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FINANCIAL SUSTAINABILITY FACTORS OF HIGHER EDUCATION INSTITUTIONS: A PREDICTIVE MODEL

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ABSTRACT: *Private and public higher education institutions have had the problem of financial un-sustainability in recent years. United Kingdom and European Union have instituted programs to work on financial sustainability of higher education. To achieve financial sustainability of higher education, institutions need to maintain or increase internally-generated funds that are regular, without future compromises. The paper establishes the legitimacy for future work needed for the variables to pursue sustainable growth. The study was designed to explore theories behind financial sustainability and established possible correlation between the sustainable growth rate and contributing factors that are sustaining the financing of higher education institutions. Quantitative research methodology was use for the research design with instrument on higher educational institutions across the globe. Results opened an important opportunity for discussion on financial sustainability in higher educational institutions. The outcome states that the predictive model is key to financial sustainability for higher educational institutions.*

KEYWORDS: Sustainability, Financial sustainability, Public Relations, Organizational culture, Investment portfolio, Networking, Authentic leadership and Sustainable growth rate

INTRODUCTION

Sustainability has come to stay for both society and different institution. It is encompassing and the power of its synergy makes it significant to global and local application as asserted by [54]. This, [55] stated that it is described as " longevity of the organization, maintenance of core principles or purposes, and responsibility to external needs" (p. 1) For-profit organizations, sustainability is concerned with survival in a competitive market, which increasingly includes global competition and relates to maintenance of core principles or purposes as pressures may necessitate changes in operations and policies [56]. Sustainability movement thrive around many communal ideas of helping each other in our environment, 2) communal responsibility, 3) what can help the whole community to survive in the future and, 4) and to create a foresight that can be envisage as acceptable branding for the future. This calls for environmental and communal responsibility which leads to sustainability of the society. In this case a communal stakeholders group comes together and with trust and reciprocity designed an institution that lead to

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organizational sustainability programs, which in turn creates a synergy that generate trust and reciprocity that bring a good will [11]. Through this sustainability and public relations, social, and governance factors are seen as "public interest that affect human, societal, and environmental well-being and that are increasingly relevant to business and finance operations" [10], para. 10).

With the above in mind sustainability can be looked at as an institutional and institutional' supply management. In an expanding economy, companies do well to invest in common good growth initiatives, and these expenditures often pay off and promote a perception of financial stability. [29]. To lead the economy or institutions into economic sustainability positive public relations become increasingly important.One of the most recent trends is interpreting sustainability initiatives which is appreciated and recognized the challenges of organizational change initiatives. Thus, organizations sustainability potential must be prepared to overcome major barriers such as luck of trust, loyalty, abuse of power and greed associated with organization- wide culture change

In his write-up, [49] asserts that "sustainability refers to the ability of a society, ecosystem, or any such ongoing system to continue functioning into the indefinite future without being forced into decline through exhaustion of key resources" (p. 24). Financial sustainability requires institutions to "cover all transaction costs with return on equity and consequently functions without subsidies" [49], p. 26). Both sustainability and financial sustainability "demand . . . long term planning which is a vital discipline for creating and maintaining financial sustainability" [30] p. 7). Without a doubt, "it requires a shift away from the short-term perspective associated with annual budgeting" [30], p. 7) to the ability to fulfill current engagements. The short term perspective should not compromise the future perspective, which pertains to the sustainability of the institution. Thus it goes without saying, financial sustainability becomes the institution's capacity to fulfill current obligation without compromising its ability to meet future financial obligations.

BACKGROUND

Current reality of higher educational institutions

Since the 21st century, the challenges facing the AHEIs have been growing. In 2005, the Review and Herald published that the first Adventist College was planning to close its doors due to financial un-sustainability. This is the longest serving higher educational institution that the church has. Apart from the problem of not finding enough qualified Adventist professors, [38] said the institution refused to take the approach of "system thinking as a discipline for seeing wholes" (p. 34). The challenge called for ways to tackle and solve problems. [38] continued to say that there was a need "for a framework for seeing inter-relationship rather than things" (p. 34). Six years later, the Review and Herald in August 2011, reported the closure of the said College. [48] (as cited in [38] took this idea further when he said that church related colleges and

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universities have neglected the "power of cooperation, collaboration, collectivity, networking, and long-term financial sustainable growth" (p. 34). [48] calls AHEI administrators to change their perspective from "seeing parts to seeing whole" (p. 34). This will reveal the true reality about Adventist higher education institutions and their condition.

The scarcity of church resources is a concern and its ability to finance the needs of its higher educational institution is wanting. Although the [21] of the church states that "appropriations shall be made to the organizations in the division for their requirements as the division committee may determine" (p. 684), it is not enough to sustain these institutions. As such, these institutions cannot rely on these appropriations alone. They must call for creative initiatives to come up with programs that will boost the current financial affairs to improve their financial sustainability In his article, [35] revealed that out of a sample of six educational institutions in the Southern Asia-Pacific Division, none could be self-supporting without appropriations from higher organizations such as the regional office. He suggested that "leadership, insurance coverage, long-term investment, financial performance, generation of income, and the sustainable growth rate, were the areas which these institutions did not pay attention to" (p. 3).

Challenges of the Conceptual Selection, Linkages of Factors for Financial Sustainability

Though the church has established more and more higher education institutions, there were challenges that the church faced in the past 60 years. Specifically, these challenges are the high cost of living, the rising cost of education, and the economic melt-down around the world. These challenges has taken their toll on AHEIs in terms of high cost of tuition that leads to low enrollment, low revenues, and the requirement for higher appropriations which the church in many instances is not able to give. During the 25-year period (1967 to 1992) for example, the United States of America consumer price index went up from 33.4 to 140 at a yearly increase of 5.9%, which affected every person, family, and institution in the country [25].The [36] reporting on financial sustainability of higher education, revealed that "the main challenge for those who lead, govern, and manage higher education institutions is to manage the [institutions] to secure [their] financial and academic sustainability at a time when the funding" (p. 9) was becoming much more competitive and challenging. As such, the [37] report suggests that attention should be focused on systems of "governance and management of higher education with particular reference to their impact on the financial viability of higher education institutions" (p. 7). It provided a crucial initial amount of information on the "current status and changing objectives of policies, governance, funding, and management of higher education institutions in these countries" [37], p. 7). The [37] suggested that an education institution should focus on "recovering its full economic costs and is investing in its infrastructure [physical, human, and intellectual] at a rate adequate to maintain the future productive capacity needed to deliver its strategic plan, and to serve its [institutions] and other customers [or stakeholders]" (p. 35). This statement suggests five key fundamentals in administration for financial sustainability. The elements are (a) a strategy for direction, (b) sustainability by recovering all costs, (c) generation of income by using networking and public relations, (d) investment that maintains the

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appropriate level of productive capacity, and (e) managing risk appropriately to avoid potential problems. These elements are indicators that can be used to "assess how well an institution is managing its own sustainability" [37], p. 7).

The United Kingdom—realizing the importance of financial sustainability in its higher education institution—appointed a special committee on funding and students finance on higher education to work on "securing sustainable future for higher education" [9], p. 3). The committee was challenged to find out ways of making HEIs more sustainable and yet remain accessible to every potential student that needs an education. [9] believe that the United Kingdom, based on the findings of the committee, has found ways to relieve some of the government's burden in paying student scholarships by finding ways to enable students to pay for their own education. Likewise, in this study, I hope that ways could be developed based on the findings that can help AHEIs to be more sustainable financially and also ease the appropriation burdens that the unions and divisions are mandated to provide.

CONCEPT DEVELOPMENT

Financial Sustainability

This study is focused on the financial sustainability of organizations. It looks at the ability of institutions to identify and analyze full cost, and the potential to diversify their income and non-income sources to obtain financial sustainability. The obligation of meeting current and future mission is the main challenges for higher educational institutions of the 21st century [18], p. 12). Thus the aim of financial sustainability is to ensure an institution's goals are reached by guaranteeing "sufficient income to enable it to invest in its future academic and research activities" [18], p. 16). To fulfill this aim, higher educational institutions need to pursue sustainable growth especially in terms of their finances. Sustainable growth can be defined as the "rate at which an institution can grow while keeping its profitability and financial policies unchanged" [51], p. 24). It is a financial planning model that focused on stable risk and returns for the institutional owners and for that matter for nonprofit it is reinvestment of internal funds if there is excess of income over expense. Similarly, [24] suggests that sustainable growth "is the level of [institutional] activity at which aggregate demand and aggregate supply is consistent with a stable inflation rate" (p. 72). In other words, the higher educational institutions must find a way to cut cost of institution based on its own resources. Sustaining this ability to internally supply for the school needs is the challenge and brings to the light the importance of financial sustainability [18].

According to [40], institutions need to develop relationships between sustainable growth and other contributing factors that will lead to the maximization of overall institutional value. As such, sustainable growth should be embedded into sustainability. This means that institution must be self-supporting as [8] asserts, "Institutional sustainability needs to be financially self-supporting, free from subsidies for operational needs" (p. 6). This means that institutions must be

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able to operate with internal funding from its excess of income over expenditure in the long term. According to [53, financial self-support is a necessary condition for higher education institution's financial sustainability.Institutional financial sustainability requires educational institutions to "cover all transaction costs (loan losses, financial cost and administrative cost), with return on equity (net of any subsidy received), and consequently function without subsides" [50], p. 24). This calls for an institution to sustain its services based primarily on its resources generated internally, which is deemed to run on a regular basis for its operation.

Authentic Leadership

As an authentic leader "knowing how to manage resources is as essential to achieving financial sustainability as knowing how to generate income" [32], p. 17). Thus, [2] consider authentic leadership as part of the leadership requirement that would result in sustainability. [3] pointed out that the authentic leadership fosters the development of authenticity among followers and will contribute to the well-being and sustainable performance of the employees.To sum up, authentic leadership and sustainability is about looking beyond just one era. [3] add that authentic leaders can positively affect sustained performance. This means that authentic leadership has positive impact that can affect "sustainable performance, today and tomorrow without compromising its sustainability" [2].

Authentic leadership for financial sustainability is a particular blend of leadership characteristics. Because of this, it is believed that "authentic leadership makes a difference in the organizations by helping people to find meaning at work, build optimism and commitment among followers, encourage transparent relationships that build trust, and promote inclusive and positive ethical climates" [2]. [28] underscores that "for authentic leaders to share transparently and act with integrity requires self-awareness" (p. 25). Leaders must know who they are and be conscious of the fact they work on their weaknesses and learn to apply the strengths of their character. [52] stated that the "quest of any company's sustainability has to start inside the organization by [leaders] setting realistic goals" (p. 2). As such, this must begin with the leaders themselves.

That means there is the need for institutions to direct their attention on how "sustainability is a strategic commitment and cultural change that is spearheaded by an institutions leadership, one that leads to a positive impact on the environment and society" [52], p. 2). On his part, [26] stressed that the findings of studies on leadership and financial sustainability suggest using a financial database focusing on specific organizational financial measures. Further, [46] stress that leadership profile differentiates leaders in sustainable organizations against less sustainable and nonsustainable organizations and suggests that leader's self-awareness more closely matches the perceptions of key subordinates. The search for financial sustainability cannot be devoid of authentic leadership ideals, since without such leaders in place institutions will operate but will neglect the long term performance and the continuity of the institution and its employees.

Organizational Culture

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Organizational culture has been defined and treated in many ways [47]. According to [4] the definition of culture in organizations is a "set of values, beliefs, and feelings together, that are created, inherited, shared and transmitted within one group of people and that, in part distinguish that group from others" (p. 404). It thus leads to the fact that organizational culture is created by the founders of institutions. "Cultural organizational learning would focus on the mutual creation of compatible and shared meanings" [12], p. 410). Hence, this write-up focuses on organizational teamwork culture as proposed by [23], who designs the survey for the study.

Theoretical literature has posited that organizational team culture affects sustainable growth rate. In fact, an adequate balance between organizational culture and sustainable growth rate is crucial for enhancing financial sustainability [6]. Considering the connection of organizational team culture and sustainable growth rate, [16] proposed a model of sustainability-oriented organizational culture. Organizational culture need to "embed into institution's financial sustainability" (p.8) since [6] suggest that institutions need to practice engagement, and manage talent as indicators. By engagement we will be building a team spirit that leads to a culture that is oriented in teamwork for sustainability. Furthermore, [6] conclude that institutions "embarking on a sustainability journey must be willing to collaborate with other organization which leads to paradigm shift to business model" (pp. 5, 6). Thus, the practice of organizational culture with sustainability involves "fostering commitment, clarifying expectations, building momentum for change, and instilling teamwork capacity for change" [6] (p.18). The results also show that organizational culture and sustainable growth rate impact financial sustainability. Hence, organizational culture does play an important role in promoting financial sustainability. As [6] argue that "there is a link in embedding sustainability into organizational team culture" (p. 51).

Public Relations

[36] stated, Public relations is the art and social science of analyzing trends, predicting consequences, counseling organizational leaders as well as planning and implementing a program of action that will serve the interest of not only the organization but also that of its publics. (p. 9) Again, public relations provide as a "cost-effective way of getting the institutional message out, while leading effective news releases and building a relationship with the relevant media will, in time, pay dividends in the form of exposure and prestige" [44], p. 2). In the end it leads an institutions' long-term benefit that contributes to financial sustainability which in turn costs less than a single advertisement.

Public relations structures are needed to address sustainability questions across and in collaboration with the community partners [6]. Thus, an adequate balance between public relations and sustainability is eminent ([39]. Considering the connection of public relations and sustainability, without reservation, [5] reveal that research and scholarship are among the public relations structures needed to address sustainability. [17] followed up that there is a need for institutional public relations for sustainability, which is essential but should not be seen only core to sustainability in an attempt to provide effective outcomes. The long term goal of any

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successful public relation activity is to encourage positive perceptions of the institution. Public relations and financial sustainability are compatible to lead an institution into future prosperity.

Investment Portfolio

Portfolio investment is a listing of investment activities that the institution is engaged in. This covers "investment in equity and debt securities, excluding any such instruments that are classified as direct investment or reserve assets" [37]. There are several different definitions of investments portfolio, but they generally contain a wide range of financial assets like stocks, bonds and mutual funds from different businesses [43]. It is a "pool of different investments by which an investor bets to make a profit [or income] while aiming to preserve the invested [principal] amount" [34], p. 486) that is been envisage .

Related literature supports the notion that investment portfolio is linked to sustainable growth rate. Studies conducted by [35] and [17] argued that investment has a direct effect on financial sustainability. Sustainability investment garner lower financial return on investment but in the long run, it is more sustainable. Hence institutions should focus on realizing the value through sustainability and managing future risks for long-term concerns [39], p. 4).

Sustainability can be "part of management decision processes, operational and capital investment decisions" [17], p. 48). This can be quantified, monetized, to become a central component of the institutional long time plans. For this reason, institutions should be faithful to sustainability and engage in building institutional competence that takes generation to acquire wealth. As such institutions that want to succeed need to take a long-term perspective and plan its finances the same way to stay afloat to achieve financial success of its institution.

In addition institutions that believe in sustainability should resist the enticement to use its reserved fund from current operations. They must invest it instead to increase its value [17]. [17] goes further saying that non-profit organizations should plan accordingly income-generation project in order to ensure that the money is invested in a project that will be successful.

Networking

Einstein [7] asserts that "nothing truly valuable can be achieved except by the unselfish cooperation of many" (p. 1). This means that networking is a core to sustainability. This is even so true when one considers the context of AHEIs in that they have the second largest network of schools worldwide [43].Being responsive to educational needs remains a struggle. AHEIs must move towards powerful partnerships in order to maintain the critical role they play in the improvement of quality of life for individuals and the enhancement of community development and progress. For this, [1] suggested that leaders need to systematically assess the partnership's values that enhance the value of the collaboration. Unfortunately, AHEIs have not accepted the notion of partnership as it is supposed to be. [22] also pointed out that "partnership and

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investment activity has become an enduring dimension of institutional strategy that occurs in the business cycle" (p. 5).

In the business world today, rarely does an organization go to the market alone. These "partnerships are often driven by the need to expand business by building new sources of customers, forming new partnerships to reach new groups of population, partnering to gain a maximized return on investment in higher education" [14], p. 6). This leads to the search for individuals to work within groups to spread networks for future growth. For this reason, connecting people who are economically and socially active for future prosperity is a must for the organization [31]. [27] suggested that there is the need to reexamine the "concepts of sustainability and sustainable development and focuses cohesion of local and regional policy networks which can foster a sustainable development" (p. 1). Thus, building an "operational model that takes into accounts the potential network society with sustainable growth benefits will leads to financial sustainability" [39], p. 18).

Conclusion on Contributing Factors and Sustainability

The review of literature for this study was based on theory and research that brought together the predictors of sustainability used in this study. Achieving financial sustainability should not be optional, but it should become necessary for not-for-profit institution to ensure its capability to carry out relevant missions. Since many studies on sustainability for profit organization and business have been conducted [42], this study is centered on not-for-profit financial sustainability. The five variables (organizational culture, authentic leadership, public relations, investment portfolio and networking) have been separately studied in their relationship with sustainability [22]. Integrating these variables into one model will increase the understanding of the relative strength of each variable and tell how each variable influences the sustainable growth rate. It should be noted from this review of literature that even though public relations affects sustainable growth rate, it has not been studied as a combination of variables to find out if it really affects sustainable growth rate [19]. Networking also is said to predict sustainable growth rate. Some of the studies that researched the impact of networking expected positive outcomes on sustainable growth rate [15]. However, studies taking into account networking in direct relation with sustainable growth rate appear to be limited [14].

Based on the changing and multifaceted competitive environment in which educational institutions operate in the 21st century, there is a need to test new variables in the study. The purpose is finding new ways to improve sustainable growth rate and to focus on finding the important drivers that enhance financial sustainability [33]. In doing this study, the five contributing factors pulled from the literature may help identify better ways of improving the financial sustainability of the organizations.Sustainability works well when its perspective is long term and involves representatives of integrated institutions with determine activities and institutional performance. Thus integrating sustainability to "business decisions, (both internally and externally) impacts services, processes, and activities" [33], p. 49). As such, the analysis

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done in this study would make sure that its impact on AHEIs will be to increase its financial sustainability.

THE PURPOSE OF THE STUDY

It is for these reasons the researcher set of to explore and develop a predictive model of financial sustainability for the world-wide higher educational institutions. The following are the variables: (a) sustainable growth rate as the dependent variables (y) and (b) the contributing factors as independent variables. The following are also the list of contributing variables: (a) authentic leadership (x1), (b) organizational culture (x2), (3) public relation (x3), (4) investment portfolio (x4), and (5) networking (x5). The study seeks to focus on factors that lead the HEIs to meet the challenges of financial sustainability. The main purpose of the study is to develop a model to predict financial sustainability of higher educational institutions.

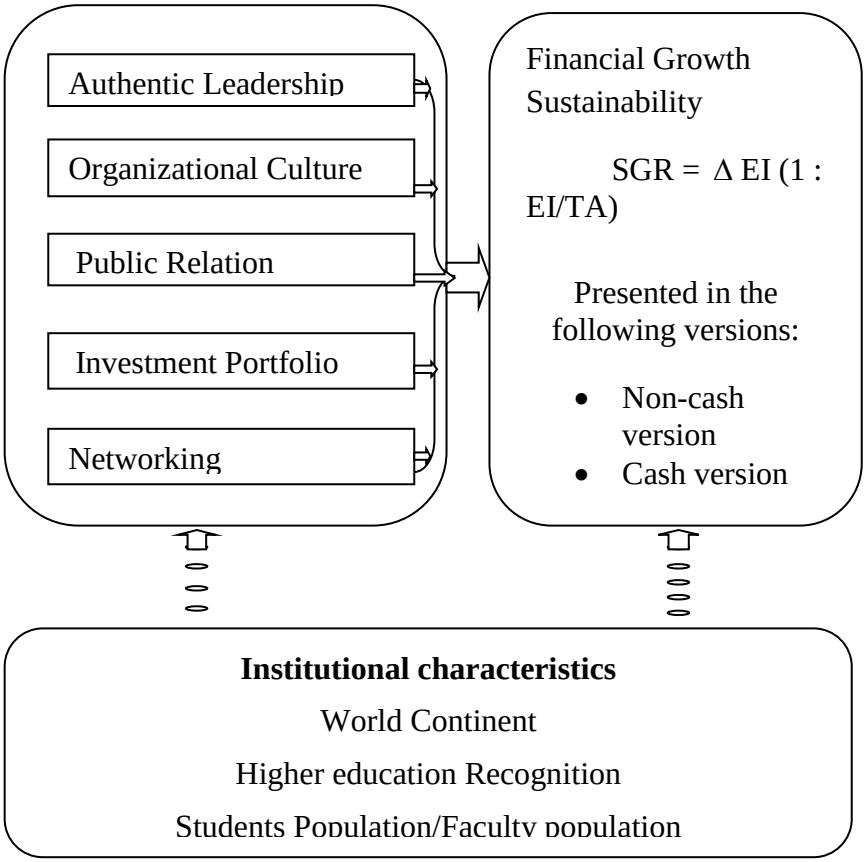

Figure 1. Conceptual framework of financial sustainability factors

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METHODOLOGY

Method of Research

This research explored how the factors (authentic leadership, organizational culture, public relations, investment portfolio, and networking) explain the variation in the institution's financial sustainability. In order to do this study, a quantitative approach was necessary and this will be discussed below.A survey research design was employed in this study. There are two survey research designs: "cross sectional survey and longitudinal survey" [20], p. 179). A cross sectional design involves "the collection of data once: the phenomena under study are captured during one period of data collection" [41], pp. 207, 208). A longitudinal survey represents several points in time whereby surveys are frequently given on same issues whereby one can measure across different points in time [41] .

Since data was collected at one point in time from a predetermined population, the design of the study fitted a cross sectional survey [13]. In this cross sectional survey design, a questionnaire was used to collect data via online means, emails, and a collection of financial documents was obtained from the statistical body of the Seventh-day Adventist Church. This design is appropriate for the study because it seeks to test a predictive model which is made up of the above-mentioned factors: authentic leadership, organizational culture, public relation, investment portfolio, and networking, and financial sustainability.

Data Gathering

I sought the assistance of the Adventist education directors to encourage the participation of the administration of the AHEIs from these 104 institutions in filling out the instruments of the study. The presidents, vice presidents for academic and for finance of the AHEIs were assumed to be qualified respondents, who have good knowledge about the reality of how the institutions have been managing the issue of sustainability.

The returned research survey comprised of 87 surveys out of the 104 institutions. However, after subjecting these to various statistical analyses in order to explore reliability and validity (among other things, see data screening section), 15 were discarded. Hence a total of 72 survey results were considered to be included in this study. These 72 surveys were collected from 50 institutions. Hence there was a 48% of response from the total population of the study with individual institutional percentage.

It was an issue struggling to collect data from the respective heads of the institutions. Even with the letter from the education director of the GC encouraging administrators to answer questionnaire and provide their financial documents, more than 50% of institutions did not provide the necessary documentation.

Data Analysis

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The present study sought to answer four research questions regarding (a) descript-tion of the characteristics of the institution that responded (continental grouping on page 70, educational level, and accreditation status); (b) description of the contributing factors (authentic leadership, organizational culture, public relations, investment portfolio, networking); (c) the differences in the contributing factors in term of institutional characteristics and the differences in the sustainable growth rate in terms of institutional characteristics; and (d) the contributing factors as predictor of higher education institutions financial sustainability (sustainable growth rate).

As it had been discussed earlier this study was to examine the contributing factors referred above in the determination of an equation to predict financial sustainability as represented by the sustainable growth rate:

$y = a + \beta_{AL}+\beta_{OC}+ \beta_{PR}+\beta_{IP}+\beta_{N}+e$, where

y = Sustainable growth rate

β_{AL} = Authentic Leadership

β_{OC} = Organizational Culture

β_{PR} = Public relations

β_{N} = Networking

β_{IP} = Investment Portfolio

e = Error

a = Constant

The factors (authentic leadership, organizational culture, public relations, investment portfolio, and networking) in the equation were used to predict the sustainable growth rate. As such, this chapter will present the results as follows:

1. Description of institutional characteristics
2. The best predictive model for financial sustainability. Multiple Regression was used in this section.

Research Question 1

The descriptive method was used to describe the institutional characteristics of the participating institutions. This included continents where the institutions are located, as well as the educational level, and accreditation status.

Of the 104 accredited Adventist colleges and universities that were contacted to participate in this study, 50 institutions responded (48.1% responses). Table 7 represents the number of institutions within each region and the number of institutions that responded to the survey. The 48.1% response rate is satisfactory in studies such as this [45].

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Table 1 **Institutions Participation per Continent**

Continents	Population	Institutions that responded	Response %
Africa	14	11	78.6
Asia	27	16	59.3
Europe	18	8	44.4
North America	16	3	18.8
South America	25	12	48.0
South Pacific	4	-	0
Total	104	50	48.1

Of the 50 higher education institutions which participated in the present study, the breakdowns are seen with Africa 78.6%, Asia 59.3%, South America 48.0, Europe 44.4%, and North America 18.8%. Institutions from the South Pacific initially responded on the perceptions survey, but due to the inability to access their financial statements from GC, they were removed from the analysis.

Table 8 is a summary of the educational level of the administrators in the institutions that responded as well as the accreditation status of the institutions themselves. The administrators (president, vice president finance, and vice president academic affairs or vice chancellor, bursar, and deputy vice chancellor depending on the educational system) from the 50 institutions were asked to participate. From some institutions, all three offices participated, and from others, only one or two of the officers participated. As such, the 72 (*N*) represents the number of administrators that responded from the 50 institutions that the study was addressed to. In terms of educational level 51% of the institutions that responded offer undergraduate programs only, 7% run graduate programs, and 42% offers both undergraduate and graduate programs.

Table 2 Institutional Characteristics of the Financial Sustainability

Variables		*F*	%
Educational level program	Undergraduate only	37	51
	Graduate only	5	7
	Both	30	42
		72	
Accreditation	National only	2	3
	AAA only	15	21
	Both	55	76
		72	

For accreditation, 3% of the institutions had national accreditation; while 21% had Adventist Accreditation Association (AAA) recognition. The other 76% had both national and AAA accreditation recognitions. It is also important to note that in the framework, I was supposed to

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show the student to faculty ratio and include it in this analysis. Unfortunately, the responding officers from the 49 institutions did not provide sufficient information to answer this question. Thus it was removed from this analysis.

NEW PREDICTIVE MODEL

Predictive Model of Sustainability

In order to answer the question regarding predictive models of financial sustainable growth rate, in light of the contribution factors multiple regression was used. The contribution factors (authentic leadership, organizational culture, public relations, investment portfolio, and networking) were used as independent variables to determine whether it can predict the dependent variable which was the sustainability growth rate. The focus was directed to the strength of relationship and the amount of shared variance.When the factors were tested a significant model for the predictor variables with a multiple regression correlation of .443, $F(3, 68) = 4.774$, $p = .002$; adjusted $R^2 = .196$. However, table 3 below only shows that of the five contribution factors, only the authentic leadership, public relations, and investment portfolio can explain the sustainable growth rates with similar beta weights of 0.247, 0.264, and 0.244. The networking ($p = 0.933$) and organizational culture ($p = 0.935$) were removed because its p-value did not meet the threshold of $p < 0.05$.

The Goodness of the Predictive Model

After checking all the assumptions, multiple regression was derived to test the best predictive model for financial sustainability. The probability levels of the correlation

Table 3

Regression Coefficients—Predictive Model of Free Cash Flow SGR

Source	Coefficient	Std error	*B*	*-95% C.I.*	*+95% C.I.*	*T*	*p*
Intercept	-3.379	1.203		-5.781	-0.978	-2.809	0.007
Organization culture	0.003	0.038	0.010	-0.073	0.079	0.082	0.935
Authentic leadership	0.111	0.051	0.246	0.009	0.212	2.170	0.034
Public relations	0.176	0.079	0.267	0.017	0.334	2.214	0.030
Investment portfolio	0.163	0.083	0.244	-0.003	0.329	1.959	0.054
Networking	-0.008	0.099	-0.011	-0.206	0.189	-0.084	0.933

coefficients showed that there was a significant positive relationship between the independent variables (public relations, investment portfolio authentic leadership and the dependent variable $F(3,68) = 4.774$, $p = 0.05$). This shows that the model is good though some of the independent variables are not significant and was removed. The model summary began by showing that *R*, the multiple regression correlation coefficients, was the linear correlation between the observed and

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model-predicted values of sustainable growth rate. Table 24 shows the overall positive correlation of authentic leadership *(r* = 0.193), organizational culture (*r* = 0.149), public relations (*r* = 0.285).

Predictive Model

After removing the variables organization culture and networking, multiple regressions were used again to test the best predictive model for financial sustainability.

Table 4 **Pearson Correlations**

	FSGR 2	*OC*	*AL*	*PR*	*IP*	*NT*
FSGR 2	1.000					
OC	0.149	1.000				
AL	0.193	0.108	1.000			
PR	0.285	0.102	-0.167	1.000		
IP	0.301	0.365	-0.042	0.254	1.000	
NT	0.159	0.418	-0.075	0.347	0.377	1.000

The result showed that there was a significant relationship of the independent variables (public relations, investment portfolio, and authentic leadership) on dependent variable (sustainable growth rate) $F(3,68) = 4.774$, $p = 0.05$ (see Table 24) and that the model can be used to predict financial sustainability. The result showed that not all the independent variables entered, organizational culture $\beta = 0.010$, $p = 0.935$, authentic leadership $\beta = 0.246$, $p = 0.034$, public relations $\beta = 0.267$, $p = 0.030$, investment portfolio $\beta = 0.244$, $p = 0.054$, and networking $\beta = -0.011$, $p = 0.935$ were significant in predicting sustainable growth rate. Table 4 is a summary of the model when it was tested without the networking and organizational culture. It was found to be significant ($p = 0.002$) and it can explain 19.6% of the variation in sustainable growth rate.

Discussions on the Final Model

On the basis of regression analyses, the proposed theoretical framework of the study (see Figure 1) was investigated. The results as discussed above lead to an alternation of hypothesized best predictive model of financial sustainability. The new model is depicted in Figure 5.

The basic differences in the new model are the best predictors of sustainable growth rate in Adventist higher educational institutions. Comparing the regression results with previous variance and correlation results, we see basic agreement. However, organizational culture and networking did not enter the best predictive model of financial sustainability. A possible explanation might be that using for profit indicators in a

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Table 5 Summary of the ANOVA Table

Source	*Sum Sq.*	*D.F.*	*Mean Sq.*	*F*	*Prob.*
Regression	14.321	3	4.774	5.543	0.002
Residual	58.561	68	0.861		
Total	72.881	71			

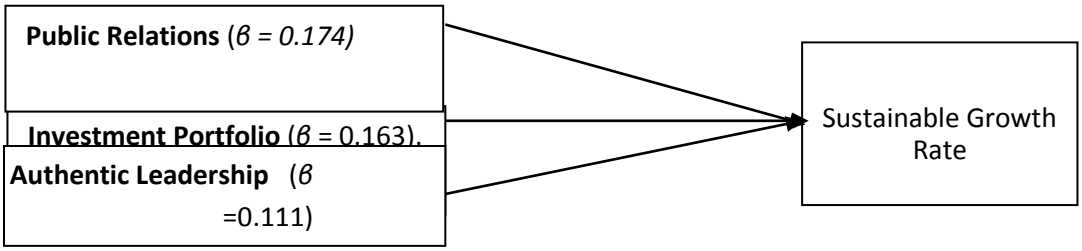

Figure 2. Best Predictive Model For Financial Sustainability.

not-for-profit setting may not work. However, further studies can build on this to find out the equivalent of indicators in for-profit entities in a not-for-profit setting. As such, the final predictive model for financial sustainability equation is

$y = -3.367 + 0.174(ß_{PR}) + 0.163(ß_{IP}) + 0.111(ß_{AL})$

Where

y = Sustainable growth rate (Predicted Variable)
a = Constant value or y intercept
$ß_{AR}$ = Authentic leadership (Predictor Variable)
$ß_{PR}$ = Public Relations (Predictor Variable)
$ß_{IP}$ = Investment Portfolio (Predictor Variable)

Figure 2 is a summary of the beta weights of the predictive model and its *p*-value.

CONTRIBUTION TO SCHOLARSHIP

From the findings of this research, we can draw a contribution to scholarship that financial sustainability is a key to institutional sustainability which has been summarized in terms of the following findings. Firstly, in particularly, the use of public relations, investment portfolio and authentic leadership are in good relationship with the above mentioned sustainability. Secondly, the use of networking and organizational culture had an exception for not having any effect of the financial sustainability. (Thus, this study's unique contribution is, having explored in the Adventist higher academic institutional sustainability, impact of how authentic leadership, public relations and investment portfolio work with sustainable growth rate to create financial sustainability). Thirdly, results indicate an association between public relations, and investment portfolio authentic leadership with an acceptable correlation while networking and organizational

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culture has smaller correlation on financial sustainability. Fourthly, the findings showed that three factors had significant relations at. 05 with all having positive coefficient. Lastly, on the significant and predictive relationships, it is summarized that three out of the five predictors (AL, AC, PR, N, and PI) have jointly strong significant effect on the dependent variable, sustainable growth rate with an overall prediction of a model. The original predictive model x2 or organizational culture and x4 or net-working were rejected by the SPSS program. The new model for financial sustainability is what β coefficients created for the following equation for financial sustainability, y = a + bx3+bx5+bx1: Sustainable growth rate, y = -3,581 +0.190 public relations + 0.160 investment portfolio + 0.122 authentic leadership.

Summary of Major Findings and Implications

There are three major findings in this study and they relate to Research Questions 3 and 4. Research Question 3 focused on finding out if there is a difference between the respondents results in the factors that were assessed (authentic leadership, organizational culture, public relations, investment portfolio, and networking) based on institutional characteristics (continents, educational level of administrators, and accreditation status of institution). Research Question 4 focused on the predictive model itself—which of the factors mentioned above can explain variations in financial sustainability. Hence the discussion below is focused on the findings from these two research questions.

Differences Observed by Continents

I have not talked about Research Questions 1 and 2, for a reason that their applications will be incorporated in the findings of Research Questions 3 and 4. They are more of descriptive in nature, and they do not need a separate section.In running the ANOVA on the factors (authentic leadership, organizational culture, public relations, investment portfolio, and networking) and the dependent variable (financial sustainability) based on the institutional characteristics (continent, educational level of administrators, accreditation status of institution), it was surprising to find that results differ by continents. This is even more interesting given that the institutions in different continents have certain strengths that others may not be as strong in. Such strength need to be observed and share as best practices for the benefit of AHEIs.

In relation to organizational culture, the institutions in Asia had organizational culture that is beneficial to sustainability more so than other institutions in other continents. When it comes to networking, the institutions in Europe had higher networking practices that are conducive to sustainability more than other institutions in other continents. To financial sustainability, the institutions from the North America had better results than institutions in other continents. This seems to suggest that different institutions as grouped by continents have certain strengths that AHEIs can study and see how it can be implemented for the benefit of all.

ISSN 2054-6297(Print), ISSN 2054-6300(Online)

The major implication of this is that administrators should be aware of what their organization's strengths and weaknesses are in terms of financial sustainability. Thus, an understanding of inherent strengths and weaknesses can help administrators to determine how to best go about shoring up the strengths while combating the weaknesses so as to better the financial sustainability of the institutions.An additional implication of this finding is that the groupings are by continents and not individual institutions. Why do institutions with regards to the financial sustainability based on geographical area are similar in their practices? The implication of this is to find out the reason for similarity in practices across continents. The answers can help administrators beyond the AHEIs to implement financial sustainability practices at the continental level rather than the institutional level. This can lead to reduction of the challenges that institutions are facing with regard to financial sustainability. In other words, this finding suggests that there can be workable solutions that can be implemented for institutions at the continent level.

The Predictive Model

The purpose of the study was to find a predictive model that can be used to explain the variation of financial sustainability. There were three factors that were found to be significant and were included in the model, authentic leadership, public relations, and investment portfolio. Hence the equation ($y = a + ß_{PR} + ß_{IP} + ß_{AL}$) for financial sustainability is as follows:

$y = -3.367 + 0.174(ß_{PR}) + 0.163(ß_{IP}) + 0.111(ß_{AL})$

Whereby *y* = Financial Sustainability, PR = Public Relations, IP = Investment Portfolio, and AL = Authentic Leadership. This equation explains 20% of the variation in financial sustainability. The implication for administrators is clear, should they want to improve financial sustainability, they must improve these three factors—authentic leadership, investment portfolio, and public relations. It is critical that administrators consider their investment portfolio, their public relation activities and their leadership styles for it impacts upon their institution's financial sustainability.

Recommendations for Administrators and Practitioners

1. That administrators consider share of best practices. Based on the first finding that there are strengths by continents, it is worthwhile for administrators to share their best practice in relation to financial sustainability. This will help other institutions to adopt strategies that can better their financial sustainability.
2. Investment portfolio: That the administrators of these institutions consider setting up an investment portfolio. The investment portfolio was a factor that was significant in the model. Hence things such as participating in the Mutual Money Fund for instance could be of help to institutions in order to sustain their finances.
3. Authentic leadership: Authentic leadership is a factor that is significant in the model. Administrators need to inculcate this leadership style for it impacts upon the financial sustainability of the institution.

ISSN 2054-6297(Print), ISSN 2054-6300(Online)

4. Public relations: That administrators need to be aware of their relations to the public because financial sustainability is impacted as is shown by the model.
5. That our institutions consider the advantage of networking by setting up a mutual fund at the continental level whereby participating institutions have more access and ownership in the funds.

FUTURE RESEARCH

The present analysis is based exclusively on Adventist higher educational institutions perception and facts on the institutions. Similarly, one could be done with other church institutions to see the financial sustainability of such institutions.

1. It is critical to understand why organizational culture was rejected in this study. Further studies should be done in the church setting to see whether our cultural practices and our financial sustainability practices are compatible.
2. It is critical to understand why networking was rejected in this study. Further studies need to be done to understand whether our church educational institutions maximizes the potential synergy that can be obtained from its network of AHEIs. This is critical to strategizing important linkages that is beneficial to the institutions themselves and the church as a whole.
3. Due to constraints faced in this study, only five variables were studied. Couple this with the 20% (R2) explanatory power of this model, it is crucial that further studies be done on this to know more about what other variables are there that is missing from this study. This study can be used as a beginning for further exploration in the area. These variables can include tuition fees, ratio of students to faculty and so forth.
4. Further analysis of these studies can be done using trend analysis to track and detect financial sustainability trends in institutions that may offer further insights to the challenge facing AHEIs which is sustaining itself financially.

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