

# A Study of the Factors that Determine Local NGO Financial Sustainability, A Case of CIDRZ

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**Abstract:-** Financial sustainability as a concept is essential for non-governmental organisational operating in developing countries. While it has been observed that NGOs will depend entirely on funding from donors, it is also important that an organisation also positions itself to ensure that it is able to cover costs for the institution in the long run. This paper sought to address determining factors that could affect financial sustainability in a local NGO such as CIDRZ and provide factors that management can utilize to enhance CIDRZ financial sustainability. Specifically, this study assessed the financial sustainability of CIDRZ based on frameworks developed in past empirical research/applied by experts in the area. It examined the relationship between attributes/ diversification of funding sources and financial sustainability of CIDRZ. Further, the possible relationship between donor relationship management and financial sustainability of CIDRZ as well as internal system attributes and financial sustainability of CIDRZ was examined. This study also examined relationship between business model innovation and furtherance of financial sustainability at CIDRZ. Data for the study was collected from a purposive sample of 51 employees comprising of supervisors and managers of the organization using a self-administered questionnaires made available online. The data was analysed by Stata 15 with correlation analysis and robust regression methods being used to establish the relationships. Results of this study showed that the NGO of interest could be considered financially sustainable. There were statistically significant coefficients in the robust regression empirical model for each of the indexes that were used representing funding diversification, interaction between donor relationship management and internal systems attributes, as well as innovative business models. It is recommended that management regularly review funding portfolios to ensure they are sufficiently broad for financial sustainability. They should also closely align internal systems with the demands of donor relationship management to increase likelihood of financial sustainability.

**Keywords:-** Financial Sustainability, Sustainability Determinants, Non-Governmental Organisation, Robust Regression.

## I. INTRODUCTION

In this research, Sustainability refers to the ability for management to maintain an organization over the long term. However, defining financial sustainability may vary between for profit and not for profit organizations, depending on the revenue structure, business structure and set priority goals of the organization. This study focuses on financial sustainability in Non- governmental Organizations (NGOs) which is one of topics that have drawn concentration and discussions among researchers especially financial analyst in developing countries. According to (Bowman, 2011), financial sustainability is the ability to maintain financial capacity over time. (Omeri, 2015) also added to defined sustainability as the ability of management to maintain an organization over the foreseeable future. Financial sustainability, therefore, is the capacity as a firm to come up with ways of growing and maintaining its ability to function indefinitely. Financial sustainability is thus a key consideration for survival and effectiveness of the NGO. Ensuring financial sustainability requires careful planning, monitoring and evaluation of the organization's financial performance, as well as the development of strategies to diversify funding sources and manage risks. By achieving financial sustainability, CIDRZ can better fulfil its mission and have a greater impact on the communities it serves.

### ➤ *Background of CIDRZ as an NGO*

The history of non-governmental organizations may be traced back to at least from 1775 when people started grouping themselves to address issues on slave trade, peace movement, labour rights and humanitarian relief for war victims and refugees. Non-governmental organization: also known as Non-Profit Organizations (NPO) and Private Voluntary Organization (PVO) are the most commonly used definitions of the term and used interchangeably. Currently, NGOs may be referred to mean non-profit making organizations that are objectively constituted or any organization that is not founded by any treaty to address challenging issues in the society. They respond to emerging needs in the fields of health, education, refugees, environment, human rights, and other key aspects of development. For instance, in the recent past, NGOs have been endeavouring to address the Millennium Development Goals (MDGs). NGOs operate on set programs of activities that address their interests and have often partnered with clinics to support projects in the health sector.

Recent research according to (Kabdiyeva, 2012), (Okorley, 2012) has shown that there have been an increasing number of Not-for-Profit making Organization in developing countries, and they have developed and over the years earned the confidence of the local people as key partners for development. This confidence in performance and implementation coupled with need for donor aid has over the years shown an increase in the support for Not-for-Profit organizations. In Zambia, NGOs have performed well in the health sector as they have become a buffer of support for the Ministry of Health and other social services.

The Centre for Infectious Disease Research in Zambia (CIDRZ) was founded in 2001 and in 2011, CIDRZ was incorporated as an independent, Zambian Organisation. CIDRZ over the past years has grown from focussing on research to implementing programs in the health sector assisting the Ministry of Health. CIDRZ played an instrumental role in the introduction and scale-up of Prevention of Mother-to-Child HIV Transmission (PMTCT) and adult and paediatric antiretroviral therapy (ART); integration of ART services into TB, Outpatient and Antenatal Clinics and treatment for cancer of the cervix; and scale-up of voluntary medical male circumcision services. CIDRZ has been able to support the delivery of lifesaving services through the public health system in collaboration with the Government of Zambia. Over the years, CIDRZ has been like any other NGO depended on the goodwill and generosity of donors to foot all their expenses through grants and donations. This generosity has now come with conditions on proper accountability to safeguard resources that are being granted. The need to have functional structures that will make CIDRZ attractive and accountable for donor fund therefore require constant support from donors to maintain such structures.

## II. SUMMARY OF LITERATURE REVIEW

Financial Sustainability differs significantly between profit making organizations and not for profit making organizations depending on the nature of revenue of the organization, the structure, and goals of the organization. Financial sustainability of an NGO simply is the ability of the organization to reallocate assets in the wake of opportunities and threat and maintain sound financial balance over a long period. For NGOs to be sustainable, it is key that the organization has the capacity to raise its own revenue or raise funds locally and reducing foreign dependence but still able to execute the needed projects for the period.

According to Bowman (Bowman, 2011), financial sustainability refers to the ability to maintain financial capacity over time. In this study, financial sustainability refers to the ability to meet short and medium costs in the short and long term. This coincides with (Bowman, 2011) who states that “financial capacity consists of resources that give an organization the ability to seize opportunities and react to unexpected threats while maintaining general operations of the organization”. According to (Salway, 2016), a sustainable NGO is regarded as “a sustainable

organisation that can continue to carry out its mission over time and meet the needs of its key players, especially beneficiaries and supporters”.

In the recent past according to (Omeri, 2015), financial sustainability has become the buzzword in the NGO sector following donor fatigue in the developed countries. Additionally, according to (Omeri, 2015) the scarcity of resources is very critical when considering the financial sustainability of NGOs. With the financial crisis in developed economies, it is a global concern that funding will reduce to developing countries. Further, constraints on revenue raising have emerged as a barrier to enable NGOs to remain sustainable as the notion has been that NGOs are not profit-making institutions.

CIDRZ have in the recent past received a significant amount of donor aid from Presidential Emergency Plan for AIDS Relief (PEPFAR) and the National Institute for Health (NIH), private donors and universities. Over the last two decades, projects within CIDRZ have utilised donor fund in fostering growth in the health sector through research, direct service delivery and technical support. However, CIDRZ face the challenges such as uncertainty in grant patterns and the decline in private donations due to economic difficulties coupled with growing competition within the health sector.

When considering the financial management processes of CIDRZ, resource scarcity is a recurrent matter. The organisation tends to have an ever-increasing agenda of programs and activities requiring consistent and adequate funding but must contend with the fact that they have limited opportunities for generating additional income. If due consideration is not given to the question of sustained funding of CIDRZ's activities and operations, then the organisation runs the risk of failing in its mandate, worse still could face closure because of unsustainability of its operations. This underpins the centrality of financial sustainability in CIDRZ long-term existence and operation.

Recent studies in Africa have highlighted several factors that have influenced financial sustainability in NGOs. However, very little has been done on this study in Zambia about factors that affect the financial sustainability of NGOs in the health sector.

### ➤ *Diversified Funding Sources*

Lewis defined diversified income for local NGOs as funds sourced from several sources. These encompass business communities, governments, public and external donors. However, funding is restricted with the NGOs using the resources only for a specific purpose. Both Lewis and (Leon, 2001) found that there was a substantial and positive relationship between income diversification and financial sustainability of NGOs.

### ➤ *Donor Relationship Management*

According to (Omeri, 2015), when the initial relationship has been established between the donor and the NGO, the next important challenge is maintaining that relationship going forward. He agreed that building and

maintaining good and cordial relationship with donors was a critical step in NGOs attaining financial sustainability. (Saungweme, 2014) discusses that good donor relationship management include NGOs being able to uphold the priorities of their donors and adjust their systems, activities and processes to allow them to attract more donors. Further, he revealed a positive though weak relationship between good donor relationship management and financial sustainability. (Waiganjo & Ngethe, 2012) stated that NGOs that can align their programs in line with donor priorities are likely to get their support and hence are financially sustainable. Their study also revealed that most donors are funding NGOs in a consortium and therefore it was important for NGOs to join themselves to these alliances to attract such donors to ensure financial sustainability. Therefore, they reported a strong positive relationship between good donor relationship management and financial sustainability of NGOs.

#### ➤ *Internal Systems Attributes*

(Abdelkarim, 2002) argued that financial sustainability goes beyond resource mobilization and income generation, sound financial management practices, income diversification etc. and concluded that NGOs need to seriously engage in financial planning and control. (Leon, 2001) sees financial sustainability of an NGO as the capacity to generate positive balance sheet so that the organization will have the flexibility to adapt to changes in the environment. (Okorley, 2012) examined factors influencing organizational sustainability of NGOs and identified factors such as ensuring transparency and accountability, writing goods needs-based proposals, leadership training and lobbying for resources making these good attributes of internal systems.

(Kabdiyeva, 2012) states that an organization exercises good governance when it has an internal system of checks and balances that ensures public interest is served and protected. Financial controls are at the centre of any good financial management system and they ensure that resources are being expended as expected within an organization's financial plans and budgets. (Mutinda, 2016) further agreed that the value of the financial controls lies in their ability to trace every expenditure and revealing areas of weakness in the financial management system.

#### ➤ *Innovative Business Models*

According to (Okorley, 2012) for NGOs to be financial sustainable, they must have the management capacity to raise funds and get their employees interested in their financial situation to get their full support and cooperation.

Conclusions from studies revealed that (Leon, 2001), (Witcombe, 2010), (Smith, 2011), (Ali, 2012), (Waiganjo & Ngethe, 2012) included factors such as income diversification, prudent financial management practices, own income generation and good working relationship with donor partners as being paramount to an NGO being sustainable. (Mutinda, 2016), (Omeri, 2015), (Saungweme, 2014), (Ali, 2012), (Hendrickse, 2008) and (Leon, 2001) all went on to agree that the key components of financial

sustainability of NGOs include sound financial management practices, income diversification, own income generation capacity and good donor relationship management. These studies all concluded that absence or inadequate provision of the factors stated above caused local NGOs not to be financially sustainable.

In the nutshell, for the sake of this study, the key factors of study were diversified funding sources, donor relationship management, internal systems attributes, and business model innovation.

#### ➤ *Statement of the Problem*

The attainment of financial sustainability is a key component of local NGOs' long-term survival and operation. This allows NGOs to provide their services on a continuous basis to their beneficiaries even in the phase of changes in their funding. Financial sustainability enables NGOs to meet their daily operations and fund their projects after withdrawal of donor support. NGOs are highly dependant on donor financial support which has created financial issues when the fund is cut or terminated by the donor. Therefore, financial viability is one of the key challenges to local NGO sustainability.

A report by Deloitte & Touché, Zambia, in 2020 noted that CIDRZ source of funding is 88% from donor funding and dependent on this constant support to operate. However, over the last year, there have been growing general concerns on constant support to CIDRZ amidst the COVID 19 pandemic as there is need for donors to support their citizens affected by the pandemic. Further, the 2020 Deloitte report stipulated that out of the 88% funding, CIDRZ is heavily depended on Centre for Disease Control (CDC) as a major source of donor fund with a 70% concentration. The CDC funded projects have supported most activities at CIDRZ and the core direct service delivery to the various MOH clinics and hospitals. As of October 2021, CIDRZ was requested to transition from direct service delivery to technical support reducing the funding. With this downturn in funding, CIDRZ maintained its operational staff compliment to maintain a good structure that is attractive for future donors to fund. Further, CIDRZ with the increase in size over the two decades developed a research unit department that heavily depends on the operational structure with minimal and limitation on financial support to operational staff and yet heavily dependent on the operational structures that were being funded by CDC projects. Sustaining a suitable operational structure and a good system to attract more funding requires a stable financial resource. A model has been developed within CIDRZ to allocate an indirect cost charge for administrative personnel which is however not sustainable.

Therefore, this threat to reduction of funding is a concern for CIDRZ to meet its daily operational needs with the same structures and attain their strategic mission and vision to scale up activities in various provinces in Zambia. This has made CIDRZ financial sustainability concerns even more important as it is difficult to estimate the availability and extent of funding that can support such growth.

➤ *Objective of Study*

General objective: The general objective of this study is to establish the determinant factors affecting financial sustainability of CIDRZ as a local NGO.

➤ *Specific Objectives*

- To establish the effect of funding diversification on CIDRZ's financial sustainability as a local NGO.
- To establish the effect of donor relationship management and internal systems on CIDRZ as a local NGO.
- To establish the effect of innovative business models on CIDRZ as a local NGO.

➤ *Scope of Study*

This study is mainly confined on the establishment of determinant factors affecting financial sustainability for non-governmental organizations such as CIDRZ. The focus of the research is on the effects of income diversification, donor relationship management, internal systems and innovative business models on the financial sustainability of CIDRZ. This study was based on primary data collected from selected employees of 51, ranging from supervisors, middle and senior management of CIDRZ.

### III. RESEARCH METHODOLOGY

This study adopted the quantitative research approach to achieve the objective of this study. Data was collected through questionnaires that are self-administered. A quantitative data collection method was centred on the quantification of relationships between variables. Quantitative approach is useful as it helps the researcher to prevent bias in gathering and presenting research data. The descriptive research method presented facts concerning variables under investigation, as they exist at the time of the study as well as trends that are emerging.

The design was appropriate for this study in that it describes the situation as it is, while minimizing bias data collection. The dependent variable of the study is financial sustainability of CIDRZ while the independent variables of the study are income diversification, donor relationship management, internal systems and innovative business models.

A purposive sample of 51 employees from staff within CIDRZ was selected from among supervisors, middle and senior manager. The sample was collected from a population of 90. The sample was targeted on supervisors, middle and senior management.

Slovin's formula was used to calculate the sample size (n) given the population size (N) and a margin of error / desired level of precision (e) It is a random sampling technique formula to estimate sampling size. It is computed as

$$n = \frac{N}{1 + N(e)^2}$$

### IV. DATA ANALYSIS METHOD

The quantitative data was analysed using correlation and multiple regression analysis premised on the robust regression technique in Stata 15. A Simple Pearson Correlation test was used in this study to determine the strength of the relationships between the independent variables and the dependent variable. The advantage of using the regression model is that the model had the capacity to show whether the independent variables significantly affect the dependent variable as shown in the tables. This study followed the regression approach also used by (Adjei Andy Ebenezer, 2020) and (Gebregiorgies, 2022).

➤ *The Following Specific Regression Model was Adopted for the Study;*

- $Y = \beta_0 + \beta_1 FD + \beta_2 DRM + \beta_3 ISA + \beta_4 BIM + \beta_5 FMS + \epsilon$
- Where,
- Y=dependent variable (Financial sustainability of NGOs),
- $\beta_0$ =Constant,
- $\beta_1 - \beta_5$ =Coefficients of the independent variables,
- FD=Funding Diversification,
- DRM=Donor Relationship Management
- ISA=Internal Systems Attributes,
- BIM=Business Innovative Models
- $\epsilon$ =represents the error term

➤ *Phase 1: Calculation of the financial sustainability indexes and its normality test.*

➤ *Phase 2: Calculation of the Descriptive statistics for the funding diversification index and its normality, the donor relationship management index and its normality, the internal systems attributes index and its normality, and the business model innovation index.*

➤ *Phase 3: Computation of Correlation Matrix for Computed Indices (regressors)*

➤ *Phase 4: Computation Robust Regression Empirical Model*



**V. FINDINGS**

Table 1 below shows the summary statistics for the overall simple unweighted financial sustainability index that was calculated based on respondent scores of the target organization in area of the concept as suggested by the literature. The mean score for the simple index was 3.337 with a standard deviation of 0.4758. The 50<sup>th</sup> percentile for the distribution of the score was 3.4. The skewness coefficient for the distribution of the index was 0.2159 while the kurtosis value was 2.8054.

Table 1 Descriptive Statistics for Simple Unweighted Financial Sustainability Index

FSI				
	Percentiles	Smallest		
1%	2.4	2.4		
5%	2.6	2.4		
10%	2.8	2.6	Obs	51
25%	3	2.6	Sum of Wgt.	51
50%	3.4		Mean	3.337255
		Largest	Std. Dev.	.4757986
75%	3.6	4.2		
90%	4	4.2	Variance	.2263843
95%	4.2	4.4	Skewness	.2158933
99%	4.4	4.4	Kurtosis	2.805447

Source: Researcher (2022)

➤ Figure 1 Shows the Plot for the Distribution of Values of the Index.

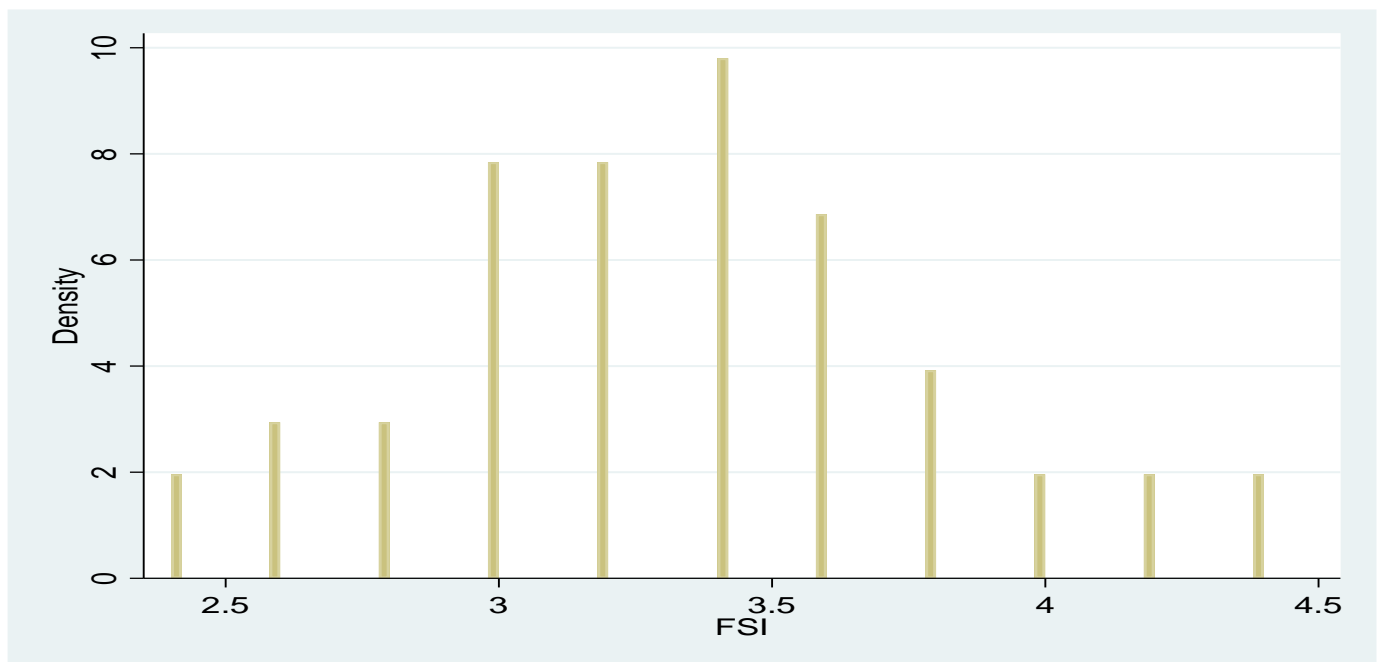


Fig 1 Frequency Density Distribution Plot for Simple FS Index

Source: Researcher (2022)

The plot was used to evaluate the extent to which the distribution could be considered normal. Evaluation of the plot suggested that the distribution of values of the index could be considered as normal. Based on the skewness and kurtosis values presented in Table 1, the Jacques-Berra test for normality was conducted with results presented in Table 2. The results of the test showed that a null hypothesis of normality of the distribution could not be rejected given a test statistic of 0.5 whose p-value was 0.7790.

Table 2 Normality Test for Financial Sustainability Index and Significance of Mean

Skewness/Kurtosis tests for Normality					
Variable	Obs	Pr (Skewness)	Pr (Kurtosis)	Adj. chi2 (2)	Prob>chi2
FSI	51	0.4869	0.9444	0.50	0.7790

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]
FSI	51	3.337255	.0666251	.4757986	3.203434 3.471075

mean =	mean (FSI)	t =
5.0620		
Ho: mean = 3		degrees of freedom = 50
Ha: mean < 3	Ha: mean != 3	Ha: mean > 3
Pr(T < t) = 1.0000	Pr( T  >  t ) = 0.0000	Pr(T > t) = 0.0000

Source: Researcher (2022)

The summary statistics for the resulting funding diversification index are presented below in Table 3. The mean score for the FDI as a possible factor influencing the financial stability of the organization was 3.804 with a standard deviation of 0.597. The distribution generated had a skewness coefficient of -0.255 and a kurtosis value of 2.306.

An inquiry into the possible normality of the distribution based on the Jacques-Berra test produced the results reported in Table 4. The results in Table 14 produced a test statistic of 1.86 which had a p-value of 0.3943. As a consequence, the null hypothesis of an approximately normal distribution for the index could not be rejected.

Table 3 Descriptive Statistics for Funding Diversification Index

FDI				
	Percentiles	Smallest		
1%	2.666667	2.666667		
5%	2.666667	2.666667		
10%	3	2.666667	Obs	51
25%	3.333333	2.666667	Sum of Wgt.	51
50%	4		Mean	.5969421
		Largest	Std. Dev.	.5969421
75%	4.333333	4.666667		
90%	4.666667	4.666667	Variance	.3563399
95%	4.666667	4.666667	Skewness	-.2554861
99%	5	5	Kurtosis	2.340553

Source: Researcher (2022)

Table 4 Funding Diversification Index Normality of Distribution Test Results

Skewness/Kurtosis Tests for Normality					
-----Joint-----					
Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	Adj chi2(2)	Prob>chi2
FDI	51	0.4121	0.2944	1.86	0.3943

Source: Researcher (2022)

Table 5 shows the summary statistics for the index. The mean score for the index was 4.375 with a standard deviation of 0.446. The skewness coefficient for the distribution of the index was -0.861 while the kurtosis coefficient was 4.029 raising questions about the normality or otherwise of this distribution. Results of the normality test produced a test statistic of 7.87 with a p-value of 0.0195 as shown by Table 6. The null hypothesis of normality of this distribution could therefore not be accepted.

Table 5 Summary Statistics for Donor Relationship Management Index

<b>DRMI</b>				
	<b>Percentiles</b>	<b>Smallest</b>		
1%	2.875	2.875		
5%	3.625	3.5		
10%	3.75	3.625	Obs	49
25%	4.125	3.75	Sum of Wgt.	49
50%	4.375		Mean	4.375
		<b>Largest</b>	Std. Dev.	.4456094
75%	4.75	4.875		
90%	4.875	5	Variance	.1985677
95%	5	5	Skewness	-.8614162
99%	5	5	Kurtosis	4.029299

Source: Researcher (2022)

Table 6 Normality Test for Distribution of Donor Relationship Management Index

<b>Skewness/Kurtosis tests for Normality</b>					
<b>Joint</b>					
Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	Adj.chi2(2)	Prob>chi2
DRMI	49	0.0128	0.0951	7.87	0.0195

Source: Researcher (2022)

➤ *Internal Systems Attributes Index*

The mean score for the index was 4.297 with a standard deviation of 0.471. The coefficient of skewness for the index distribution was -0.588 while the kurtosis coefficient was 2.975.

The normality test for the distribution of the index produced a test statistic of 3.52 with a p-value of 0.1718. The results obtained implied that the assumption of normality for the distribution of the index could not be rejected.

Table 7 Summary Statistics for Internal Systems Attributes Index

<b>ISAI</b>				
	<b>Percentiles</b>	<b>Smallest</b>		
1%	3	3		
5%	3.444444	3.222222		
10%	3.666667	3.444444	Obs	49
25%	4	3.666667	Sum of Wgt.	49
50%	4.333333		Mean	4.297052
		<b>Largest</b>	Std. Dev.	.4710703
75%	4.666667	5		
90%	4.888889	5	Variance	.2219073
95%	5	5	Skewness	-.5875499
99%	5	5	Kurtosis	2.974646

Source: Researcher (2022)

Table 8 Normality Test for Internal Systems Attributes Index

<b>Skewness/Kurtosis tests for Normality</b>					
<b>joint</b>					
Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	Adj.chi2(2)	Prob>chi2
ISAI	49	0.0749	0.7017	3.52	0.1718

Source: Researcher (2022)

➤ *Business Model Innovation Index*

Table 9 shows the summary statistics for the index. The mean score for the index was 3.1 with a standard deviation of 0.540.

Table 9 Summary Statistics for Innovative Business Model Index

IBMI				
	Percentiles	Smallest		
1%	1.666667	1.666667		
5%	2	2		
10%	2.333333	2	Obs	50
25%	2.666667	2	Sum of Wgt.	50
50%	3.333333		Mean	3.1
		Largest	Std. Dev.	.5397992
75%	3.333333	3.666667		
90%	3.666667	4	Variance	.2913832
95%	4	4	Skewness	-.669899
99%	4	4	Kurtosis	3.091054

Source: Researcher (2022)

The skewness and kurtosis coefficients for the distribution were -0.670 and 3.091 respectively. Consequently, the normality test for the distribution summarized in Table 20 produced results that could not reject the null hypothesis of a normal distribution given a statistic of 4.47 with a p-value of 0.1070.

Table 10 Normality Test for Innovative Business Model Index

Skewness/Kurtosis tests for Normality					
joint					
Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	Adj. chi2(2)	Prob>chi2
IBMI	50	0.0434	0.5707	4.47	0.1070

Source: Researcher (2022)

➤ Correlation Analysis

The results suggested positive correlations amongst all the possible regressors and the financial sustainability index except for the IBMI which had a statistically insignificant coefficient of -0.1310 with the Financial Sustainability Index. Amongst the possible regressor indexes, the FDI was the least correlated with the other indexes. On the other hand, the DRMI was strongly and positively correlated with the ISAI as well as the IBMI.

There was weak positive but statistically significant correlation between the ISAI and the IBMI. Based on a cut-off point of a correlation coefficient in absolute terms of 0.7 or higher, only the DRMI and ISAI could not be included in the same empirical model specification without the possibility of multicollinearity becoming a problem.

Table 11 Correlation Matrix for Computed Indices

	FSI	FDI	DRMI	ISAI	IBMI
FSI	1.0000				
FDI	0.1765 (0.2155)	1.0000			
DRMI	0.0663 (0.6507)	0.1600 (0.2720)	1.0000		
ISAI	0.1187 (0.4167)	0.0782 (0.5935)	0.7522 (0.0000)	1.0000	
IBMI	-0.1310 (0.3646)	0.1931 (0.1791)	0.4885 (0.0004)	0.4662 (0.0008)	1.0000

Source: Researcher (2022)

Arising from the pairwise correlation results in Table 11, a compound variable reflecting a possible interaction between the two strongly positive correlated indexes, i.e., the ISAI and the DRMI was constructed. The results are shown in Table 12 show the correlations that were computed.

Table 12 Second Correlation Matrix with Interaction Term and Moderator

	FSI	FDI	IBM	ISAIDRMI
FSI	1.0000			
FDI	0.1765 (0.2155)	1.0000		
IBM	-0.0894 (0.5370)	-0.0776 (0.5920)	1.0000	



ISAI DRMI	0.1223 (0.4077)	0.1469 (0.3190)	0.3113 (0.0332)	1.0000
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Source: Researcher (2022)

➤ Empirical Model Estimation

The results of the model showed that all the adopted regressors had statistically significant coefficients at the 10% level. The coefficient for the funding diversification index was positive 0.229 with a p-value of 0.057. The coefficient for the composite variable for the internal systems attributes index and the donor relationship management index was also positive at 0.0401 and a p-value of 0.083. On the other hand, the coefficient for the innovative business model index was negative 0.286 with a p-value of 0.061. In other words, all the estimated coefficients were statistically significant at the 10% level.

Table 13 Robust Regression Empirical Model

Robust regression				Number of Obs	=	
47				F(3, 43)	=	2.70
				Prob > F	=	
0.0576						
FSI	Coef.	Std. Err.	t	P> t	[95% Conf.	Interval]
FDI	.2289757	.1173108	1.95	0.057	-.0076041	.4655556
ISAI DRMI	.0400721	.0225685	1.78	0.083	-.0054417	.0855858
IBMI	-.2866031	.1489751	-1.92	0.061	-.58704	.0138338
_cons	2.536044	.5727724	4.43	0.000	1.380938	3.691149

Source: Researcher (2022)

VI. SUMMARY OF HYPOTHESIS

This study was conducted to test several hypotheses. The hypotheses are restated below.

A. Hypotheses

➤ Hypothesis 1

- Ho: Diversification of funding sources, Management of donor relationships and Internal system attributes does not affect financial sustainability of CIDRZ
- Ha: Diversification of funding sources, management of donor relationship and internal system attributes affects the financial sustainability of CIDRZ

➤ Hypothesis 2

- Ho: Business model innovation has no relationship with the furtherance of financial sustainability at CIDRZ.
- Ha: Business model innovation has a relationship with the furtherance of financial sustainability at CIDRZ.

➤ Hypothesis 3

- Ho: CIDRZ is not financially sustainable according to metrics for assessing financial sustainability of not-for-profit entities.
- Ha: CIDRZ is financially sustainable according to metrics for assessing financial sustainability of not-for-profit entities.

VII. DISCUSSION

The question of financial sustainability to many NGOs, in particular CIDRZ is of great concern amidst changing economic challenges. The organisation’s ability to assess factors that can maintain the organisation to be sustainable in the long and short term is key to ensure that the mission and vision of the organisation is upheld. The literature on financial sustainability of non-governmental organizations indicates that it is a multifaceted concept that covers various indicators such as stability of funding streams, own income generation, core-cost controllability, and stability of organizational structures (Córdova Paredes,

Calabuig Moreno, & Alonso Dos Santos, 2019). The study sought to address the question about the financial sustainability of CIDRZ in one way with the computation of financial substantiality index comprising respondent ratings of the organization in all these key areas. The study however did not consider the views of respondents on the robustness of financial sustainability at CIDRZ to possible shocks in the economy as well as levels of donor funding. Such an approach would only have been possible with time series data straddling many periods with different states of economic conditions (Sazonov, Kharlamova, Chekhovskaya, & Polyanskaya, 2015)

A portfolio diversification funding approach to promotion of financial sustainability in non-governmental organization was considered as a possible determinant of the dependent variable for this study. This approach was consistent with past studies such as (Khieng & Dahles, 2015) were the role of capacity of the NGO to generate its own income or funds as a part of diversifying its sources of funding. This study explored the need to generate own income as part of portfolios and that there was a positive relationship as hypothesized between the funding diversification index and the financial sustainability index.

Further, the funding of non-governmental organizations is heavily related with who their donors are and what relationships they have with the organizations for the short and long-term which in turn may impact the financial sustainability of the organization (Córdova Paredes, Calabuig Moreno, & Alonso Dos Santos, 2019). This study demonstrated the good relationship between CIDRZ and the donors based on the size of the donor portfolio as demonstrated from the respondents.

The observation drawn from the high positive correlation between donor relationship management and the internal systems attributes index was that they in practice interact to influence financial sustainability of a nongovernmental organization. Donor funds often involve conditionalities that influence the internal structures and governance systems of NGOs which in turn influence interaction with donors. Thus, the correlation coefficient computed for this interaction term using robust regression analysis was 0.040 with p-value=0.083.

On the other hand, Innovative business models were considered in the literature to involve incorporation of dynamism and flexibility in the manner that NGOs operate vis-à-vis generation of revenues (Khieng & Dahles, 2015). The coefficient obtained in this regard in the robust regression model that was empirically estimated was -0.089 with p-value=0.061. One possibility could be argued to be that high levels of dependence on donor funding for the typical NGO entail that attempts to remodel the core business to generate revenues in different ways may lead to doubts about donor funding streams as donors prefer more stable structures.

## VIII. CONCLUSIONS AND RECOMMENDATION

What were the key factors of financial sustainability in the context of NGOs? This is a question that has increasingly arisen in the empirical literature as a result of factors such as constrained donor budgets amid great need for vulnerable populations in the COVID pandemic. To address this question, this study used the case of Centre for Infectious Diseases Research Zambia (CIDRZ) Limited, an NGO operating in Zambia's health sector.

A multifaceted evaluation of CIDRZ from the perspective of study respondents, supported the conclusion that the entity is financially sustainable. The approach adopted for this study considered indicators of financial sustainability such as stability of funding streams, own income generation, core-cost controllability, and stability of organizational structures.

Further results obtained by this study showed that there was a positive relationship as hypothesized between the funding diversification index and the financial sustainability index. These results were also consistent with theoretical expectations such as those relating to resource dependence theory. The study concludes that it is beneficial from a financial sustainability standpoint for CIDRZ to diversify their funding portfolios.

It was also concluded that a strong relationship exist between donor relationship management and internal systems attributes of non-governmental organizations. Further to this assertion, it was justified by the observation that the CIDRZ often have to adopt structures that are responsive to the demands of donors including those related to governance and reporting systems.

It was further concluded that CIDRZ should be cautious in experimenting with innovative business models as a means of promoting financial sustainability.

The main recommendations of this study were that management of CIDRZ should identify and implement generating activities with the aim to achieving sustenance amidst declining donor support. CIDRZ should also formulate a framework that will allow frequent constructive collaborations with the donors when executing activities. Further, it is recommended that management of the entity closely align its internal systems with the demands of donor relationship management to increase likelihood of financial sustainability. Lastly, CIDRZ should be cautious in experimenting with innovative business models as a means of promoting financial sustainability.

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