Nigeria's six geopolitical zones. The dataset was examined for outliers and 17 influential outliers were identified and deleted. The deletion brings the number of observations to 565.

For the current study, only the 207 data corresponding to federal universities were extracted from the original dataset. According to Johnston (2014), the reuse of this data is consistent with best practices in secondary analysis.

3.7 Institutional Review Board (IRB) Approval

The AUN Institutional Review Board (IRB) reviewed the initial study instruments and framework and gave approval for the study's data collection. The approval code is AUN-04-05-24.

4.0 METHOD OF DATA ANALYSIS

The initial research's quantitative design analysis combines exploratory factor analysis, and partial least squares structural equation modeling for analyzing the data. The current study used the partial least squares structural equation modeling. The choice aligns with the confirmatory objective of testing the hypothesized relationships among competitive factors, brand identity and definition, and university competitiveness. In addition, the descriptive statistical tools—mean, standard deviation, and percentages were used to provide the mean responses and describe the basic demographics of the study respondents. The specific dataset was examined for normality using skewness and kurtosis coefficients. According to Hair et al. (2014), these coefficients are preferred given the inadequacies associated with Kolmogorov-Smirnov and Shapiro-Wilk test.

5.0 RESULTS AND FINDINGS

5.1 Demographics of respondents

There were 207 respondents who participated in the study. Out of these number, 129 representing 62.3% were males while 78 representing 37.7% were females. In Table 2.0, the demographics of these respondents based on status is presented. The table shows that 52 of the respondents were faculty members (lecturers) representing 25.1% while 155 were students representing 74.9%.

Table 2.0: Demographics of respondents based on status

Status	Frequency	Percentage (%)
Faculty (Lecturers)	52	25.1
Students	155	74.9
Total	207	100

Table 3.0 indicates the respondents based on designation in the universities. From the table, assistant lecturers and assistant professor/senior lecturer were 4 each representing 1.9%. Graduate assistant was 7 (3.4%), lecturer II was 11 (5.3%), lecturer I was 15 (7.2%), associate professor was 5 (2.4%), and professor was 6 (2.9%). In the student category, 98 were undergraduate students representing 47.3%, and 57 were graduate (postgraduate) students representing 27.5%.

Table 3.0: Demographics of respondents based on designation

Designation	Frequency	Percentage (%)
Graduate Assistant	7	3.4
Assistant Lecturer	4	1.9
Lecturer II	11	5.3
Lecturer I	15	7.2
Assistant Professor/Senior Lecturer	4	1.9
Associate Professor	5	2.4
Professor	6	2.9
Undergraduate	98	47.3
Graduate	57	27.5
Total	207	100

5.2 Descriptive Statistics and Test for Normality

Table 4.0 provides for the indices for mean, and standard deviation (SD). The table shows that the mean responses for the independent constructs ranges from 2.781 to 3.755 and standard deviation, 0.635 to 0.977. While the mean values for PTI (X1), AQE (X2), FQM (X3), and GRP (X5) represent good scores, it is worth pointing out that the SSE (X4) mean value of 2.781 represents a weak score. So also, are the mean responses of the endogenous constructs, BID (M1) = 3.662, with standard deviation of 0.701, and UC (Y) = 3.591 with standard deviation of 0.665, represent good scores.

In addition, Table 4.0 also provides for skewness, and kurtosis coefficients. According to Aczel and Sounderpandian (2006), the skewness coefficients in the study constructs are negative (except AQE) indicating a left-skewed normal curve. The skewness coefficient for AQE is positive and it indicates a right-skewed curve. The kurtosis coefficients for PTI (X1), AQE (X2), SSE (X4), and GRP (X5) are negative and represent a platykurtic distribution curve. For FQM (X3), BID (M1), and UC (Y), the kurtosis coefficients are positive and represent a leptokurtic distribution curve. These coefficients indicate that the normality assumption was not satisfied.

Table 4.0: Mean, standard deviation, skewness, and kurtosis

Construct	Mean	SD	Skewness	Kurtosis
PTI (X1)	3.196	0.836	-0.065	-0.541
AQE (X2)	3.156	0.635	0.148	-0.440
FQM (X3)	3.755	0.771	-0.546	0.236
SSE (X4)	2.781	0.830	-0.047	-0.908
GRP (X5)	3.192	0.977	-0.212	-0.682
BID (M1)	3.662	0.701	-0.277	0.079
UC (Y)	3.591	0.665	-0.462	1.108

Keys: SD – standard deviation

5.3 Measurement model evaluation

In Hair et al. (2021), four rules of thumb were put forward for assessing reflective measurement model. First is the indicator reliability. From Table 5.0 and Figure 2.0, it shows that the values of the outer loadings are higher than 0.7 except in few cases where it falls within 0.459 and 0.693. Hair et al. recommend the deletion of outer loadings in these range only when its effects would boost the composite reliability (CR) and average variance extracted (AVE). In the table (Table 5.0), the composite reliability index for each of the seven constructs are within the benchmark of $CR \geq 0.7$ (Hair et al., 2021): PTI = 0.806, AQE = 0.774, FQM = 0.826, SSE = 0.822, GRP = 0.899, BID = 0.785, and UC = 0.828. For average variance extracted, scholars recommend acceptable range of $AVE \geq 0.5$ (Amora, 2021; Hair et al. 2021): PTI = 0.513, FQM = 0.618, SSE = 0.610, and GRP = 0.748. However, in AQE = 0.417, BID = 0.477, and UC = 0.492; scholars have argued values in these range could be considered fairly adequate (Cheung et al., 2024; Atemoagbo, 2024). Thus, deleting the variables with low outer loadings would not be necessary. In Table 6.0, the Heterotrait-Monotrait (HTMT) ratio for discriminant validity is displayed. It is shown that the values of HTMT are lower than the conservative threshold of 0.85 (Hair et al., 2021). This means that the Heterotrait-Monotrait (HTMT) criterion for discriminant validity is satisfactory. Therefore, from Tables 5.0 and

6.0, all the four rules of thumb as indicated in Hair et al. (2021) for evaluating reflective measurement model have been satisfied.

Table 5.0: Factor loadings, VIF, composite reliability, and average variance extracted

Study Constructs/variables	Loadings	VIF	CR	AVE
Physical and Technological Infrastructure (PTI)			0.806	0.513
University learning environment (X1 ₄)	0.693	1.529		
Well-equipped laboratories (X1 ₅)	0.597	1.278		
High-speed Internet connectivity (X1 ₆)	0.717	1.461		
Learning management system (X1 ₇)	0.836	1.265		
Academic Quality and Effectiveness (AQE)			0.774	0.417
Job-placement and opportunities (X2 ₇)	0.495	1.126		
Undergraduate programs (X2 ₈)	0.696	1.273		
Quality teaching and instructions (X2 ₉)	0.770	1.364		
Nature of curriculum (X2 ₁₀)	0.742	1.422		
On-time graduation (X2 ₁₁)	0.459	1.151		
Faculty Quality and Mentorship (FQE)			0.826	0.618
Diversity of faculty (X2 ₂₈)	0.602	1.177		
Quality research and publications (X2 ₃₂)	0.896	1.675		
Academic advising (X2 ₃₃)	0.831	1.576		
Student Skill-Building and Employability (SSE)			0.822	0.610
Mathematics tutorial center (X2 ₂₄)	0.805	1.534		
English/writing tutorial center (X2 ₂₇)	0.626	1.226		
Partnership with the industry (X2 ₃₁)	0.889	1.450		
Global Reputation and Prestige (GRP)			0.899	0.748
International recognition (X2 ₁₃)	0.884	1.963		
International ranking (X2 ₁₆)	0.848	1.868		
International accreditation (X2 ₃₅)	0.862	1.926		
Brand Identity and Definition (BID)			0.785	0.477
Student career goals reflect what the university stands for (M1 ₁)	0.653	1.205		
Vision and mission statements (M1 ₂)	0.705	1.173		
Core Values/slogan (M1 ₃)	0.675	1.315		
University's Vision is well-known (M1 ₄)	0.729	1.356		
University Competitiveness (UC)			0.828	0.492
Competent graduates (Y1)	0.674	1.595		
Quality faculty (Y2)	0.693	1.542		
Market-driven academic programs (Y3)	0.798	1.629		
Student enrolment (Y4)	0.647	1.263		
International students (Y5)	0.686	1.302		

Keys: VIF - variance inflation factor, CR – composite reliability, AVE – average variance extracted.

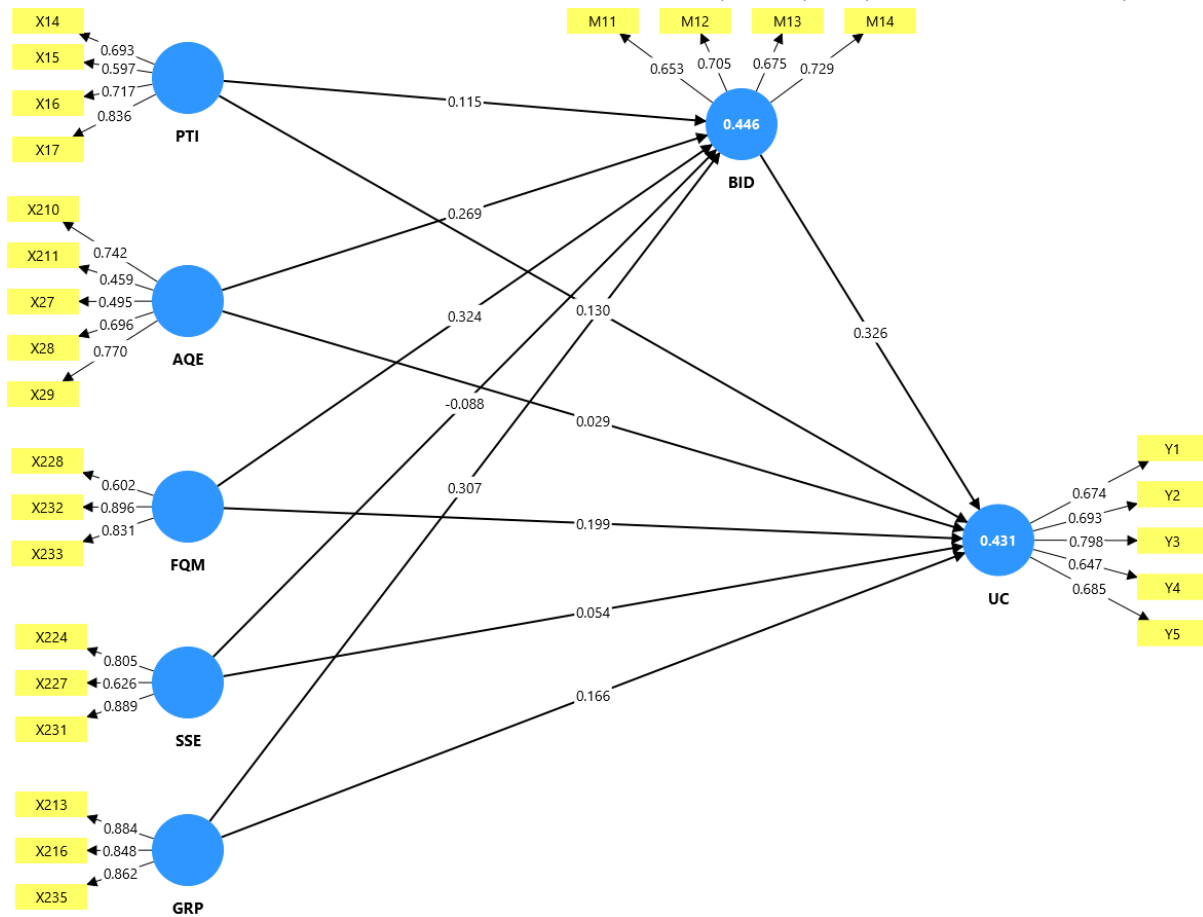


Figure 2.0. PLS-SEM Reflective Model

Table 6.0: HTMT discriminant validity

Study Constructs	AQE	BID	FQM	GRP	PTI	SSE	UC
AQE							
BID	0.705						
FQM	0.392	0.682					
GRP	0.561	0.630	0.331				
PTI	0.388	0.448	0.425	0.263			
SSE	0.608	0.417	0.313	0.761	0.301		
UC	0.498	0.824	0.635	0.563	0.454	0.421	

5.4 Structural model evaluation

Hair et al. (2021) provide for four basic rules of thumb for evaluating the structural model. The first is examining the variance inflation factor (VIF) to assess the severity of collinearity issues in the structural model. In Table 5.0, the values of VIF for the outer variables show a minimum value of 1.126 and maximum value of 1.963. The inner model VIF in Table 7.0 shows a minimum value of 1.157 and maximum value of 1.646. Also, in Table 8.0, the inner model VIF shows a minimum value of 1.215 and maximum value of 1.816. These values are within the $VIF < 3.0$ range (Hair et al. 2021); therefore, collinearity is not an issue in the structural model.

The second criterion is to examine the significance and relevance of the structural model relationships. In Table 7.0, it indicates that the independent constructs, PTI with coefficient = 0.115, AQE with coefficient = 0.269, FQM with coefficient = 0.324, and GRP with coefficient = 0.307 all have strong positive contributions to brand identity and definition (BID). On the contrary, SSE with coefficient = -0.088, has a negative and lower contribution to brand identity and definition. But are these constructs significant? We now turn to the results for statistical significance. Table 7.0 revealed that the paths: PTI → BID, AQE → BID, FQM → BID, and GRP → BID, all indicate a statistically significant relationship. That is, in the path, PTI → BID, the confidence intervals (0.028 and 0.209) does not contain a zero and the p-value = 0.018 is less than 0.05 level of significance. For AQE → BID path, the confidence interval (0.159 and 0.385) also contains no zero and the p-value of 0.000 is less than 0.05. Likewise, in the path, FQM → BID, the confidence interval (0.234 and 0.414) does not have a zero and the p-value = 0.000 is less than 0.05. Same with the path, GRP → BID, the confidence interval (0.182 and 0.422) has no zero and the p-value of 0.000 is less than 0.05. The one path, SSE → BID, that is not statistically significant has a zero in its confidence interval (-0.199 and 0.030) and the p-value = 0.105 is greater than 0.05 level of significance.

Table 8.0 indicates that in the indirect path, BID with coefficient = 0.326 has a strong positive influence on university competitiveness (UC). Also, in the path, BID → UC, the confidence interval (0.167 and 0.478) contains no zero and the p-value = 0.000 is less than 0.05 level of significance; therefore, the path is statistically significant. In the direct relationships, as indicated in Table 8.0, the independent constructs, PTI with coefficient = 0.130, FQM with coefficient = 0.199, and GRP with coefficient = 0.166 have strong positive influence on university competitiveness (UC). On the other hand, AQE with coefficient = 0.029, and SSE with coefficient = 0.054 have a weak influence on university competitiveness. The table also indicate that the paths: PTI → UC, FQM → UC, and GRP → UC, are statistically significant in the relationship. That is, in the path, PTI → UC, the confidence interval (0.012 and 0.248) contains no zero and the p-value = 0.034 is less than 0.05 level of significance. Likewise, in the path, FQM → UC, the confidence interval (0.064 and 0.322) does not have a zero and the p-value = 0.006 is less than 0.05. So also, in the path, GRP → UC, the confidence interval (0.031 and 0.293) has no zero and the p-value of 0.018 is less than 0.05. On the flip side of it, two paths, AQE → UC, and SSE → UC were not statistically significant. For instance, in AQE → UC, the path has a zero in its confidence interval (-0.102 and 0.175) and the p-value = 0.364 is greater than 0.05 level of significance. In SSE → UC path, it also has a zero in its confidence interval (-0.050 and 0.162) and a p-value of 0.201 is greater than 0.05.

Table 7.0: Indirect path analyses

Hypotheses/Paths	Coefficients	Confidence Intervals		p-value	VIF	f ²	Remark
		5%	95%				
H1a: PTI → BID	0.115	0.028	0.209	0.018	1.191	0.020	Sig.
H2a: AQE → BID	0.269	0.159	0.385	0.000	1.322	0.099	Sig.
H3a: FQM → BID	0.324	0.234	0.414	0.000	1.157	0.164	Sig.
H4a: SSE → BID	-0.088	-0.199	0.030	0.105	1.623	0.009	Not sig.
H5a: GRP → BID	0.307	0.182	0.422	0.000	1.646	0.103	Sig.

Keys: Sig. – Significant, Not sig. – Not significant

The tables (Table 7.0 and Table 8.0) also indicate the effect sizes for each of the path. In literature, effect sizes ranges from 0.004 to 1.272 (Hair et al. 2020). In Table 7.0, three effect sizes, 0.009, 0.020, and 0.099 are considered small. Two effect sizes, 0.103, and 0.164 are medium. Similarly, in Table 8.0, three effect sizes were considered small (0.025, 0.027, and 0.052). Two effect sizes were considered weak (0.001, and 0.003).

Table 8.0: Direct and indirect path analyses

<i>Hypotheses/Paths</i>	<i>Coefficients</i>	<i>Confidence Intervals</i>		<i>p-value</i>	<i>VIF</i>	<i>f²</i>	<i>Remark</i>
		5%	95%				
H1b: PTI -> UC	0.130	0.012	0.248	0.034	1.215	0.025	Sig.
H2b: AQE -> UC	0.029	-0.102	0.175	0.364	1.454	0.001	Not sig.
H3b: FQM -> UC	0.199	0.064	0.322	0.006	1.347	0.052	Sig.
H4b: SSE -> UC	0.054	-0.050	0.162	0.201	1.636	0.003	Not sig.
H5b: GRP -> UC	0.166	0.031	0.293	0.018	1.816	0.027	Sig.
H6: BID -> UC	0.326	0.167	0.478	0.000	1.806	0.104	Sig.

Keys: Sig. – Significant, Not sig. – Not significant

The next criteria involve assessing the structural model explanatory power and this is possible using the R-square (R^2) statistic. Here the R-square is the variance explained in each of the endogenous constructs (BID, and UC). It also represents the measure of the model's explanatory power. In Table 9.0, the values of R-square for BID = 0.446, and UC = 0.431. These values are considered satisfactory (Hair et al., 2021) and the model is said to have explanatory power.

In the final structural model evaluation criteria is examining the model's predictive power. For this assessment, the Stone-Geisser's (Q^2) statistic is expected to be greater than zero (Hair et al. 2020). A look at Table 9.0 indicate that Stone-Geisser's values for the latent variables (LV): BID = 0.399, and UC = 0.323, represent medium predictive relevance. Similarly, also in Table 9.0, the Stone-Geisser's values for the model measured variables (MV) are greater than zero and ranges from 0.095 to 0.266. These values indicate that the PLS-SEM predicts accurately the data points of the endogenous constructs in the model.

Table 9.0: R-square (R^2) and Stone-Geisser (Q^2) predictive relevance

<i>Constructs</i>	<i>R²</i>	<i>PLSPredict (Q²)</i>	
		LV	MV
Brand identity and definition	0.446	0.399	
Student career goals reflect what the university stands for (M1 ₁)			0.147
Vision and mission statements (M1 ₂)			0.266
Core values/slogan (M1 ₃)			0.125
University's vision is well-known (M1 ₄)			0.196
University competitiveness	0.431	0.323	
Competent graduates (Y1)			0.095
Quality faculty (Y2)			0.097
Market-driven academic programs (Y3)			0.196
Student enrolment (Y4)			0.185
International students (Y5)			0.196

Testing of Hypotheses: Direct and Indirect relationships

After determining the significance and relevance of the structural model relationships, we can now test and interpret the hypotheses. The study hypotheses were tested using a one-tailed test of percentile bootstrapping at a significance level of 5% and with 10000 subsamples. As indicated in Table 7.0, hypotheses H1a, H2a, H3a, and H5a were significant and supported given that the confidence intervals contain no zero and the p -values were less than 0.05 significance level. However, hypothesis H4a, was not significant, hence not supported. This is so because in the confidence interval, there is a zero and the p -value is greater than 0.05. Similarly, in the direct relationship as indicated in Table 8.0, hypotheses H1b, H3b, and H5b were significant and supported. That is, there is no zero in their confidence intervals and the p -values are less than 0.05. On the other hand, H2b, and H4b were not significant; therefore, not supported. Finally, hypothesis, H6, was significant and supported.

Testing of Hypotheses: Mediation analysis

Table 10.0 indicates results of the path coefficients of the hypotheses for the specific indirect relationships (mediation analysis). For instance, in hypothesis H1c, the specific indirect path coefficient estimate is 0.038, confidence interval (0.008 and 0.074) contain no zero, and p -value = 0.033 is less than 0.05 level of significance. This confirmed the significant of the hypothesis (H1c) and is supported. We note that in Table 8.0, hypothesis H1b was also established to be significant. These mean that brand identity and definition (BID) partially mediate the relationship between physical and technological infrastructure (PTI) and university competitiveness (UC).

For hypothesis, H2c, in Table 10.0, the specific indirect path coefficient estimate is 0.088, confidence interval (0.036 and 0.153) contain no zero, and p -value = 0.007 is less than 0.05. This confirmed the significant of the hypothesis (H2c) and is supported. However, in Table 8.0, the hypothesis, H2b, was not significant. These mean that brand identity and definition (BID) has a full mediation on the relationship between academic quality and effectiveness (AQE) and university competitiveness (UC). Table 10.0 also shows that for the hypothesis, H3c, the specific indirect path coefficient estimate is 0.106, confidence interval (0.048 and 0.177) contain no zero, and p -value = 0.003 is less than 0.05. This confirmed the significant of the hypothesis (H3c) and is supported. We note from Table 8.0 that hypothesis H3b was also established to be significant. Thus, brand identity and definition (BID) partially mediate the relationship between faculty quality and mentorship (FQM) and university competitiveness (UC).

For hypothesis, H4c, as indicated in Table 10.0, the specific indirect path coefficient estimate is -0.029, confidence interval (-0.068 and 0.010) contain a zero, and p -value = 0.118 is greater than 0.05. This confirmed the non-significant of the hypothesis (H4c), hence not supported. Therefore, brand identity and definition (BID) has no mediating effect on the relationship between student skill-building and employability (SSE) and university competitiveness (UC). In the final mediation hypothesis, H5c, also presented in Table 10.0, the specific indirect path coefficient estimate is 0.100, confidence interval (0.044 and 0.159) contain no zero, and p -value = 0.002 is less than 0.05. This established that the hypothesis (H5c) is significant and supported. We note that in Table 8.0, the hypothesis, H5b, was also significant. Thus, brand identity and definition (BID) has a partial

mediating effect on the relationship between global reputation and prestige (GRP) and university competitiveness (UC).

Table 10.0: Specific indirect (mediation) path analyses

<i>Hypotheses/Paths</i>	<i>Coefficients</i>	<i>Confidence Intervals</i>		<i>p-value</i>	<i>Remark</i>
		5%	95%		
H1c: PTI -> BID -> UC	0.038	0.008	0.074	0.033	Partial mediation
H2c: AQE -> BID -> UC	0.088	0.036	0.153	0.007	Full mediation
H3c: FQM -> BID -> UC	0.106	0.048	0.177	0.003	Partial mediation
H4c: SSE -> BID -> UC	-0.029	-0.068	0.010	0.118	No mediation
H5c: GRP -> BID -> UC	0.100	0.044	0.159	0.002	Partial mediation

6.0 DISCUSSION OF FINDINGS

The study findings revealed that university competitive factors -- particularly physical and technological infrastructure (PTI), academic quality and effectiveness (AQE), faculty quality and mentorship (FQM), and global reputation and prestige (GRP) --significantly contribute to building strong brand identity and definition (H1a, H2a, H3a, and H5a) in Nigeria's federal universities. These findings align with previous studies' findings (Barney, 1991; Hoang et al., 2023; Juříková et al., 2021). It further indicates that a university's brand is not merely a creation for external communication but a reflection of its internal resources and competencies (Aaker, 1996; Chapleo, 2015; Hemsley-Brown et al. 2016).

The study findings further revealed that not only do these competitive factors (H1b, H3b, and H5b) enhance how the university is perceived and positioned as a distinctive brand, they also exert significant and positive effects on university competitiveness. This suggests that competitiveness in Nigerian universities is not merely a function of size or years of establishment but it is driven by institutional quality (Aaker, 1991; Dennis et al., 2016). The finding is particularly relevant given the continued pressure for Nigeria's federal universities to compete at the regional and global stage despite financial and infrastructural constraints. Although the weak influence of academic quality and effectiveness on university competitiveness (H2b) appears unexpected, the finding that student skill-building and employability (H4b) does not significantly contribute to competitiveness is less surprising. A possible explanation for this outcome may be attributed to the nature of the indicators representing this construct—such as mathematics tutorial centers, English/writing centers, and partnerships with industry—which, while valuable for student support and learning enhancement, do not in themselves reflect the broader dimensions of institutional quality or competitive standing.

The final phase of the study findings demonstrates the significance of brand identity and definition in transforming institutional strength and competencies into competitive perception and reputation (Aaker, 1991; 1996; Chapleo, 2015; Wæraas & Solbakk, 2009). Though the findings revealed a mixed mediation effects, it provides a deeper insight into how branding concepts highlight the intangibility of the institutional resources and capabilities for competition in the higher education market. For instance, it was established that brand identity and definition partially mediate the relationships between physical and technological infrastructure (H1c), faculty quality and mentorship (H3c), global reputation and prestige (H5c) and university competitiveness. This simply

means that when a university develops modern facilities, technological enabled learning environment, reliable digital infrastructure, maintains competent and student-friendly faculty, and engage in globally recognize initiatives such as international rankings, a stronger brand communication explores and highlights the intangibility of these resources so as to enhance and strengthen stakeholders' perception of the university brand. These results reflect those of other scholars who also found university brand identity mediating relationships that aim to leverage universities' efforts going into the competition (Cheng et al., 2019; El-Kassar et al., 2019; Palmer et al., 2016).

The strength of a well-defined university brand identity was further demonstrated through its full mediation of the relationship between academic quality and effectiveness (H2c) and university competitiveness. This finding indicates that academic excellence enhances competitiveness only when it strengthens the university's brand perception and visibility. In other words, the value of academic quality lies not merely in internal competency metrics but in how it is communicated, interpreted, and perceived by stakeholders and the broader society. This aligns with findings from previous studies that a university's strategic values—those principles the institution defines for itself and seeks to be associated with—are central to its brand identity (Keller, 2003; Kapferer, 2008; Kuzior et al., 2021; Marito et al., 2019; Wæraas & Solbakk, 2009). However, these values must be actively embodied and practiced, not merely expressed as slogans or promotional rhetoric. When effectively integrated into institutional behavior and communication, they build credibility, foster innovation, and reinforce excellence, thereby strengthening the university's overall market position and competitive advantage.

7.0 IMPLICATIONS FOR PRACTICE AND SUGGESTION FOR FUTURE RESEARCH

The findings underscore that brand identity should be treated as a strategic instrument in strengthening university competitiveness. University administrators and policymakers must recognize that institutional resources—such as infrastructure quality, faculty expertise, and global reputation—translate into competitive advantage only when they are communicated through a coherent and distinctive brand identity not with empty phrases. Practically, Nigeria's federal universities should develop clear, authentic brand values that align with their mission and vision and resonate with both internal and external stakeholders. This involves embedding brand identity into everyday institutional practices—from teaching and instruction and faculty-student interaction to international collaborations and student engagement. Doing so transforms brand identity and definition from a marketing function into a core element of institutional culture thereby achieving long term strategic differentiation both at the national and global higher education environment.

The current study is limited by its focus on federal universities in Nigeria, which means the findings may not fully capture the dynamics present in state-owned and private universities. Future research could therefore expand the scope to include these particular higher education institutions, providing a more comprehensive understanding of university competitiveness across institutional types. In addition, while this study considered federal universities that have clearly articulated brand identity features, it did not assess the quality, stylistic coherence, or extent of implementation of these identity elements. Future studies could explore these dimensions in greater depth, examining how

the substance and execution of brand identity influence university competitiveness and stakeholder perceptions.

8.0 CONCLUSION

The current study was designed to explore how university competitive factors influence university competitiveness and notably, through brand identity and definition. The results of the investigation revealed the significant of university-related factors in brand building; such that it transforms institutional capabilities and competencies into symbolic brand identity. The study further shows that these factors act as drivers of competitiveness, indicating that institutional strength in resources and reputation translates into strategic advantage in the higher education market. While two of these factors were non-significant, introducing branding concept such as brand identity and definition amplified one of its relevance going into the competition. The findings highlight brand identity and definition as a central concept connecting internal university capabilities to external competitiveness. Across most of the tested relationships, brand identity and definition served as a key mediating construct, demonstrating that institutional resources and competencies—such as physical and technological infrastructure, faculty quality, and global reputation—enhance university competitiveness more effectively when they are aligned with a strong and coherent brand identity. This implies that what differentiates competitive universities is not only the possession of quality resources but how these are communicated, embodied, and perceived as part of the university's unique brand character.

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