

10-27-2024

Relationship between Enrollment, Retention, Alumni Giving, and Financial Health at Historically Black Colleges and Universities

Kenneth Mercury
Walden University

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Walden University

College of Management and Human Potential

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Kenneth Mercury

has been found to be complete and satisfactory in all respects,
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Walden University
2024

Abstract

Relationship between Enrollment, Retention, Alumni Giving, and Financial Health at

Historically Black Colleges and Universities

by

Kenneth Mercury

MS, Boston University, 2013

BS, Boston University, 2008

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

October 2024

Abstract

Decreasing financial health damages an organization's reputation and economic viability to survive. Historically Black Colleges and Universities (HBCUs) leaders must strive to improve their financial health to protect their institution's reputation and risk of closure. Grounded in strategic enrollment management theory, the purpose of this quantitative ex-post facto study was to examine the relationship between student enrollment, student retention, alumni giving, and financial health of HBCUs. The participants were 101 HBCUs collected from the National Center for Education Statistics and the Voluntary Support of Education databases, from 2020 to 2022. The results of the multiple linear regression analysis showed that the overall model was statistically significant $F(3, 200) = 7.828, p < .001, R^2 = .105$. In the final model, enrollment ($\beta = -.313, t = -4.019, p < .001$) and alumni giving ($\beta = .288, t = 3.708, p < .001$) were statistically significant. However, retention did not reach statistical significance. A key recommendation is for business leaders to drive efficiency of enrollment and alumni giving operations, to increase the organization's financial health, and to develop strategies to mitigate the risk and improve the viability of its operations. The implications for positive social change include the potential for higher education financial managers and business leaders to improve the viability of their operations, thereby increasing enrollment for low-income ethnic groups and retention, enhancing institutional revenues, improving education and job creation, and accelerating business ownership and entrepreneurship. As a result, communities' economic and social well-being will improve.

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Dedication

I want to dedicate this study to God, who gave me the strength to pursue my wife, children, parents, brothers, and community, who supported me throughout life. Thank you, God, for orchestrating individuals who encouraged, admonished, and challenged me to achieve this vision and dream as a doctor. Thank you, Sonya Nora Mercury, for your love, support, care, dedication to our family, and sacrificial spirit, which will allow me to continue my studies and achieve the milestone within our family. Thank you to my kids for your support, love, sacrificial spirit, and prayers. My parents, Kenneth and Sherryl Mercury, and brothers checked on me, encouraged me, and always prayed for me. Along this journey, I lost some significant people in my life: my grandmother, mother-in-law, great-grandmother, and auntie, who continuously prayed for me and cheered me along the way. I know they would have loved to see this accomplishment. Thank you to my community, who cheered and said words of affirmation to me along the way. Thank you, God, for using me to beckon my community, especially my neighborhood of Mon Repos Road Morvant, who can celebrate and know they can accomplish anything they put their minds to. To God be the glory.

Acknowledgments

I can do all things through Christ, my strength.

—Philippians 4:13

I want to acknowledge my family: my wife, Sonya Nora Mercury; my children, Samuel and Tiffany Mercury; my mother, Sherryl Mercury; my father, Kenneth Mercury; and my brothers, Donato and Andre Mercury. Thank you all for always being there and supporting me during this journey. You were my number one support system for my entire life. You always believed I could do it. To my other family members: Aunts and Uncles, Roxanne and her family, Veronica and her family, Patricia and her family, Clyde and his family, Shirley and her family, Oswald and his family, Frank and his family, and all my extended family, thank you for your words of encouragement that kept me going. Also, thanks to everyone who supported me in this journey, Selita Harpe and many others, and my Mon Repos Road Morvant community.

I thank my professional network at Oakwood University and my church family. Notably, Dr. Theodore Brown, you enthusiastically encouraged, admonished, and supported me every step of the way and believed I would succeed. Thank you for your prophetic words that started this journey. In addition, Dr. Ives Roberts advised, prayed, and encouraged me along the way.

Finally, I thank the Walden University academic staff and faculty. Dr. Irene Williams, my committee chair, for all your insights, guidance, patience, timely responses, and most importantly, your care and supportive words that grounded me and kept me on track. Thank you! You were the answer to my prayers.

Table of Contents

List of Tables	iv
List of Figures	v
Section 1: Foundation of the Study.....	1
Background of the Problem	1
Problem and Purpose	2
Population and Sampling	3
Nature of the Study	3
Research Question	4
Hypotheses.....	4
Theoretical Framework.....	6
Operational Definitions.....	7
Assumptions, Limitations, and Delimitations.....	8
Assumptions.....	8
Limitations	8
Delimitations.....	9
Significance of the Study	9
Contribution to Business Practice.....	9
Implications for Social Change.....	10
A Review of the Professional and Academic Literature.....	10
Historically Black Colleges and Universities	11
The Great Recession	13

Strategic Enrollment Management Framework	16
Other Related Theories	18
SEM Relationship to Enrollment and Retention.....	22
Independent Variable A: Enrollment	24
Independent Variable B: Retention.....	26
Independent Variable C: Alumni Giving.....	29
Dependent Variable: Financial Health.....	31
National Center of Education Statistics	40
Integrated Postsecondary Education Data System.....	40
Council For Advancement and Support of Education	41
Transition	41
Section 2: The Project.....	43
Purpose Statement.....	43
Role of the Researcher	43
Participants.....	45
Research Method and Design	45
Research Method	45
Research Design.....	46
Population and Sampling	46
Ethical Research.....	49
Data Collection Instruments	50
Data Collection Technique	51

Data Analysis	51
Study Validity	52
Transition and Summary	54
Section 3: Application to Professional Practice and Implications for Change	55
Introduction.....	55
Presentation of the Findings.....	55
Testing of Assumptions	56
Descriptive Statistics.....	63
Inferential Results	64
Analysis Summary	67
Applications to Professional Practice	69
Implications for Social Change.....	70
Recommendations for Action	70
Recommendations for Further Research.....	71
Reflections	72
Conclusion	72
References.....	74
Appendix A: Integrated Postsecondary Education Data System	89
Appendix B: Council for Advancement and Support of Education	90

List of Tables

Table 1. A Comparison of the short-term effects of four budget-balancing strategies.....	26
Table 2. Estimated Voluntary Support of Higher Education by Source 2017 – 2020(Dollars in Billions)	31
Table 3. Collinearity Statistics.....	57
Table 4. Durbin-Watson Test for Independence of Errors	58
Table 5. Linear Regression Correlation Coefficients of the Study Variables.....	63
Table 6. Descriptive Statistics.....	64
Table 7. Analysis of Variance ANOVA	64
Table 8. Regression Analysis Summary	66
Table 9. Beta Correlations Table	67

List of Figures

Figure 1. A Proposed SEM framework.....	23
Figure 2. Scale for Charting CFI Performance	39
Figure 3. Graphical model of G*Power Analysis to Determine Sample Size	48
Figure 4. G*Power as a Function of Sample Size	49
Figure 5. Normal Probability Plot (P-P) of the Regression Standardized Residuals.....	58
Figure 6. Scatterplot of the Standardized Residuals for Linearity and Homoscedasticity	59
Figure 7. Partial Regression Plot: Private Giving.....	60
Figure 8. Partial Regression Plot: Retention.....	61
Figure 9. Partial Regression Plot: Enrollment	62
Figure 10. Histogram and Distribution Curve	63

Section 1: Foundation of the Study

Over the years, the higher education sector has observed the closure or merger of several institutions of higher learning. However, mass closure has been predicted due to the loss of tuition from shifting demographics and key auxiliary revenues that threatens transformation or elimination (Adamiec et al., 2022; Rowley, 2022). Therefore, universities that are unable to properly manage their financial health in the current environment are at risk of closing which disrupts all stakeholders such as students, faculty and staff, community (Adamiec et al., 2022). In this study, I examined the relationship between student enrollment, student retention, alumni giving, and financial health of Historically Black College and Universities (HBCUs).

Background of the Problem

HBCUs have experienced significant challenges with student enrollment, student retention, and alums giving, threatening their survival over the years. The novel coronavirus pandemic and the ensuing recession have challenged the financial viability of higher education institutions, especially institutions with fewer than 1,000 students, HBCUs, and specific for-profit colleges (Kelchen et al., 2021). According to the National Student Clearinghouse (2022), overall enrollment declined by 4.1% between spring 2021 and spring 2022, and 3.5% between spring 2020 and spring 2021, giving a total postsecondary institution loss of nearly 1.3 million students since spring 2020. Therefore, as Islami et al. (2020) noted, organizations need to create strategies to survive and be more profitable since declining enrollment can severely impact HBCUs' financial viability. This decline in enrollment can affect the revenue from tuition and fees as well

as housing and dining services that institutions of higher education can receive, which can affect the financial viability of an institution, causing it to collapse. Therefore, leaders need to understand the consequences and challenges student enrollment, student retention, and alumni giving can have on their HBCUs' institution finances or stability.

Historically, HBCUs have played a significant role in society by training and preparing Black and minority students for integration into society. HBCUs are institutions founded, developed, and established before 1964 with the principal mission of educating Black Americans, providing access to higher education, and improving their status (National center for education statistics, 2020). HBCUs award almost one-quarter of all undergraduate degrees received by students of color (Asher BlackDeer et al., 2022). Due to the significant impact HBCUs contribute on society, leaders of HBCUs must strive to improve their financial viability to survive. According to Johnson et al. (2017), HBCUs are the major producer of Black doctors, lawyers, engineers, and teachers, and this trend must continue. In this study, I examined the relationship between enrollment, retention, alumni giving, and financial health by reviewing secondary data set obtained from the National Center for Education Statistics (NCES).

Problem and Purpose

The specific business problem was that some HBCU leaders lack knowledge of the relationship between student enrollment, student retention, alumni giving, and financial health. Therefore, the purpose of this quantitative correlational study was to examine the relationship between student enrollment, student retention, alumni giving, and financial health at HBCUs. The independent variables were student enrollment,

student retention, alumni giving. The dependent variable was financial health. The targeted population for this study was HBCUs recognized by the U.S. Department of Education in the United States, the District of Columbia, and the U.S. Virgin Islands. This study's implications for positive social change include the potential for increased financial health and sustainability of HBCUs, which encourage and improve the environment, social, and economic standard of living in the nation.

Population and Sampling

The population for this study was composed of 101 HBCUs recognized by the U.S. Department of Education in the United States, the District of Columbia, and the U.S. Virgin Islands. A population refers to an entire group of people, events, or things of interest a researcher wants to investigate (Bougie & Sekaran, 2019). The broad population is sufficient to provide an adequate number of participants to achieve the required sampling size. This study's implications for positive social change include the potential to provide a better understanding to HBCUs managers of the performance indicators, which encourage long-term sustainable financial health that improves the environment, social, and economic standards of living.

Nature of the Study

I chose a quantitative methodology for this study. Using a quantitative method is associated with a positivist research stance that researchers use to analyze big data in a highly structured linear research process to explain causal linkages among few variables (Baur, 2019). The quantitative method was appropriate for this study because the purpose of the study was to examine the relationship between student enrollment, student

retention, alumni giving, and financial health of HBCUs. A mixed methods study the use of both quantitative and qualitative methods even though the methods are still distinct (Baur, 2019). The qualitative approach is associated with an interpretative epistemological stance. It is appropriate when the research intent is circular or a spiral. Because my intent was to test hypotheses, neither a qualitative nor a mixed method approach were appropriate for this study.

I selected the correlational research design for this study. A correlational researcher investigates the relationship between two or more variables, and I examined the relationship between student enrollment, student retention, alumni giving, and financial health of HBCUs (see Bloomfield & Fisher, 2019). The correlational design is the best choice given my research question and that I am using archived data. Other designs, such as experimental and quasi-experimental designs, are appropriate when the researcher seeks to assess the effectiveness of interventions (Bloomfield & Fisher, 2019). The experimental and quasi-experimental designs were not appropriate for this study because my purpose is to examine the relationship between the variables.

Research Question

What is the relationship between student enrollment, student retention, alumni giving, and financial health?

Hypotheses

Null Hypothesis (H_0): There is no statistically significant relationship between student enrollment and financial health.

Alternative Hypothesis (H_{11}): There is a statistically significant relationship between student enrollment and financial health.

Null Hypothesis (H_{02}): There is no statistically significant relationship between student retention and financial health.

Alternative Hypothesis (H_{12}): There is a statistically significant relationship between student retention and financial health.

Null Hypothesis (H_{03}): There is no statistically significant relationship between alumni giving and financial health.

Alternative Hypothesis (H_{13}): There is a statistically significant relationship between alumni giving and financial health.

Null Hypothesis (H_{04}): There is no statistically significant relationship between student enrollment, student retention and financial health.

Alternative Hypothesis (H_{14}): There is a statistically significant relationship between student enrollment, student retention and financial health.

Null Hypothesis (H_{05}): There is no statistically significant relationship between student enrollment, alumni giving and financial health.

Alternative Hypothesis (H_{15}): There is a statistically significant relationship between student enrollment, alumni giving and financial health.

Null Hypothesis (H_{06}): There is no statistically significant relationship between student retention, alumni giving and financial health.

Alternative Hypothesis (H_{16}): There is a statistically significant relationship between student retention, alumni giving and financial health.

Null Hypothesis (H_0): There is no statistically significant relationship between student enrollment, student retention, alumni giving and financial health.

Alternative Hypothesis (H_1): There is a statistically significant relationship between student enrollment, student retention, alumni giving and financial health.

Theoretical Framework

Strategic enrollment management (SEM) theory was founded by Jack Maguire in 1976 and social exchange theory was founded by George Homans in 1958. SEM or enrollment management involve a marketing orientation for student success to achieve institution goals (Hossler & Kalsbeek, 2008). SEM theory was developed as a critical pillar in the institutional planning process that strategically focus on student success throughout the entire life cycle with an institution while increasing student enrollment and retention numbers, building lifelong affinity with the institution among alums, and stabilizing institutional revenues or financial health (Baillie & Gordon, 2017; Black et al., 2010). The institution's mission and student experience are fulfilled through strategic planning enrollments through recruiting, retaining, and graduating cohorts of students followed by targeted practices that build lifelong affinity with the institution among alums. This framework was applicable to my study because the framework deals with the entire life cycle of the student experience that includes enrollment and retention and its effect on the institution revenues which can be applied to my study. In addition, the social exchange theory developed by Homans (1958) deals with the exchange of activity, tangible, or intangible, rewarding or costing between at least two persons. Homans concepts are based on equilibration, expectancy and distributive justice in dyadic

exchange that explain the rewards received in proportion to the costs and investments. The three propositions are success, stimulus, and deprivation-satiation. Success is when one is rewarded for their actions, so they tend to repeat the action; stimulus deals with the more as stimulus is rewarded in the past, the more likely that a person will respond to it; and deprivation-satiation deals with the more often in the past a person received a particular reward, the less valuable any further unit of that reward becomes. This framework applied to my study because social exchange theory is frequently used to explain donor motivations, and often applied to philanthropy. Therefore, if alumni attribute their success to their education they will be motivated to give to their alma-mater.

Operational Definitions

Alumni Giving: Philanthropic donations after graduation between an alumnus and their graduate alma mater (Drezner & Pizmony-Levy, 2021).

Enrollment: "The total number of students registered in a given school unit at a given time, generally in the Fall of a year. At the postsecondary level, separate counts are also available for full-time and part-time students, as well as full-time-equivalent enrollment. See also Full-time enrollment, Full-time-equivalent (FTE) enrollment, and Part-time enrollment" (Snyder et al., 2019, p. 570).

Financial Health: An organization demonstrating financial health will have sufficient resources to meet its working capital needs, efficient administrative allocations, several revenue sources, able to sustain operations in financial downturns, and have a positive gross profit margin (Hung & Hager, 2019).

Higher Education Institution (HEI): Any accredited public or nonprofit institution legally authorized within any state to provide educational program beyond secondary for a minimum of 2-years (Higher Education Act of 1965, §101).

Historically Black college and university (HBCU): An accredited college or university established before 1964 with the main purpose of educating Black Americans (Brown 2013).

Retention: The process that allows a student to remain in a program of study and institution they enroll to obtain a higher education degree (Borgen & Borgen, 2016).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are facts considered to be true but are not actually verified. I made two assumptions in this study. My first assumption was that the Integrated Postsecondary education Data System (IPEDS) and NCES database is the most suitable data source to conduct this study (Griffin et al., 2022; Hobson et al., 2023). My second assumption was that the data submitted to IPEDS by HBCUs is accurate and complete.

Limitations

Limitations refer to potential weaknesses of the study and it is usually out of the researcher's control (Theofanidis & Fountouki, 2018). Some of the limitations in this study were the reliance on the credibility of the self-reporting institutions data as reported to IPEDS. The IPEDS data being incomplete or missing for some HBCUs during the years analyzed due to some institutions not complying with the federal reporting

mandate. The reported information not reflecting the institution since the data provided comes from a limited group of students.

Delimitations

Delimitations refer to the bounds or scope of the study set by the researcher in order that the aims and objectives will not be impossible to achieve (Theofanidis & Fountouki, 2018). In this study, I focused on public and private HBCUs that report to IPEDS. The study time frame was limited to 5-years.

Significance of the Study

Contribution to Business Practice

The findings of this research study could prove critical for business leaders of higher education understanding the relationship between student enrollment, student retention, alumni giving, and financial health. The results of the study could be of value to practitioners considering the threat of closure that hover on HBCUs due to the strain of continuing to provide educational opportunities for African Americans. Decreasing student enrollment, low student retention rates, and a drastic decrease in alumni giving has heightened the conflict of HBCUs relevance and ability to fulfil its mission. This study may be of significant value to the business of higher education since the findings provide HBCUs leaders with knowledge and insight to navigate the market-driven environment and reposition their institutions in the evolving and complex demands of the higher education marketplace from survival to sustainability (Andrews et al., 2016). Additionally, the research findings provide significant knowledge in recognizing the significance of fundraising for HBCUs, particularly from alumni.

Implications for Social Change

The findings of this study might prove beneficial to HBCUs stabilization, since HBCUs are vital to the underprivileged and minority students and communities to educate and develop low-income and first-generation students to become successful graduates. The implication for positive social change includes increased enrollment for low-income ethnic groups and retention, enhanced institutional revenues, improved education, job creation, accelerating business ownership and entrepreneurship, and new business opportunities from graduates' contributions. In addition, business leaders will use the results to develop better strategic and marketing initiatives that lead to more significant investment, better corporate image, a robust stakeholder-organizational relationship enhancing communication, collaboration, and partnerships' (Ng & Galbraith, 2023; Santhosh & Baral, 2015). Therefore, improving, and stabilizing HBCUs' financial health is paramount to vitalizing their communities.

A Review of the Professional and Academic Literature

The purpose of this quantitative correlational study was to examine the relationship between student enrollment, student retention, alumni giving, and financial health at HBCUs. In this secondary study, I targeted 101 HBCUs data collected by the NCES and IPEDS to evaluate the hypotheses. The alternative hypothesis (H_1) states there is a statistically significant relationship between (a) student enrollment, (b) student retention, (c) alumni giving, and (d) financial health.

The literature examined in this doctoral study represented articles related to the study's general themes. I examined and synthesized articles aligning them with the

theoretical framework using the hypotheses independent and dependent variables. The literature review search for information was completed using the following databases: EBSCOhost, ProQuest Central, and Business Source Complete. The keywords used in the references search were *enrollment, retention, alumni relations, alumni giving, profitability, vitality, financial health, Historically Black Colleges and Universities, strategic enrollment management, and altruism*. The information in this literature review includes books, dissertations, government websites and reports, and published peer-reviewed journal articles. The supportive referenced peer-reviewed articles were 85% published between 2018 and 2023.

Historically Black Colleges and Universities

The Higher Education Act of 1965 defined HBCUs as any historically Black college or university established before 1964 with the mission to educate black, low-income, and educationally disadvantaged Americans (Daugherty et al. 2023). Also, the HBCUs had to be accredited by a nationally recognized accrediting agency or association who that the Secretary of Education recognized as a reliable authority for the quality of training offered (U.S. Department of Education, n.d.).

Despite the Higher Education Act's categorization, HBCUs are open to all races, with African American students representing the most served population. The Thurgood Marshall College Fund (n.d.-b) noted that about 20% of HBCUs students are of a different race. In addition, HBCUs are most likely to serve its first-generation and low-income student population (Thurgood Marshall College Fund, n.d.-a). Due to these dilemmas, some students may need help graduating due to academic and financial

stressors that jeopardize their ability to enroll. Therefore, evaluating low-income students for emotional and mental health is paramount.

HBCUs' financial stability and longevity depend heavily on funding from federal, state, and local governments and tuition revenue. As Williams and Davis (2019) noted, HBCUs' financial stability and longevity depend heavily on federal, state, and local government funding and tuition revenue. Williams and Davis (2019) indicated that HBCUs lean more on external income than their non-HBCU counterparts. Therefore, maintaining the various external funding is crucial since HBCUs receive less money from endowments, private gifts, grants, and auxiliary funds than non-HBCUs (Adams & Tucker, 2022). Because of the low HBCU funding, HBCUs need help to progress financially (Adams & Tucker, 2022), leading to fewer donors, lower quality of education experience, and lower graduation numbers.

Federal funding is a significant financial contribution for HBCUs. HBCUs receive discretionary grant funding through the Title III Higher Education Act of 1965 that provides formula-based awards to legally designated Title III eligible HBCUs (U.S. Department of Education, n.d.). A threat or decline in the funds provided to HBCUs has the impact of widening the financial gap between HBCUs and predominantly White institutions (PWIs) due to HBCUs' small endowment and student enrollment.

Additionally, the continuous funding of the Pell Grant program is vital to students, public HBCUs, and regional universities. Daugherty et al. (2023) noted that in 2017-18, approximately 7.1 million students nationwide were Pell recipients, with the majority attending public four-year (40 percent) or public two-year (30 percent)

institutions. Therefore, the Pell Grant program provides financial help for economically challenged people to obtain an education that can change their quality of life and local community (Daugherty et al. 2023).

HBCUs are essential to the Black community since they catalyze social mobility upward and promote social change. According to Coupet (2017), HBCUs are a significant higher education producer of African American degrees, conferring about 20% of the total number of degrees awarded to African Americans. In addition, scholarly literature on HBCUs' performance noted relative competitive advantages at student graduation with appropriate controls and labor market premiums (Coupet, 2017). Therefore, supporting HBCUs' continuous existence is vital since it helps build the African American community.

The Great Recession

One of the main objectives of most higher education institutions is to educate economically diverse student bodies. However, an economic shock, like the Great Recession, severely impacted families and higher education institutions' response due to the decline in federal and state appropriations that caused the shifting of college expenses to the students (Barr & Turner, 2013; Flores & Hansen, 2015; Ford et al., 2021; Long, 2015; Oliff et al., 2013; Ripley, 2018). Before the recession, due to the stratification of the higher education system, selective private and public flagship institutions had disproportionate attendance by high-income families students, while non-selective institutions were over-represented by low-income households (Ford et al., 2021). As a result of the stratified institutional types, a wide variety exists regarding on-campus

resources and an enriched student experience (Ford et al., 2021). Therefore, selective institutions will be able to spend more time on instruction, student services, and academic support that is beneficial to the student experience.

Two theoretical frameworks that explain the outcomes after an economic shock regarding the stratification of class-based higher education are disaster capitalism and effectively maintained inequality (EMI). The literature suggests that in the event of a significant economic shock like the Great Recession, social stratification will worsen due to organizations and people with economic advantages still having the resources to maintain their lifestyles and benefit in the chaotic aftermath (Ford et al., 2021). Disaster capitalism best explains this phenomenon and states that large shocks displace and create impediments for organizations and people in risky economic positions (Ford et al., 2021). Some of the mechanisms that can increase higher education stratification are a decrease in state funding, evaporating endowment funds, and a reduction in aid money, leading to higher tuition for students (Ford et al., 2021). Therefore, an economic shock can affect the enrollment for places hardest hit by the recession.

The second competing framework is EMI. According to EMI theory, through the Great Recession, stratification was maintained (Ford et al., 2021). Therefore before the economic shock, socio-economic families were securing qualitative better opportunities and attaining higher levels of education (Ford et al., 2021). Therefore, highly selective institutions can offer more resources and confer more advantages for students since the economic shock of the Great Recession would not significantly affect the patterns of stratification but maintain it across the whole higher education system (Ford et al., 2021).

Therefore, institutions that are horizontally stratified will be examined on their endowments, selectivity, and graduation rates (Ford et al., 2021). As the EMI theory identifies, during the economic shock, stratification was maintained.

The impact of the Great Recession had various effects across geographical localities, higher education institutions, and economic classes. For instance, Ford et al. (2021) noted that low-income families experienced high unemployment rates and loss in home equity and were slower to experience or not experience the economic recovery, which saw 95% of income gains going to the top 1%. Regarding higher education institutions, both public and private institutions were affected in different ways. For public institutions, their state appropriations were slashed, while private institutions endowments had huge losses, and the American Recovery and Reinvestment Act (ARRA) federal legislation contributed to stratifying institutions by earmarking funds directed toward research and development grants (Ford et al., 2021). The effect was that private research institutions received five times more ARRA allocations than public research institutions, and institutions with the lowest research productivity received the least amount (Ford et al., 2021). With the decrease in state appropriations and massive endowment losses, institutions increased the price of college attendance to increase revenues through tuition dollars (Ford et al., 2021). Despite the rising prices, institutions' enrollment expanded due to the significant expansion of the federal Pell Grant program that supported low-income students (Ford et al., 2021). Even though the Great Recession adversely affected various groups, the response of higher education institutions to the various economic shocks allowed them to survive during the recession.

Strategic Enrollment Management Framework

The leading theory for this study was the SEM. SEM's origin can be traced to the mid-1970s when societal, demographic, and institutional factors warranted administration oversight. According to Dolence (1993, 1998), SEM is a comprehensive process designed to help higher education institutions achieve and maintain the optimum student recruitment, retention, and graduation rates. SEM's primary goals are stabilizing enrollments, linking academic programs and SEM, stabilizing finances, optimizing resources, improving services, improving quality, improving access to information, reducing vulnerability to environmental forces, and evaluating strategies and tactics (Dolence, 1993). Therefore, with the increasing complexity of the higher education environment, leadership must understand how each goal affects the organization's viability.

SEM concepts, principles, and practices continuously evolve. Dolence (1998) noted that the key attribute that sets SEM apart is the holistic, institution-wide nature of SEM. Other scholars have conceptually fine-tuned SEM as a competitive sustainability strategy to achieve institutional goals (Ng & Galbraith, 2023). Therefore, as an institutional-wide process, SEM crosses all functional domains with an institution, and one neglected element diminishes the quality of the effort (Dolence, 1998). Thus, each goal must be clearly understood to implement an SEM plan since the institution must look at enrollment from the cradle to the grave, including recruitment, retention, graduation, and placement (Dolence, 1998). The next section includes a detailed description of each goal related to this study.

Stabilize Enrollment

Dolence (1998) suggested that stopping declining enrollment, controlling enrollment growth, working with individual departments to increase the number of majors, and smoothing out fluctuations are ways to stabilize finances.

Link Academic Programs and SEM. According to Dolence (1998), departments and school should not leave their enrollment profiles to the "whims and forces of chance and change" but embed the principles and practices of SEM in academic unit management and operations to stabilize and improve quality and retention. Additionally, Hornor (2020) noted that through purpose and careful integration, institutions gain synergies and efficiencies. For instance, aligning all the academic planning, review, and evaluation processes, including the program review, accreditation self-study, annual budget preparation, academic master planning, and curriculum planning (Dolence, 1998).

Stabilize Finances. Higher education financial problems cannot be fixed by dealing with expenditures only, and they must incorporate serious long-term revenue planning since the link between enrollments and revenues is inexorable (Dolence, 1998). Therefore, formulating a marketing and admission planning process to achieve the institution's objectives by identifying the market, assessing the institutional potential for the market, and communicating with the student population is vital to stabilizing the finances (Ng & Galbraith, 2023).

Optimize Resources. SEM is used to help grow employees, redirect and refocus employees' efforts, and optimize campus information systems to maximize existing resources (Dolence, 1998).

Improve services. SEM provides methods to improve services that are misguided, redundant, or unvalued by shortening response time, increasing satisfaction, and reducing overhead and paperwork (Dolence, 1998).

Improve Quality. SEM makes quality more explicit and approachable than systematic enhancement methods by improving the focus of the institution's inputs, processes, and outputs (Dolence, 1998).

Improve Access to Information. Information access includes having the right tools and people in order to implement an integrated information system online that trains enough people to run the online system to get the needed information (Hutton, 2021; Dolence, 1998).

Reduce Vulnerability to Environmental Forces. A good SEM program will continually monitor and evaluate environmental signals to mitigate the negative impact of local and regional events, expanding the pool of qualified prospects (Dolence, 1998).

Evaluate Strategies and Tactics. Tracking SEM program initiatives against expected results to confirm what works and change what does not (Dolence, 1998).

Other Related Theories

As SEM continues to emerge, various lenses have added different perspectives to its development. Hossler and Bontrager (2014) noted that viewing SEM from the theoretical perspective's lens of resource dependency theory, institutional theory, and new managerialism.

Resource Dependency Theory

Pfeffer and Salancik (1978) were the first to advance resource dependency theory (RDT), often used to explain the emergence of SEM. According to Hossler and Bontrager (2014), an organization will take necessary actions to any variation in the external environment, such as shifting time, energy, and resources to acquire resources ensuring its health and vitality. Therefore, during the late 1970s and early 1980s, Hossler and Hoezee (2001) noted that due to the precipitous decline in high school graduates, colleges and universities adopted more intentional business-oriented strategies and organizational structures to recruit and enroll students. In addition, Hossler and Bontrager (2014) noted that the emphasis on college rankings, persistence, and graduation rates resulted in institutions focusing on student success and organizational changes. According to Hossler and Bontrager (2014), the external pressures were not unique to North American tertiary institutions but a global phenomenon fueling the rise of SEM in countries other than the United States. Therefore, RDT must provide a framework to address an organization's response in order to minimize adverse effects.

RDT was essential to understanding goal displacement or mission drift and volatility. Therefore, goal displacement occurs when organizations that are reliant on substantial corporate or individual contributions are diverted from their university's mission to ensure alignment with their donor's mission in order to benefit from the philanthropy (Mohd Said et al., 2023). Contrary to this, government funding provides a more stable revenue stream with minimal goal displacement, if any, in fulfilling the government's mission of providing quality and affordable education (Mohd Said et al.,

2023). Therefore, an institution needs to consider the effects of revenue diversification strategies in terms of goal displacement or mission drift and volatility.

Institutional Theory

SEM through the lens of Institutional Theory (IT). DiMaggio and Powell (1983) posit that since organizations seek legitimacy, they will mimic other organizational patterns and structures of organizations deemed successful. Therefore, according to Hossler and Bontrager (2014), IT was an adaptive strategy and helped explain the emergence of SEM as a normative organizational structure in many colleges and universities. For instance, if deans and provosts moved to another institution to become presidents, and their previous institution had a successful enrollment organization, the natural tendency is to assume similar success at their new institution.

New Managerialism

In the literature, another lens SEM was viewed through was new managerialism (NW). According to Hossler and Bontrager (2014), NW viewed SEM from the perspective of the private, for-profit business sector, which considered organizational structures, technologies, management practices, and values. For instance, in the case of SEM, the new managerialism perspective would view tertiary education as a private benefit, utilizing marketing strategies and data analytics to inform the strategic decision-making process regarding admission recruitment (Hossler & Bontrager, 2014). In addition, Hossler and Bontrager (2014) noted that viewing SEM from an NW perspective utilized campus-based financial aid to guide its strategies to improve student persistence, success, and completion rate.

Social Exchange Theory

The second theory of focus for this study was the Social Exchange Theory (SET), built on the premise of social interaction and relationships regarding costs and benefits. Due to the emergent social structure (Snijders et al., 2019) in SET, the theory suggested that connections influenced giving (Skari, 2014). Within the context of SET, people engaged in social interactions with the expectation that they will receive benefits or rewards in return for their contributions or investments. SET development and emergence were attributed to the works of John Thibaut, George Homans, Peter Blau, and Harold Kelley. However, for this study, the work of Blau that emphasized technical, economic analysis was the focus.

Philanthropic donation was significant for higher education institutions, as well as informing alumni of their gifts. Blau (1964) noted that charitable donations were made not to earn gratitude from recipients but to get the approval of their peers who contributed to philanthropic campaigns. In addition, Blau noted there existed a social exchange between the donor and the recipient organization. For instance, the findings of a study done by Giving USA in 1999 found that eighty percent of Americans purchased goods or services for charity (Van Slyke & Brooks, 2005). Boulding (1973) further expanded on the idea of social exchange by examining the reciprocity to the donor in exchange for their monetary gift, which allowed for the coined term grants economics. Therefore, the reciprocity to the donor may be status, recognition, or subtle psychological transfer that may satisfy the giver. However, the continuous exchange between the donor and the organization may help build the critical relationship needed to give.

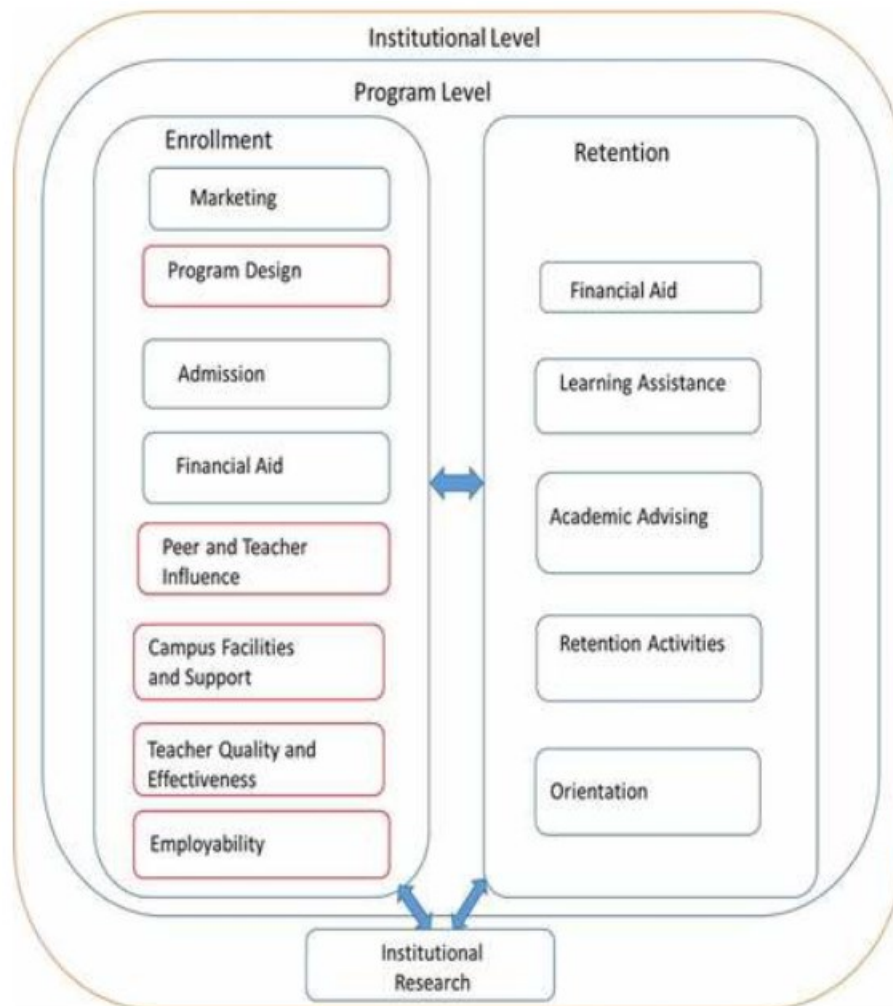
In the context of alumni giving, SET suggested that individuals donated to their alma mater based on the expectation of receiving rewards and avoiding costs. The literature suggested rewards occurred from positive student-faculty relationships that lead to higher student involvement during their studies, like positive recommendations by students and student engagement within and outside the classroom (Snijders et al., 2019).

SEM Relationship to Enrollment and Retention

SEM directly related to the independent variable's enrollment and retention. As the literature noted, SEM was an approach associated with the recruitment, admission, retention, academic success, and graduation of students enrolled at colleges and universities (Hossler & Bontrager, 2014). Most modern academic strategic plans address the whole campus approach to student enrollment, retention, and success since it enhances communication, collaboration, and partnerships (Ng & Galbraith, 2023). Therefore, as Figure 1 shows, SEM was essential in assisting leaders of universities and colleges in optimizing students' enrollment and retention goals.

Figure 1

A Proposed SEM framework



Note. From “A strategic enrollment management framework: perceptions of senior and program managers at three Hong Kong universities,” by P. Ng & C. Galbraith, 2023,

International Journal of Leadership in Education, 26(3), p. 392

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Independent Variable A: Enrollment

Enrollment was one of the most essential factors in determining the success of institutions of higher learning, including HBCUs. Allen and Wolniak (2019) noted that since the mid-1990s, public colleges and universities has seen a rise in enrollment levels and student diversity. An increase in enrollment was significant for HBCUs since it provided a significant revenue source to meet their financial obligations, such as maintaining facilities and paying faculty and staff. Moultry (2021) studied the enrollment trend at HBCU pharmacy schools from 2015 to 2019 and noted that African American enrollment declined from 1,342 in 2015 to 1,080 in 2019, while the enrollment for all national pharmacy schools increased from 5,031 in 2015 to 5,624 in 2019. These numbers are significant since Moultry (2021) noted that HBCU pharmacy schools account for an average of 22.8% of the total African American student enrollment from 2015 to 2019. Likewise, Koch and Swinton (2022) noted that low enrollment at HBCUs was sometimes the result of price, financial aid, household income, and the size of the black population. Therefore, allocating resources to boost enrollment was vital for HBCUs' success.

As time progresses, ethnic/racial demographic changes may affect the enrollment rate for an institution of higher education. For instance, Kim and Nuñez (2013) noted that demographic projections indicated that students of color, especially Latinos, comprised the majority of growth in college-age students in the next decade. Therefore, since the mid-1990s, Allen and Wolniak (2019) noted that public colleges and universities have had increases in enrollment and the level of student diversity. Due to this projection,

schools that need to increase their enrollment rates would likely provide marketing initiatives to these growing ethnic groups, diversifying their institution's student population. With a diverse student population, students experienced a rich learning environment from various student backgrounds and experiences, attracting students from various regions and creating a vibrant campus community.

An upward-trending enrollment rate was vital for providing significant student support services and the development and sustainability of academic programs. Before the 2011 changes to the federal Parent Loans for Undergraduate Students (PLUS) program, undergraduate student parents (approximately 12 percent) helped pay the education expenses financial aid did not cover (Johnson et al., 2019). The PLUS program was very beneficial to HBCU students who were from low-income and minority families and needed extra assistance to meet their tuition expenses (Johnson et al., 2019). Therefore, due to the October 2011 credit standard change to obtain a PLUS loan, an 11 percent reduction in PLUS loans could have decreased HBCUs enrollment, threatening (Halabieh et al., 2022) their viability due to reduced tuition revenue (Johnson et al., 2019). With reduced tuition revenue, an institution needed to adequately budget to justify its offerings, such as the majors, minors, or courses it provided, as well as any student services like tutoring or career services. Therefore, higher enrollment figures provided more revenue, which funded the support services and academic programs.

In case of a global recession and government cutback response, there were four budget-balancing fundamental strategies an institution used. The four strategies were capping enrollments and cutting costs, changing the mix of enrollments, increasing

tuition fees for existing students, and increasing enrollments while maintaining current tuition fee levels (Hauptman & Nolan, 2011). Table 1 shows how these strategies influenced the performance variables of participation, equity, productivity, and quality.

Table 1

A Comparison of the short-term effects of four budget-balancing strategies

Strategies	Participation	Equity	Productivity	Quality
Cap enrollment	Negative	Probably negative	Neutral or negative	Presumed positive
Change enrollment mix	Negative	Probably negative	Neutral or negative	Neutral or negative
Increase tuition	Neutral or negative	Probably negative	Neutral or negative	Presumed positive
Increase enrollment at current fee	Positive	Possibly positive	Positive	Presumed negative

Note. From “Assessing the Effects of Four Budget-Balancing Strategies in Higher Education,” by A. Hauptman & P. Nolan, 2011, *Higher Education Management and Policy*, 23, p. 6 (<https://doi.org/10.1787/hemp-23-5kgf1px3qr32>). Copyright 2020 by Academic Publishing Consortium. Reprinted with permission.

Independent Variable B: Retention

Another critical factor in determining the success of higher education institutions, including HBCUs, was the retention strategy or plans. Halabieh et al. (2022) noted that 64 percent of students in the U.S. graduated within four years of a bachelor's degree. However, an international study found that 31% of higher education students fail to complete their courses (Al Hassani & Wilkins, 2022). The retention rate was crucial for postsecondary institutions since students' failure to persist impacted the institution's financial plans and sustainability. For instance, when students failed to complete their

degree programs, it resulted in a loss of tuition revenue and other funding sources for the institution. The loss of tuition revenue and funding sources affected the low student-faculty ratio (Williams et al., 2022) that HBCUs were heralded for since faculty and staff were laid off. Therefore, retention was a crucial factor for institutions of higher learning.

The fact is that students are the primary revenue source for universities and colleges. Therefore, a university must be more student-centered, adopting a customer-oriented philosophy (Ahmed et al., 2015). Al Hassani and Wilkins (2022) explained that the revenue generated from students was vital to fund growth and facilities improvement while students gain the necessary knowledge and skills for employers and societies. With students being the focus, institutions will recognize that students are the primary stakeholders for their institution and thereby minimize the factors that lead to dropout, such as academic difficulties and issues affecting student life and support (Al Hassani & Wilkins, 2022). Therefore, an institution that can increase its retention rate will sustain its financial health and reputation.

Retention is critical for the academic success of students since they can complete their programs, achieve their academic goals, and develop the necessary skills and knowledge for their chosen careers. Halabieh et al. (2022) noted that at the University of Technology Sydney, the program explicitly provided students with industry-relevant skills for the modern workforce to thrive in any professional setting. In turn, the academic success of the students enhanced the reputation of the institution, improving its ability to attract and retain new students. For instance, some reputable colleges are Paul Quinn College, with a retention rate of 57%, and Bryn Mawr College, with a retention rate of

92% (Halabieh et al., 2022). Therefore, the enhanced reputation provided positive marketing, which increased revenue from the new students, which helped in sustaining the financial health of the university.

There may be several reasons why students may withdraw from higher education. Some reasons were lack of readiness, lack of academic attainment, the inability to pay tuition fees and living costs, dissatisfaction with the experience, and inability to achieve a sense of belonging (Al Hassani & Wilkins, 2022). As necessary, Al Hassani and Wilkins (2002) noted a strong and positive relationship between student retention and student satisfaction. Therefore, the literature suggested that institutions should improve the quality of support services to students, contributing to an enriched overall experience and satisfaction with the HEI (Al Hassani & Wilkins, 2022). Therefore, an institution making the necessary decision to improve student satisfaction have a positive effect on students' stay, which reduced the withdrawal rate.

Another primary criterion for retention was the university's reputation. The university's reputation was essential for gaining a competitive advantage in the education market that utilizes university rankings (Al Hassani & Wilkins, 2022). According to the rankings, students identified with reputable, prestigious, and successful institutions that provided them with knowledge, skills, and career opportunities (Al Hassani & Wilkins, 2022). In addition, Al Hassani and Wilkins (2022) noted that students studying at an institution with a strong reputation anticipated future benefits from their degree, which can have a positive impact on their satisfaction. Therefore, a university's reputation plays a vital role in student retention since they are satisfied.

Independent Variable C: Alumni Giving

Increasing the philanthropic giving of HBCUs alums has challenged HBCU leaders. One factor attributing to the problem was the growing racial wealth gaps that continuously keep alums from donating at high levels (Burpo, 2020; Melvin, 2017; Williams & Davis, 2019). However, for HBCUs, alumni giving was a valuable option for increasing their financial health. According to Burpo (2020), soliciting alum donations was more costly for HBCU leaders than securing corporate and other philanthropic donations. Therefore, this led to minute alum fundraising campaigns yielding little returns for the institution's financial health (Gibbs, 2020). However, HBCUs must continue to revise and revamp their alumni fundraising campaigns since it is a significant revenue source for institutions, and there are success stories of increasing alumni giving.

One successful Alumni giving initiative was the Kresge Foundation's HBCU initiative. This initiative was a strategic approach to increasing alumni donations at HBCUs over five years, including an \$18 million investment in five HBCUs (Burgess, 2020). Therefore, the initiative provided training and resources that successfully increased philanthropic donations, including alumni donations, at all five HBCUs. For instance, Claflin University had a 10% increase in alumni giving rate from 35%, placing it on track to reach an alumni giving rate of 50%, becoming the first HBCU to reach this milestone (Gibbs, 2020). The positive effect of the publicity was significant in being the catalyst for other significant private gifts from Makenzie Scott and other philanthropists. This initiative showed how important alumni giving is for HBCUs' financial health.

To increase alumni giving, it is necessary that HBCU leaders effectively communicate their need for financial support. Communication is essential since researchers have noticed alumni were more inclined to participate or contribute to alumni giving campaigns when they believe their contributions assisted in helping students with similar needs as their own (Gibbs, 2020; Richardson, 2018). Therefore, HBCU leaders must communicate the utilization of alumni donations to improve students' educational experiences since it tends to increase alumni giving. Although communication was vital to alumni giving, other factors must be considered.

Alumni's reluctance to give to their alma mater has been a primary concern since they believe that the only time they were engaged was when their money is needed. According to Harris (2020) and Stuart (2017), this perception has made alumni less likely to donate and give to HBCUs. Since this was the case, HBCUs leaders must develop and implement long-term engagement initiatives other than fundraising (Chisom, 2020; Richardson, 2018). Such an approach increased the school's overall fundraising outcomes and position the school to receive other philanthropic donors. Therefore, alumni giving played a vital role in the sustainability of an HBCU's financial health.

Advancement Challenges

For institutions of higher education (IHE) to continue to meet the needs of their stakeholders and reach global prominence, the support of its alumni giving program was vital in providing a significant cash flow stream. For instance, Cohen (2006) and Faria et al. (2019) contended that alumni giving was vital to an institution's advancement program in providing an inestimable revenue stream and improving the university's reputation.

Such support by the alumni assisted an institution of higher education in providing new offerings to students, increase scholarship awards, and assistance in any financial instability. Therefore, IHE must work to increase the relations with the alumni to help advance the mission.

Since 1957, fundraising data collected by the Voluntary Support of Education (VSE) annual survey was the definitive source of philanthropic data. Table 2 shows the data collected between the period 2017- 2020, revealing that alumni giving was the second most significant contribution to higher education institutions.

Table 2

Estimated Voluntary Support of Higher Education by Source 2017 – 2020(Dollars in Billions)

Source	FY 2017	FY 2018	FY 2019	FY 2020
Total	\$43.60 (100 %)	\$46.73 (100%)	\$49.60 (100%)	49.50 (100%)
Contributions				
Foundations	\$13.13 (30.1%)	\$14.01 (30.0%)	\$17.00 (34.3%)	\$16.44 (33.2%)
Alumni	\$11.37 (26.1%)	\$12.15 (26.0%)	\$11.20 (22.6%)	\$11.06 (22.3%)
Nonalumni	\$7.86 (18.0%)	\$8.56 (18.3%)	\$8.30 (16.7%)	\$8.63 (17.4%)
Individuals				
Corporations	\$6.60 (15.1%)	\$6.73 (14.4%)	\$6.80 (13.7%)	\$6.63 (13.4%)
Other	\$4.64 (10.6%)	\$5.26 (11.3%)	\$6.30 (12.7%)	\$6.74 (13.6%)
Organizations				

Note. From “Voluntary Support of Education: Key Findings from Data Collected for the 2017-2020,” by W. Student, 2020, *Journal of Academic Optimism*, 98, p. 11 Copyright 2020 by Academic Publishing Consortium. Reprinted with permission.

Dependent Variable: Financial Health

Financial health has several dimensions such as financial vulnerability, viability, and resilience. Therefore, financially vulnerable institutions’ resources and capabilities

will be inadequate to continue current level of operations; financially viable institutions are capable of continuing operations immediately; and financially resilient institutions has the capability to maintain service delivery during financial downturns (Irvine & Ryan, 2019). To determine an institution's financial health regarding the various dimensions, one can assess the revenue, expenses, debt, liquidity, and financial stability ratios.

There are several reasons for knowing the financial health of higher education institutions, including HBCUs, operating in this increasingly competitive environment. The first reason was financial sustainability in continuing to deliver on its mission. One of the key factors that influenced the financial sustainability of universities was income diversification (Garland, 2020) where an institution can weather changes and manage its external environment (Irvine & Ryan, 2019). In essence, Garland (2020) noted that when evaluating an institution's financial health, a university's income portfolio is a critical component, whether it was diversified or concentrated, since it reduced risk exposure. For instance, in a study of publicly funded universities in Australia, the researchers found that income diversity was a strong predictor of financial viability (Garland, 2020). Therefore, financially sustainable institutions can operate sustainably over time, investing in facilities, equipment, and personnel while providing high-quality education and research opportunities for students and faculty, even in adverse situations.

Therefore, it was necessary to measure income diversification since higher education institutions faced vulnerability issues and reduced autonomy due to reduced government funding. The Hirschman-Herfindahl Index was used to measure income

diversification in a study of 814 private universities and colleges in the US. De Dominicis, or the Simpson Index of diversity, is a derivative of the Herfindahl-Hirschman Index used to measure 200 research-active universities across Europe (Garland, 2020). Another approach noted by Garland was the use of financial ratios that measure the diversity of income sources by comparing the relationship between the primary sources of revenue and expenditures (source of revenue/total expenditures). Garland (2020) noted that using expenditures accounted for the restricted sources of income and how they were spent; however, obtaining information on which expenditures used funds from which sources. However, the additional detail needed for expenditures has not been widely utilized.

Therefore, the most common measure of income diversification was the Hirschman-Herfindahl Index (HHI). Garland (2020) noted the reliability and validity of the HHI in foundational works by researchers, where it measures concentration and its inverse diversification. The HHI index was the sum of squares of the percentages share of each income stream out of the total income, with a high HHI score reflecting a less diverse income portfolio and a low score reflecting a more diversified income portfolio (Garland, 2020). Therefore, the HHI score was significant in evaluating a university's financial health regarding its income diversity.

The second reason why the financial health of higher learning institutions was important was the impact sufficient revenue have on student success. Therefore, when institutions have sufficient revenue, they can offer more scholarships, grants, and other financial aid to help students afford tuition and other expenses and not just reduce

expenses beyond the point that negatively affects the quality of education (Mohd Said et al., 2023). In essence, students noticed the lack of staff and resources, causing them to rethink their tuition expenditures (Mohd Said et al., 2023), which can affect enrollment and retention rates. Some key variables or indicators of financial strength are enrollment, net tuition, endowment, plant, property and equipment, cash flow, endowment to total expenses, and net assets (Mohd Said et al., 2023). Therefore, analyzing whether an institution has sufficient revenue is vital to ensuring student success and financial health.

The third reason why the financial health of higher learning institutions was essential was it impacted its reputation. Reputation is vital since education was considered a positional good in that where you were positioned relative to other competitors was crucial since prospective students and their parents sought out the most reputable institutions (Garland, 2020). Also, Garland (2020) noted that reputable institutions attracted higher proportions of internationals who paid a higher fee used to cross-subsidize research, which in turn build reputation. Therefore, institutions with a solid financial position attract more students seeking institutions that best position them for the job market, enhancing social mobility (Garland, 2020). As noted in the literature, a positive reputation attracted new resources and partnerships that improve the institution's financial health.

Financial ratios played an essential part in assessing the financial health of higher education institutions. For instance, to measure business performance, financial indicators are the most used variables (Sabău Popa et al., 2021). Therefore, for institutions of higher

learning, assessing financial health is critical for developing strategies and managing institutional risks (Messina et al., 2015). The following ratios have been identified.

Primary Reserve Ratio (PRR)

The formula used for the primary reserve ratio (PRR) is as follows:

$$\text{Primary Reserve Ratio} = \frac{\text{Expendable Net Assets} + \text{Component Unit Expendable Net Assets}}{\text{Total Expenses} + \text{Component Unit Total Expenses}}$$

The PRR measures the financial strength of an institution's liquidity, comparing its expendable net assets to total expenses (Mohd Said et al., 2023). The ratio explored if an institution's resources are sufficient, flexible, and liquid enough to support its regular operation without additional net revenue (Mohd Said et al., 2023; Tandberg, n.d.; Whitford, n.d.). Mohd Said et al. (2023) and Tandberg (2018) noted that the recommended threshold for moderate financial health was approximately four and a half months of expenses or a PRR of 0.40:1. Therefore, a PRR of 0.40x or better would indicate an institution has more financial flexibility meeting its strategic priorities relying on internal cash flow to meet short-term cash needs. Also, a ratio of 0.40x would signal the institution's ability to cover about five months of expenses from reserves. A ratio below .10x to .15x signaled the institution's expendable net assets were insufficient and short-term borrowing is necessary for operating flexibility.

Viability Ratio (VR)

The formula used for the viability ratio (VR) is:

$$= \frac{\text{Expendable Net Assets} + \text{Component Unit Expendable Net Assets}}{\text{Plant Related Debt} + \text{Component Unit Plant Related Debt}}$$

The VR assessed how the resources were used and managed to strategically advance the institution's mission while paying off its debts at any point in time (Mohd Said et al., 2023; Tandberg, 2018; Whitford, 2023). Unlike the Primary Reserve Ratio, the Viability Ratio does not have a benchmark when developing an institutional strategy. However, an increase or decrease in the financial ratio will signal an institution's ability to meet financial obligations or likely to be financially strained.

Return on Net Asset Ratio (ROAR)

The formula used for the return on net asset ratio (ROAR) is:

$$= \frac{\text{Change in Net Assets} + \text{Component Unit Change in Net Assets}}{\text{Total Net Assets} + \text{Component Unit Total Net Assets}}$$

The ROAR recommended threshold is 6%, and it assessed if the asset performance and management support the university's strategic mission in making the institution financially better off than in previous years when examining changes in economic returns. (Mohd Said et al., 2023; Tandberg, 2018; Whitford, 2023). However, a decline in the ROAR ratio may not cause concern since there might be valid reasons, such as a change in the economy or allocation of institutional resources to support the strategic mission.

Net Operating Revenues Ratio (NORR)

The formula used for the net operating revenues ratio (NORR) is:

$$= \frac{\text{Operating Income (Loss) + Net Non Operating Revenues (Expenses) + Component Unit Change in Unrestricted Net Assets}}{\text{Operating Revenues + Non Operating Revenues + Component Unit Total Unrestricted Net Assets}}$$

Adjusted net operating revenues/Adjusted total income. The NORR recommended threshold is a 2% to 4% return over the long term and assessed whether the operating activities led to a surplus or deficit for the year (Mohd Said et al., 2023; Tandberg, 2018; Whitford, 2023). A positive or negative ratio signals an operating surplus for the year, or the institution was operating at a deficiency. Monitoring the NORR is essential to validate that the institution fully leverages its available resources.

Composite Financial Index (CFI)

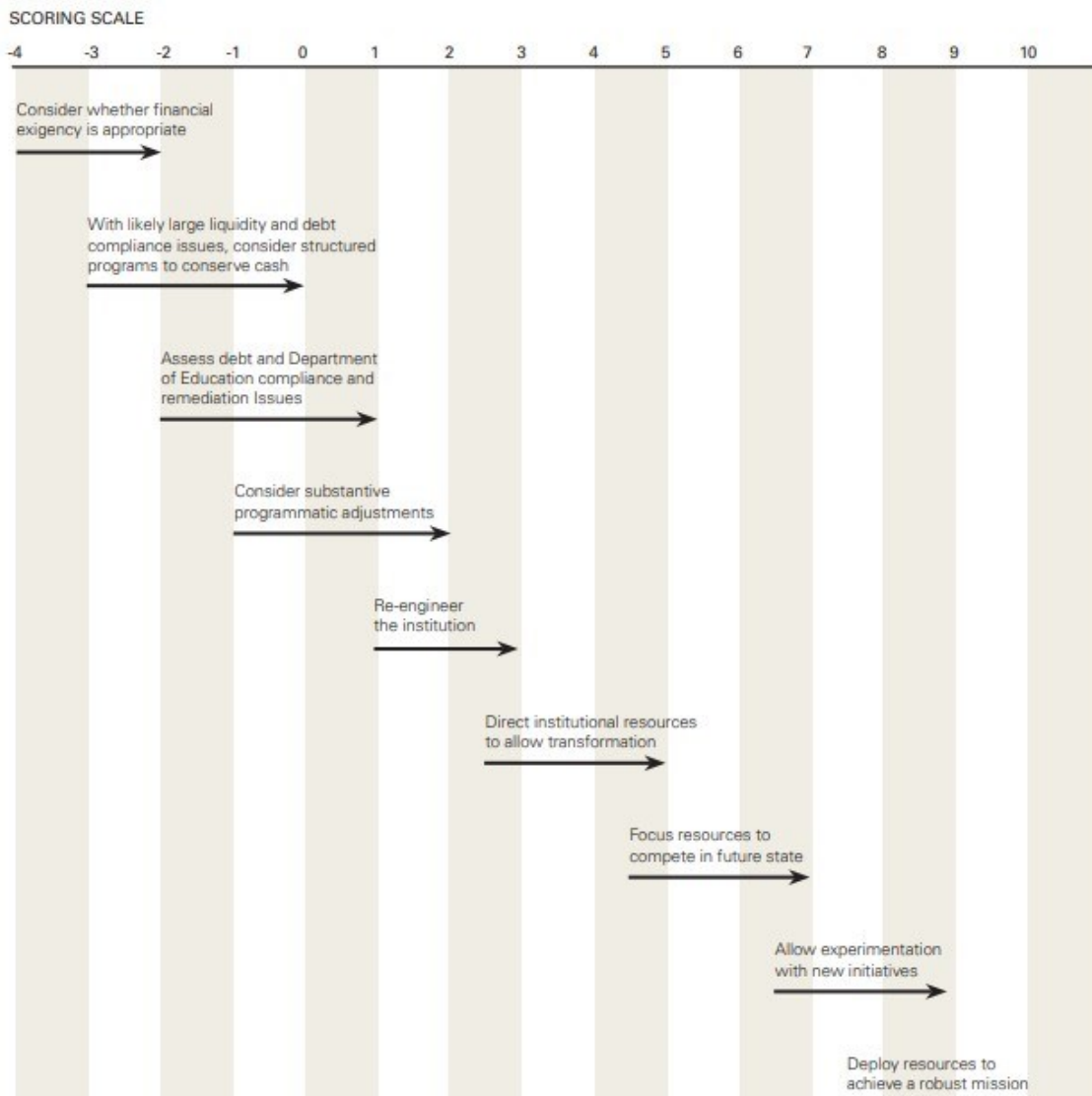
The composite financial index (CFI) is a tool used to measure the financial health of institutions of higher education utilizing the weighting of the four principal ratios: primary reserve, viability, return on net assets, and net operating revenue. When calculating the CFI, each ratio is converted into a strength factor, then multiplied by a corresponding weighting and added to obtain the CFI that aids institutions in communicating overall financial health (Messina et al., 2015). The literature notes that care is needed when comparing due to the unique circumstances' institutions may have, such as enrollment, private versus public status, and diversity of revenue sources. Also, institutions can best use the CFI over a period to give a more accurate overview of the financial health.

There are four key questions the CFI answers regarding whether an institution is financially healthy:

1. How sufficient and flexible are the resources to support the mission (Messina et al., 2015)?
2. How are the debt resources strategically managed to advance the mission (Messina et al., 2015)?
3. How is the strategic direction supported by asset performance and management (Messina et al., 2015)?
4. Are the operating results reflecting that the institution is living within available resources (Messina et al., 2015)?

The literature notes that the various ratios evaluate an institution's operating commitment, its outstanding long-term obligations against expendable wealth, its ability to live within its means and to generate a return against all net resources (Messina et al., 2015). Therefore, each question was important to determine the overall financial health of an institution.

To understand the implication of the CFI scores, Figure 2 shows a scoring scale of the various ranges. These ranges were indicators of financial health for institutional well-being when combined with nonfinancial indicators (Messina et al., 2015). Therefore, the chart was used as a guide since other variables can impact institution ratio results that need to be considered.

Figure 2*Scale for Charting CFI Performance*

Note. Obtained From “Strategic Financial Analysis for Higher Education,” by Messina, L., Salluzzo, R., Prager, F., Cowen, C., & Tahey, P., 2015, Prager, Sealy. Reprinted with permission.

National Center of Education Statistics

The NCES is a postsecondary federal entity HBCUs that regularly submits education data on various performance indicators. NCES's primary function is to collect and analyze data related to education in the United States and other nations (U.S. Department of Education, n.d.). One of the congressional mandates NCES fulfills is collecting, collating, analyzing, and reporting complete statistical information on the state of education in the United States. Conducting and publishing reports and specialized analyses of the meaning and significance of such statistics; and reviewing and reporting on education activities in foreign countries (U.S. Department of Education, n.d.). Therefore, HBCUs enrollments, completion and attainment, finances, persistence, progress, and degree attainment are education data submitted to the NCES postsecondary statistical division.

Integrated Postsecondary Education Data System

Another postsecondary program that HBCUs report to is the IPEDS. IPEDS, as the core postsecondary education data collection program for NCES, collects data from all primary providers (IPEDS, 2019). Therefore, the IPEDS system, through a series of interrelated surveys, collects annual institution-level data on enrollment, program completions, faculty, staff, finances, and academic libraries (U.S. Department of Education, 2019). The IPEDS data is then released and made available to the public on a preliminary, provisional, and final basis. The release data allows for analysis and performance to be ascertained.

Council For Advancement and Support of Education

A third organization data examined was the Council for Advancement and Support of Education (CASE). CASE is the world's largest membership organization that supports and develops the relationships between educational institutions and their supporting constituencies (Skinner, 2019). CASE was formed in 1974 by the merger of two associations, the American Alumni Council (AAC) and the American College Public Relations Association (ACPRA), operations that focused on alumni, public relations, and fundraising (Skinner, 2019). Therefore, the CASE insights on the VSE survey will be examined as a source of data on fundraising.

Transition

Financial health can impact university performance, which can, in turn, affect its sustainability and profitability. Therefore, further examining the relationship between enrollment, retention, alumni giving, and financial health is essential for universities survival.

In Section 1 of this study, I outlined the historical background of the study, the problem and purpose statements, research questions, a discussion about the theoretical framework, and the study's significance. In Section 2 and Section 3, I highlight the project design, process, and deliverable. Section 2 includes the research method, design, population sampling, data collection, psychometric properties related to the reliability and validity, and analysis of the data set. Following Section 2 will be Section 3, consisting of the various topics: the presentation of findings, application to professional practice,

implication for social change, recommendation for action and further research, reflections, and conclusions.

Section 2: The Project

In this section, I will review the quantitative correlational study design that I used in this study. I begin Section 2 with a restatement of the purpose statement, followed by the role of the researcher, study participants, and research method and design. The section also includes a discussion on the collection process, including population and sampling, ethical research, data collection, and data analysis techniques. Additionally, I discuss the reliability and validity of the study and conclude the section with a summary and transition to Section 3.

Purpose Statement

The specific business problem is that some HBCU leaders lack knowledge of the relationship between student enrollment, student retention, alumni giving, and financial health. Therefore, the purpose of this quantitative correlational study was to examine the relationship between student enrollment, student retention, alumni giving, and financial health. This study's implication for positive social change includes the potential to help HBCU leadership make better strategic decisions that will increase the financial health and sustainability of HBCUs, which encourage and improve the environment, social, and economic standard of living in the nation.

Role of the Researcher

In this quantitative study, the role of the researcher entailed: (a) collection of the data for the independent variables enrollment, retention, and alumni giving, and the dependent variable financial health; (b) collecting and organizing the data based on the time-period range; and (c) analyzing and interpreting the results, achieving objectivity

through the independence of the participants of my quantitative study. A researcher must understand how their view of the world, paradigms, and assumptions guide the research question (Rahi, 2017). Researchers who use quantitative methodologies engage in a positivist paradigm and measure phenomena through empirical observations and measurements (Bougie & Sekaran, 2019; Rahi, 2017). As the researcher, I was responsible for collecting, analyzing, and interpreting the results.

The researcher must understand the research objectives and plan for unintended situations or issues during the data collection process (Rahi, 2017). In order to conduct ethical research, I followed the principles outlined in the Belmont Report (U.S. Department of Health & Human Services, 1979). The information outlined in *The Belmont Report* provides a standard of core ethical considerations for researchers to meet before involving human subjects in their studies who are and are not capable of making an informed decision (USDHHS, 1979). As the researcher, it was vital to provide the participants with privacy and confidentiality of the information (Bougie & Sekaran, 2019). Thus, as the researcher, I would have no controlling interest due to the data collection coming from a secondary source.

As the researcher, I used the statistical package for the social sciences (SPSS) statistical software to run a multiple regression analysis to analyze and interpret the secondary data.

Participants

I did not use or collect any primary data in this study. I used archival (secondary) data provided by the IPEDS associated with the U.S. Department's NCES and the Council for Advancement and Support of Education.

Research Method and Design

A researcher must scientifically address the research question. Quantitative research involves examining the relationship among variables, analyzing data using statistical procedures, and predicting relationships to generalize findings to a larger population (Saunders et al., 2015). In this study, I examined the relationship between enrollment, retention, alumni giving, and financial health among HBCUs. In the following sections, I will outline the research method and the research design in this study.

Research Method

I chose the quantitative methodology for this study. A quantitative researcher analyzes relationships between variables (Saunders et al., 2015) using various measures such as surveys, tests, and questionnaires to statistically and numerically analyze the data to describe and predict variables of interest (Taguchi, 2018). The three types of methodologies that a researcher can use are quantitative, qualitative, or mixed methods (Saunders et al., 2015). A researcher will evaluate several decisions to determine the best method to use in a study. One of the decisions involves the researcher's philosophical leanings. Saunders et al. (2015) noted that the researcher's philosophical leanings can be positivism, critical realism, interpretivism, postmodernism, or pragmatism (Saunders et

al., 2015). However, for quantitative methodologies, the positivist worldview is followed, which requires rigor and replicability of the study.

Research Design

Selecting the appropriate research design is essential to ensure the accomplishment of the research objective in answering the research question. The selected research design for this study was non-experimental and correlational in nature, with the goal to examine relationships between variables. There are two types of correlation studies: associative and predictive. I used an associative design to guide and achieve the purpose of the study to determine the relationship between the independent variables (a) enrollment, (b) retention, and (c) alumni giving and the dependent variable, financial health. The two categories used in quantitative research are descriptive and analytical (Das et al., 2020). Using a descriptive design, the researcher summarizes the outcome (Rezigalla, 2020) using large sample sizes to reach statistical significance.

Population and Sampling

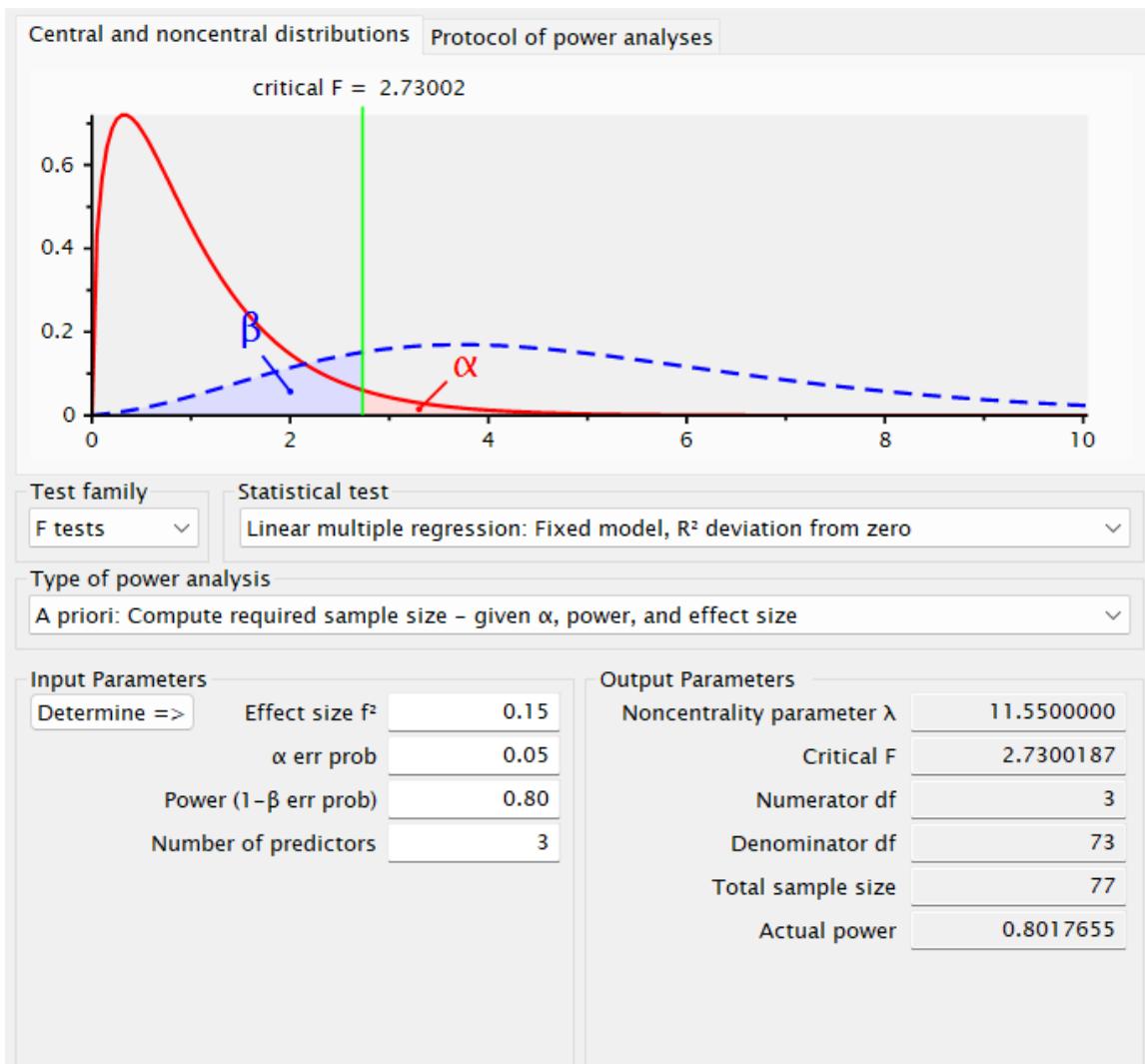
Sampling requires selecting the correct elements from the population so the researcher can study the properties and characteristics of the sample, making it possible to generalize such properties or features to the population elements (Bougie & Sekaran, 2019). To mitigate the study sampling error, I conducted a standard multiple linear regression analysis to determine the minimum appropriate size by completing a power analysis using the G*Power version 3.1.9.7 to conduct a power analysis to determine the minimum appropriate size. In addition, I analyzed the data in order to interpret the inferential results to make my conclusions. The quantitative analysis included the 101

HBCUs represented in the United States, the District of Columbia, and the U.S. Virgin Islands for the 2014-2015 to 2020-2021 academic years. The institutions that participated in the study represent 51 public colleges/universities and 50 private colleges/universities. The selection of HBCUs for the study was due to the increased attention regarding enrollment, retention, alumni giving, and financial health. Therefore, the research used only HBCUs recognized by the U.S. Department of Education and IPEDS.

To compute the minimum required sample size, I employed the G*Power version 3.1.9.7 to conduct a power analysis to determine the appropriate sample size for the study. Using the four parameters: (a) effect size, (b) level of significance, (c) power, and (d) number of predictors, the minimum required sample size for a power of 0.80 was 77 samples (see Figure 3). Therefore, the priory analysis effect size was 0.15, level of significance was 0.05, and the power was 0.80 in calculating a suitable sample size to have a high probability of obtaining a statistically significant result (Field, 2013). Increasing the sample size to 99 will increase the power of the statistical test to 0.90. Therefore, this study's sample size was between 77 and 99, as presented in Figure 4.

Figure 3

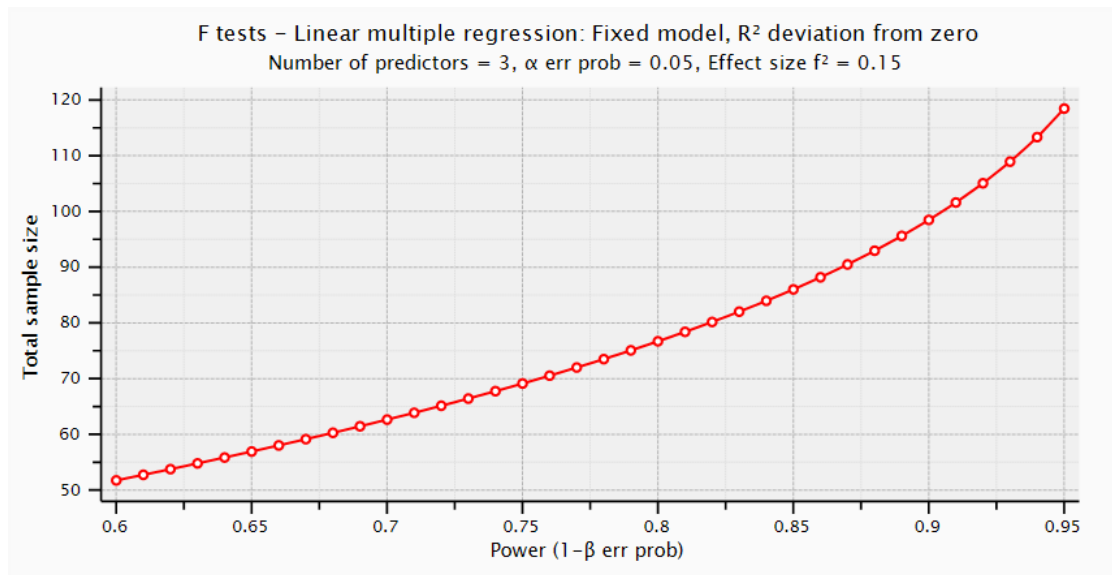
*Graphical model of G*Power Analysis to Determine Sample Size*



Note. Source: Author's calculations

Figure 4

*G*Power as a Function of Sample Size*



Note. Source: Author's calculations

Ethical Research

In this section, I cover the ethical research requirements for the study. I used and analyzed secondary data involving no personal identification, no human participants, and no ethical concerns related to data collection. Walden University requires IRB approval (#02-28-24-1039817) to protect beneficiaries in the secondary data. Therefore, I requested permission to conduct the research. The data will be secured via a complex password when the initial information and data are accessed. After completing my work, I will securely store the data for 5 years to protect the data and information confidentiality as required by Walden University. I observed all IRB protocols to ensure no violations of ethical research standards or regulations.

Data Collection Instruments

For this study, I used secondary data sources from the NCES (Ward & Corral, 2023) archival data and VSE Data (VSE; Fernandez et al., 2023). Data were downloaded from the 2018 - 2022 IPEDS database (Ward & Corral, 2023), in which all Institutions of Higher Education report their enrollment and retention data, and the VSE database charitable giving data to higher education institutions in the U.S. (Ward & Corral, 2023; Fernandez et al., 2023; *Voluntary Support of Education - Google Search* n.d.). Secondary data's main advantage is its enormous savings (Saunders et al., 2015). For instance, it is less expensive and time-consuming for a researcher to utilize secondary data, so more time can be spent on substantive issues, analyzing, and interpreting the data (Saunders et al., 2015). Other advantages Saunders et al. (2015) noted a researcher has of using secondary data are the unobtrusive measure it provides for a study, the ability to conduct longitudinal studies where time constraints exist, it provides comparative and contextual data, as well as reanalyzing, can lead to the unexpected discoveries.

I used the SPSS statistics data editor to analyze the secondary data. SPSS Version 28.0 for Window allows the researcher to make appropriate transformations of variables, create graphs of distributions of variables, and various statistical analyses (Green & Salkind, 2017). In this study, I used both the interval and ratio scales of measurement for the variables. Using the SPSS software, researchers can compute the Pearson correlation coefficient, an index of the effect size that indicates the degree of linearity in a sample. Therefore, for the multiple regression analysis, I used a multiple correlation test to determine the significance test for R^2 values in the range of 0 to 1, signifying whether a

linear or no linear relationship exists between the independent and dependent variables (see Green & Salkind, 2017). I used the SPSS software to examine the relationship between enrollment, retention, alumni giving, and financial health.

Data Collection Technique

For this study, I used secondary data sources from the NCES Statistics archival databases and the VSE. First, I obtained permission from Walden's Institutional Review Board to access the data. Then, I obtained permission from the NCES and the CASE to download the data.

Data Analysis

For this study, I used a correlational design to analyze the data using multiple regression analysis. Multiple regression analysis objectively assesses independent and dependent variables' degree and character relationship (Bougie & Sekaran, 2019). The relationship between the variables is measured by the multiple correlation coefficient, R-square, or R^2 , commonly known as the amount of variance between the independent and dependent variables (Bougie & Sekaran, 2019). Therefore, I used the SPSS software to conduct my data analysis.

There are five assumptions a researcher should be aware of when conducting a multiple regression analysis. The five assumptions are linearity, independence of residuals, normality, homoscedasticity, and multicollinearity (Saunders et al., 2015). Therefore, after cleaning the collected data, I submitted it to the tests of assumptions, to ensure the data can be subjected to the inferential statistics which, in this case, is multiple regression. Normality requires a normal distribution of the continuous variables in the

data. Therefore, I used SPSS to detect normality by completing a normality test whereby I examined the values for all variables. In addition, a visual inspection of data plots, skewness, kurtosis, and Kolmogorov-Smirnov tests was conducted for normality. Linearity requires a linear relationship between the independent variables and the dependent variable (Jupiter, 2017). Therefore, I used the histogram and scatterplots to test the linearity between the predictor and the criterions. Homoscedasticity addresses whether the variance of residuals is constant or equal across different groups or samples in the study (Jupiter, 2017). Therefore, I used the histogram to test for homoscedasticity. According to Green & Salkind (2017), multicollinearity shows independent variable dependency from other independent variables. This assumption was assessed using Variance Inflation Factor (VIF) values.

Therefore, each assumption was met while considering the sample size. The assumptions were made by visually inspecting data plots, scatterplots, histograms, and correlation matrix using the SPSS software (Green & Salkind, 2017). Making sure all four assumptions were met was very important to assess my hypothesis, because violations of assumptions in inferential statistics suggest researchers cannot rely on the results (Jupiter, 2017).

Study Validity

It is of utmost importance that a researcher understands a study's validity due to the tradeoff between internal and external validity. Saunders et. al (2015) emphasized that validity refers to the appropriateness of a measure used, the analysis of results accuracy, and the generalizability of the findings. What is internal validity, and what is external

validity? Internal validity would be established when research accurately demonstrates a causal relationship between two variables, such as in an experiment where an intervention showed it statistically led to the outcome of another variable (Saunders et. al, 2015). Internal validity would be most relevant for studies where the researcher seeks to establish or examine a relationship, such as experiments and quasi-experiments, but not to exploratory or purely descriptive studies (Bougie & Sekaran, 2019; Yin, 2018, Saunders et. al, 2015). However, external validity is established when the research finding can be generalized to other relevant settings or groups (Saunders et. al, 2015). External validity is relevant for studies where the findings can be generalized and transferable beyond the immediate study, in order to establish statistical generalizability (Bougie & Sekaran, 2019; Yin, 2018, Saunders et. al, 2015). Therefore, the trade-off is that a high internal validity will lead to a low external validity and vice versa. However, an experimental design and a cause-and-effect relationship are not considered in this research study, so internal validity does not apply.

Another paramount validity concern for the research is the statistical conclusion validity (SCV). SCV concerns the degree of confidence that the correct statistical inferences are made regarding the analysis of the data (Levine, 2011). Therefore, the researcher should be aware of Type I errors (alpha), which is the probability of rejecting the null hypothesis when it is true (Bougie & Sekaran, 2019). The typical significance levels in business research are 5%, or $p < 0.05$, and 1%, or $p < 0.01$ (Saunders et. al, 2015). For this study I used the $p < 0.05$ as an acceptable alpha in avoiding a Type I error. On the other hand, Type II error (beta) is the probability of failing to reject the null

hypothesis when the alternate hypothesis is true (Bougie & Sekaran, 2019). The effect sizes are another essential aspect of assuring statistical conclusion validity in well-conducted research (Garavan et al., 2019). Price et al. (2015) noted that the effect size is determined by the number of participants, while proper analysis determines whether the predicted relationship exists. Therefore, to measure the effect size for linear regression analysis, the coefficient of determination (R^2) was examined.

Transition and Summary

In Section 2, I have described the project and its purpose, method, and design. In addition, I have included the purpose, the role of the researcher, the participants, the research method and design, the population and sampling method, the data collection instruments, the data collection technique, the data analysis, and the study validity. In Section 3, I present the study findings, application to professional practice, implications for social change, my recommendations for future research, and my study reflections and conclusions.

Section 3: Application to Professional Practice and Implications for Change

Introduction

In this quantitative ex post facto correlational study, I examined the relationship between student enrollment, student retention, alumni giving (private giving), and financial health. The independent variables were enrollment, student retention, and private giving. The dependent variable is financial health. The target population for this study was HBCUs recognized by the U.S. Department of Education in the United States, the District of Columbia, and the US Virgin Islands. The theoretical framework supporting this study was the SEM theory. The data for this study were attainable using an archival data collection method for the sampled HBCUs for 2020, 2021, and 2022. I will employ SPSS software, Version 29, to test the relationship between enrollment, retention, alumni giving (private giving), and financial health (PRR, VR, ROAR, and NORR).

Presentation of the Findings

In this section, I will first discuss the assumptions tested including multicollinearity, outliers, normality, linearity, homoscedasticity, and independence of residual. Then, I will present the findings using descriptive statistics, present the inferential statistic results, provide a theoretical conversation about the findings, and conclude with a concise summary. Additionally, I will discuss the applications to professional practice and the implications for social change, followed by recommendations for action and further research. I used the multiple linear regression analysis functions in SPSS statistical software, version 29, to examine the relationship

between the independent (enrollment, retention, alumni (private giving) and the dependent variable (financial health) submitted to the NCES postsecondary statistical division. Preliminary analysis of the assumptions found no violations for the sample size, outliers, normality, linearity, homoscedasticity, and independence of residuals. The multiple linear regression model results were significant, $F(3, 200) = 7.828, p < .001, R^2 = .11$. The R^2 value (.11) indicates that 11% of the variance in financial health is accounted for by enrollment, retention, and private giving. The null hypothesis is rejected, and the alternate hypothesis is accepted, because the significance (p) was less than .05. In the model, both enrollment and private giving predictors provided a significant contribution, with enrollment ($\beta = .313, p < .001$) providing a slightly higher contribution than private giving ($\beta = .228, p < .001$). The regression equation $Y = 4.414 + .000(\text{Enrollment}) + .001(\text{Retention}) + 5.576\text{E-}8(\text{Private Giving})$.

Testing of Assumptions

Testing assumptions is an essential requirement of regression analysis. I used SPSS to assess and evaluate each assumption to validate the research study's findings. The tests conducted were multicollinearity, outliers, normality, linearity, homoscedasticity, and independence of residuals.

Multicollinearity

To analyze multicollinearity, I used the variance inflation factor (VIF) to check the values for correlation. According to Knapp (2019) and Shrestha (2020), if the value of VIF is more than five, two or more independent variables in the regression model are highly correlated suggesting multicollinearity would exist. Based on the coefficient

output in collinearity statistics (see Table 3), the VIF values were less than 10, and the tolerance was greater than 0.1 for each independent variable, eliminating the violation of multicollinearity (Alita et al., 2021).

Table 3

Collinearity Statistics

Variable	Tolerance	VIF
Enrollment	.739	1.353
Retention	.721	1.387
Private Giving	.743	1.346

Note. Dependent variable = Financial Health.

Outliers, Normality, Linearity, Homoscedasticity, and Independence of Residuals

To evaluate the outliers, normality, linearity, homoscedasticity, and independence of residuals the Normal Probability Plot (P-P) of the Regression Standardized Residual and the scatterplot of the standardized residuals were examined for any violations. The examinations indicated there were no major violations of these assumptions. The data points in the normal P-P plot (Figure 5) lie in a reasonably straight line supporting the assumption of normality, and the scatterplot (Figure 6) is evenly distributed, lacking a clear or systematic pattern of the standardized residuals supporting there was no visible evidence of homoscedasticity violation. The independence of residuals assumption was examined by the Durbin-Watson (DW) statistical test that measures autocorrelation in the residuals of the regression analysis. The DW test statistic range between 1.5 to 2.5 signifying an independence of observations. The statistical value in the model summary

in (Table 4) is 2.023, which signifies that there is no violation and that the variables are independent.

Table 4

Durbin-Watson Test for Independence of Errors

Model	R	R Square	Sig. F Change	Durbin-Watson
1	.324	.105	.001	2.023

Note. N = 203. a. Predictors: (Constant), Private giving, Enrollment, Retention.
b. Dependent Variable: Financial Health

Figure 5

Normal Probability Plot (P-P) of the Regression Standardized Residuals

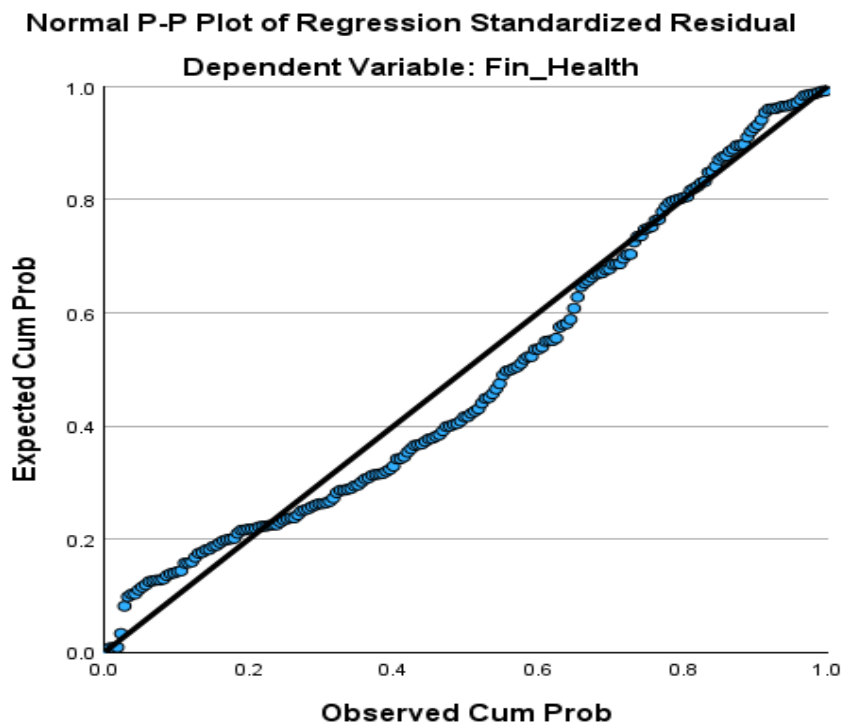


Figure 6

Scatterplot of the Standardized Residuals for Linearity and Homoscedasticity

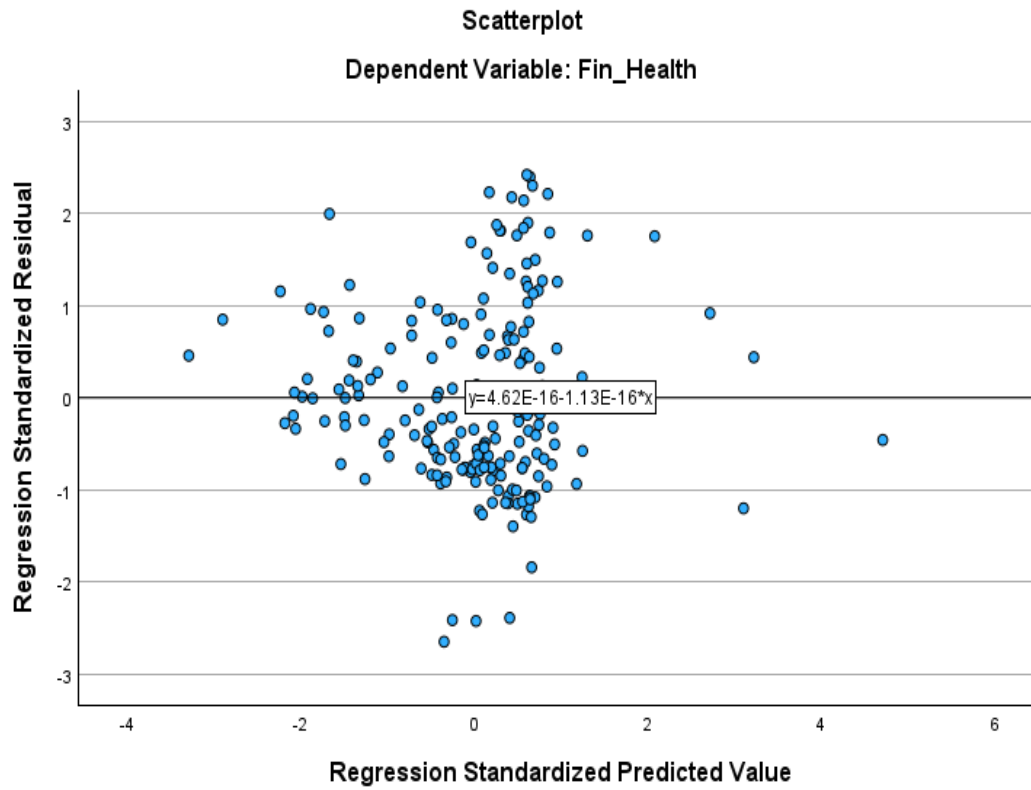


Figure 7

Partial Regression Plot: Private Giving

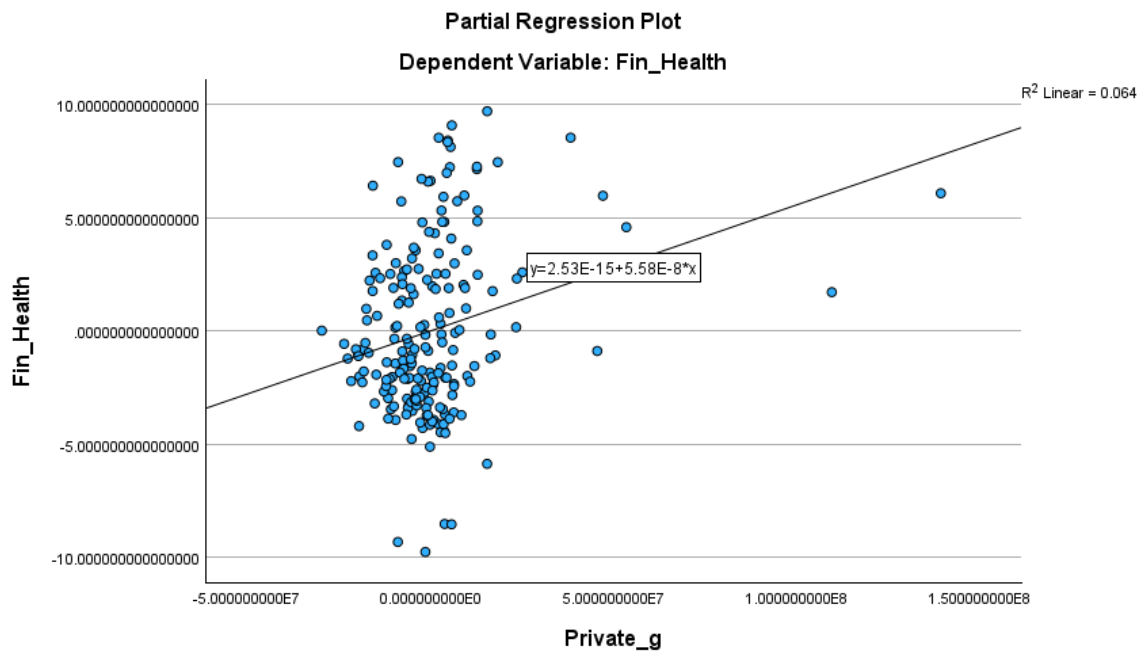


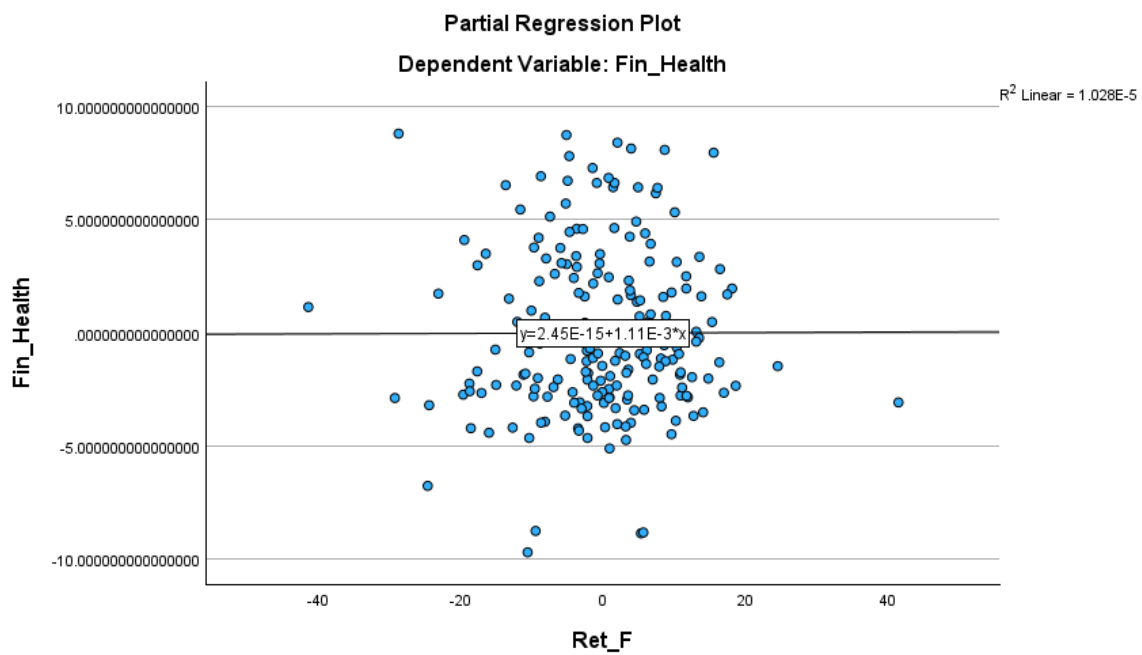
Figure 8*Partial Regression Plot: Retention*

Figure 9

Partial Regression Plot: Enrollment

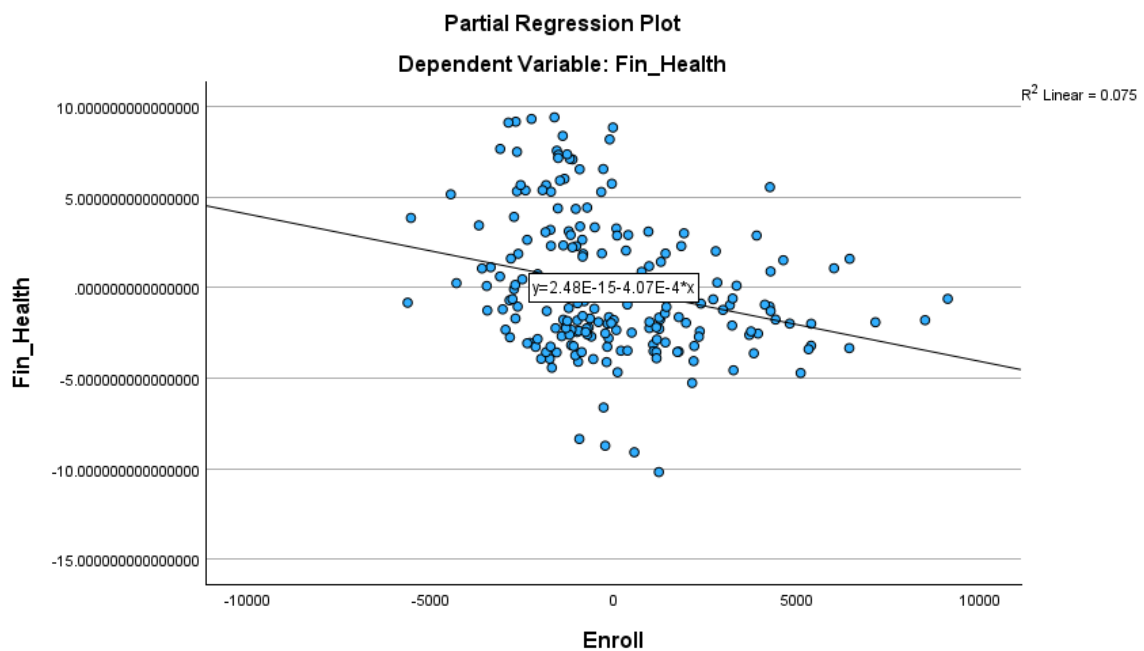
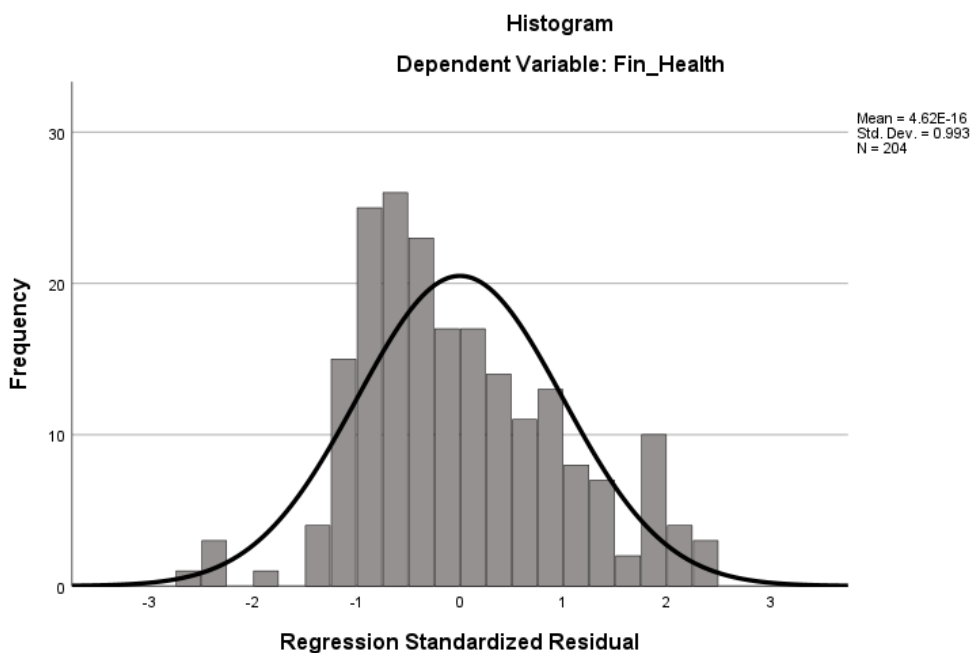


Figure 10*Histogram and Distribution Curve***Table 5***Linear Regression Correlation Coefficients of the Study Variables*

Variables	Financial Health	Enrollment	Retention	Private Giving
Financial Health	1.000	-.191	-.009	.158
Enrollment	-.191	1.000	.447	.419
Retention	-.009	.477	1.000	.443
Private Giving	.158	.419	.443	1.000

Note. N = 203**Descriptive Statistics**

The data included the enrollment, retention, private giving, and financial health rate. Table 6 depicts descriptive statistics for the study variables (mean, standard

deviation). I visually scanned the data for any incomplete or missing data elements as well as ran the Casewise Diagnostics table to determine if there were any outliers or standardized residuals greater than +/- 3 standard deviations from the mean to run the multiple linear regression model to test the other assumptions.

Table 6

Descriptive Statistics

	<i>M</i>	<i>SD</i>
Financial Health	3.62	3.84
Enrollment	3166.88	2947.18
Retention	64.03	12.35
Private Giving	7649999.75	19804470.75

Note: Source: SPSS Output, N=203

Table 7

Analysis of Variance

ANOVA

Model		Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.
1	Regression	314.157	3	104.719	7.828	<.001
	Residual	2675.381	200	13.377		
	Total	2989.538	203			

Note. N = 203. a. Dependent Variable: Financial Health; b. Predictors: (Constant), Private giving, Enrollment, Retention.

Inferential Results

I conducted a standard multiple linear regression, where $\alpha = .05$, using secondary data to examine the relationship between enrollment, retention, alumni giving, and the

financial health of HBCUs. The independent variables were enrollment, retention, and alumni giving. The dependent variable was financial health. The null hypothesis stated that there is no statistically significant relationship between enrollment, student retention, alumni giving, and financial health. The alternative hypothesis stated that there is a statistically significant relationship between student enrollment, student retention, alumni giving, and financial health. The Preliminary analyses were conducted to assess whether the assumptions of multicollinearity, outliers, normality, linearity, homoscedasticity, and independence of residuals were met; no serious violations were as outlined under the tests of assumptions.

The multiple linear regression model results were significant, $F(3, 200) = 7.828, p < .001, R^2 = .105$. The $R^2 (.105)$ value indicated that approximately 11% of variations in financial health are accounted for by the linear combination of the independent variables. In the final model, enrollment, and alumni giving (private giving) were statistically significant, with enrollment ($B = -.313, t = -4.019, p < .001$) providing a higher contribution to the model than alumni giving (private giving) ($B = .288, t = 3.708, p < .001$). Student retention did not explain any significant variation in financial health. The final predictive equation was:

Financial Health = 4.414 - .000407(Enrollment) + .00111(Retention) + 5.576E-8(Alumni (Private) Giving).

Enrollment

The negative slope for enrollment (-.000407) as a predictor of financial health indicated a -.000407 decrease in financial health for each one-point increase in

enrollment. In other words, financial health tends to decrease as enrollment increases.

The squared semi-partial coefficient (sr^2) that estimated how much variance in financial health was uniquely predictable from enrollment was .072, indicating that 7.2% of the variance in financial health is uniquely accounted for by enrollment when retention and alumni or private giving are controlled.

Alumni (Private) Giving

The positive slope for private giving (5.576E-8) as a predictor of financial health indicated a 5.576E-8 increase in financial health for each one-point increase in alumni (private) giving. In other words, financial health tends to increase as private giving increases. The squared semi-partial coefficient (sr^2) that estimated how much variance in financial health was uniquely predictable from private giving was .062, indicating that 6.2% of the variance in financial health is uniquely accounted for by private giving when enrollment and retention are controlled. The following Table depicts the regression summary table.

Table 8

Regression Analysis Summary

Model		Unstandardized Coefficients		Standardized coefficients	t	Sig.	95.0% CI for B	
		B	Std. Error	Beta			LB	UB
1	(Constant)	4.414	1.477		2.990	.003	1.503	7.326
	Enroll	.000	.000	-.313	-4.019	<.001	-.001	.000
	Retention	.001	.024	.004	.045	.964	-.047	.049
	Private giv.	5.576E-8	.000	.288	3.708	<.001	.000	.000

a. Dependent Variable: Financial Health

Table 9*Beta Correlations Table*

Model	Correlations		
	Zero-order	Partial	Part
1			
(Constant)			
Enroll	-.191	-.273	-.269
Retention	.009	.003	.003
Private giv.	.158	.254	.248

a. Dependent Variable: Financial Health

Analysis Summary

This study examined the relationship between enrollment, retention, alumni giving, and financial health. I used a standard multiple linear regression to examine the relationships among the independent and dependent variables. The independent variables were enrollment, retention, and alumni giving. The dependent variable was financial health. Assumptions surrounding multiple regression were assessed, and no serious violations were noted. The model as a whole was able to significantly predict the financial health index, $F(3, 200) = 7.828$, $p < .001$, $R^2 = .105$. Both enrollment and alumni giving provide valuable predictive information about financial health. This analysis concludes that enrollment and alumni giving are significantly associated with financial health.

Null Hypothesis (H_0): There is no statistically significant relationship between student enrollment, student retention, alumni giving, and financial health.

Alternative Hypothesis (H_1): There is a statistically significant relationship between student enrollment, student retention, alumni giving, and financial health. The study results showed that the null hypothesis was rejected because a statistically significant relationship exists. Therefore, the alternative hypothesis was accepted.

Theoretical conversation on findings

The foundational theoretical framework used in this study was the SEM theory, founded by Jack Maguire in 1976. SEM or enrollment management involves a marketing orientation for student success to achieve institution goals (Hossler & Kalsbeek, 2008). SEM theory was developed as a critical pillar in the institutional planning process that strategically focuses on student success throughout the entire life cycle with an institution while increasing student enrollment and retention numbers, building lifelong affinity with the institution among alums, and stabilizing institutional revenues or financial health (Baillie & Gordon, 2017; Black et al., 2010). In this study, although the final model was statistically significant in predicting financial health, enrollment and alumni giving were the only significant predictors of financial health. Although enrollment was the largest contributor to predicting financial health, the findings indicated a statistically significant negative correlation between enrollment and financial health. At the same time, alumni giving had a statistically significant positive correlation with financial health.

There is limited research evidence regarding the association between enrollment, retention, alumni giving, and financial health. Therefore, this study is among the first to help fill the gap in extending the knowledge of the theoretical framework regarding the relationship among enrollment, retention, alumni giving, and financial health since the

overall model finding was statistically significant, $F(3, 200) = 7.828, p < .001, R^2 = .11$. The R^2 value (.11) indicates that 11% of the variance in financial health is accounted for by enrollment, retention, and private giving. However, Meyer and Sikkink (2004) noted that unexpected enrollment increases have not necessarily resulted in improved financial conditions, which this study's findings confirm. Furthermore, the findings indicated that leaders must identify the optimum enrollment level and alumni giving to achieve financial health.

Applications to Professional Practice

This quantitative correlational study examined the relationship between enrollment, retention, alumni giving, and financial health. The results of this study showed a statistically significant relationship among the variables in predicting financial health. This finding is relevant for organizational leaders to improve their business practices by adequately utilizing the limited resources to achieve financial viability. In the study, enrollment was the most significant contributor to financial health, with a significant negative relationship, which means enrollment increase financial health decreases. Alumni giving was the other statistically significant contributor with a positive relationship with financial health. Therefore, leaders could use these findings to be flexible in allocating resources to initiatives that are sustainable and profitable to the organization.

The predictive ability of the regression model provides a practical tool for organizational leaders to forecast the operational

Implications for Social Change

The quantitative correlational study examines the relationship between enrollment, retention, alumni giving, and the financial health of HBCUs. The findings of this study include quantitative evidence valuable to business leaders with the potential to better understand what impacts declining financial health. The social implications of improving financial health extend to various stakeholders impacted by the organization, including employees, their families, and their communities, which can affect their economic well-being. Two of the three components in this study were statistically significant (enrollment and alumni giving), which directly impacted financial health. Leaders can use this information to help improve enrollment and alumni giving. Improving communication and relationships with alumni may lead to increased giving, improving the institution's financial health, and allowing for more allocation of funds to improve enrollment.

Leaders whose institutions have positive financial health help stabilize the labor market in the community where they are located through improved education, job creation, and accelerating business ownership and entrepreneurship. The employment opportunities provided will reduce unemployment, improve community benefits, and stabilize the local economy's survival rate. As a result, communities' economic and social well-being will improve.

Recommendations for Action

This quantitative ex-post-facto correlational study examined the relationship between enrollment, retention, alumni giving, and financial health of HBCUs. From the

analysis, I found a statistically significant relationship between enrollment, alumni giving, and the financial health of HBCUs. The study findings indicate a negative relationship between enrollment and financial health and a positive relationship between alumni giving and financial health. Therefore, a recommendation for action includes leaders identifying how enrollment and alumni giving impact the organization's financial health and developing strategies to mitigate the risk or improve the viability of its operations.

I plan to publish this study in ProQuest, academic and business journals to add to the profound body of knowledge to assist researchers in understanding how enrollment and alumni giving predict financial health. Also, to contribute to the broader research field, I plan to present the study findings at professional conferences and academic seminars to communicate to organizational leaders the significance of the study variables in predicting financial health.

Recommendations for Further Research

Using a quantitative correlational study design, I examined the relationship between enrollment, retention, alumni giving, and financial health. I recommend further research into the relationship between enrollment, alumni giving, and financial health controlling for government grants or awards. This is because some HBCUs' significant funding sources come from the state or local government. Since this study targeted data from HBCUs, I would recommend conducting a study with Predominantly White Institutions for comparison purposes.

Reflections

My doctoral journey has been invigorating and exciting. Working in higher education for over twenty years, I have been exposed to the intricacies of the higher education system. I believe my study can create more awareness regarding its financial viability. I began this study with the preconceived notion that all the independent variables would significantly predict financial health. In addition, enrollment would be significantly positively related to financial health. However, having conducted the quantitative correlation study examining the relationship between the independent and dependent variables, I was astonished by the results. The finding from the study was that retention was not a statistically significant variable in predicting financial health. However, enrollment and alumni giving were statistically significant in predicting financial health, emphasizing that a leader should allocate more scarce resources to enrollment and alumni giving.

Conclusion

This quantitative correlational study examined the relationship between enrollment, retention, alumni giving, and financial health at HBCUs. The overall model was statistically significant in predicting financial health; however, both enrollment and alumni giving were the only two variables statistically significant in predicting financial health. The study findings revealed that enrollment was the main contributor to predicting financial health and had a negative relationship with financial health. On the other hand, alumni giving had a significantly positive relationship with financial health. The findings will help organization leaders predict the optimum level to efficiently utilize the scarce

resources, while improving the organization's financial health. Implications for positive social change include improving communication and relationships with alumni that can lead to increased giving, improving the financial health of the institution, and allowing for more allocation of funds to increase enrollment. Therefore, institutions with positive financial health can help stabilize the labor market in the community where they are located through improved education, job creation, accelerating business ownership and entrepreneurship programs, and improving quality of life.

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Appendix A: Integrated Postsecondary Education Data System

IES :: NCES National Center for Education Statistics MENU

IPEDS Integrated Postsecondary Education Data System

[About IPEDS](#) [Use The Data](#) [Report Your Data](#) [Find Your College](#) [Collaborate With NCES](#)

Your primary source for information on U.S. colleges, universities, and technical and vocational institutions.



Appendix B: Council for Advancement and Support of Education

The screenshot shows the homepage of the CASE Insights website. The header features the CASE logo on the left and navigation links for 'Conferences & Training', 'Resources', 'Insights', 'Trending', 'Awards', 'Connect', and 'Menu'. On the right side of the header, there are buttons for 'MEMBERSHIP', 'MY ACCOUNT', and 'LOG OUT', along with icons for a search function and a shopping cart. The main content area has a dark blue background with the text 'CASE Insights' in large white font. Below this, the tagline 'Data. Standards. Research.' is displayed in a dark blue font. A sub-header states: 'CASE is the world leader in helping advancement professionals in colleges, universities, and schools make data-'. A cookie consent banner is visible at the bottom, with the text: 'CASE has recently updated our Terms of Use. By clicking OK, you accept these new terms. We use cookies on this site to enhance your user experience. By visiting this site, you are giving your consent for us to set cookies.' The banner includes a 'More info' link and an 'OK, I UNDERSTAND' button. On the right side of the page, there is a yellow circular call-to-action button that says 'Have questions about CASE Insights?' and 'Contact Us'. A small chat icon is also present in the bottom right corner.