

**Journal of Inter-Discourse Academia**

**JIDA**

**Volume 4, Issue 1, 2023**

**ISBN: 978-9970-479-00-9 ©AUCA**

|  |
| --- |
| **Publication Fee: Free to AUCA Faculty-50$ to others** |

**JIDA Editorial Board Members:**

**Chief Editor: Prof. Kayigema Jacques, Tel.+250788866769, jacques.kayigema@auca.ac.rw**

**Associate Editor: Mr. Nibishaka Enock, Tel. +250788572042, enock.nibishaka@auca.ac.rw**

**Designers, Illustrators, Marketing Advisor:**

**Mr. Mbonaruza Ferdinand, Tel.+250788359680, ferdinand.mbonaruza@auca.ac.rw**

**Mr. Nsabimana Aphrodite, Tel.+250788668260, aphrodice.nsabimana@auca.ac.rw**

**Editorial**

**“The Man who does not read has no advantage over the man who cannot read.” (Mark Twain, Writer and Humorist)**

The Journal of Inter-Discourse Academia (JIDA), AUCA publication, is published biennially, with two issues in June and December, though an early publication date is possible. The Journal started early in 2014 but was interrupted because of circumstances beyond our control.

Although every effort will be made to include articles accepted for publication in the next issue, JIDA reserves the right to postpone publication if necessary. JIDA also reserves the right to refuse any article.

The editorial board represents a diverse team from different academic fields: education, languages, marketing, human sciences. Each member was selected based on academic exposure and experience, research and publication.

JIDA aims to provide interdisciplinary discussions locally and internationally on views and issues that affect our workplace and our society.

It is the author’s responsibility to ensure that an article submitted to the journal conforms to the editorial and academic requirements. Manuscripts not properly edited will be returned to the author.

**The Chief Editor**

**Acknowledgements**

The Editorial Board Members wish to thank all the contributors, AUCA friends, and all the reviewers who helped us to select the papers and themes, and do a thorough review process, thus guaranteeing a high level of academic professionalism in the volume.

**Table of Contents**

Editorial .....................................................................................................................................................ii

Acknowledgements....................................................................................................................................iii

 Internal Control and Human Capital Resources Allocation: A Case of Kamonyi District by

Musabyemariya Aline & Dr. Butera Edison ………………………………………………………………………..5

Financial Statements Analysis and Financing Decision Making in Manufacturing Firms in Rwanda: Case Study of INYANGE Industries and BRALIRWA Plc by Girinshuti Iréné and Dr.Butera Edison...11

Ìmὸsé: An Aesthetic Appreciation of Beauty in Ẹdo Ontologyby Dr. Emmanuel Asia & Mr. Joseph N.

Odigie ……………………………………………………………………………………………………20

Infrared Laser Beam Facility Formed since Birth in the Pineal Gland as a Communications Mechanism by Dr. Kenneth Gordon Greenaway...…………………………………………………………………..31

Fast Pace Rise of Global English in Rwanda: Language Power and Influence by Dr. Kayigema Jacques………………………………………………………………………………………………….44

Intrinsic and Extrinsic Motivation Factors and Primary Teachers’ Performance in Selected Public Primary Schools of Gasabo District by Ngajory Manzi Patrick & Dr.Cyeze M. Emmanuel ……………60

Leadership Qualities and Resilience of Non-Governmental Organizations’ Beneficiaries in Rwanda by Muhire Gilbert & Dr.Cyeze Munyamasoko Emmanuel ………………..………………………………69

Contemporary Issues in Accounting: Financial Reporting Quality and Forecasting Errors Minimizing- Theoretical Consideration Dr.Niyonzima Théogène………………..…………….…………….………75

Financial Management Practices and Small, Medium and Micro Enterprises in the Kampala Metropolis, Uganda, a Covid19 Post Study by Dr. Mulindwa K. Daniel……………………………………………...86

Master's Student Satisfaction Levels Survey at the Adventist University of Central Africa (AUCA) by Dr Munyamasoko Cyeze Emmanuel, Dr. Casamayor Santiago, Dr. Padilla Rosa, & Mr Manirakiza Jean Baptiste…………………….……………………………………………..…………….…………….….97

Guidelines and Instructions to Authors……………………………………………………..……….….120

**Internal Control and Human Capital Resources Allocation**

**A Case of Kamonyi District**

Musabyemariya Aline\* & Assoc. Prof. Butera Edison, PhD

edison.butera@auca.ac.rw

Adventist University of Central Africa (AUCA), P.O. Box 2461, Kigali Rwanda

**Abstract**

The study focused on internal control components in relation to resources allocation in local government of Rwanda, case study is Kamonyi district of Southern province of Rwanda. Components of internal control assessed were: Control environment, Risk assessment, Information & communication, Control activities and Monitoring Activities. Objective of the study was to investigate the effect of internal control (control environment, risk assessment, information and communication, control activities and monitoring activities) on human capital resources allocation. Researchers assumes that “Internal control (control environment, risk assessment, information and communication, control activities and the monitoring activities) do not significantly affect human capital resources allocation”. The population of the study was 383 employees serving Kamonyi on district office, sectors office and cells office and 108 of them were sampled through purposive technique using questionnaires. Relying on Statistical Package for Social Sciences (SPSS) as a statistical analysis a hundred and eight (108) copies of questionnaire were distributed, out of them, 97 were fully completed indicating a response rate of 89.8%. The study adopted descriptive survey research design and regression analysis was also adopted to statistically analyze the effect of internal control on human capital resources allocation. Findings indicated that the Adjusted R2 is 0.889 (88.9%); F-test is 17.1 and P-value is less than 5%. Thus, there is a positive and significant effect of internal control on human capital resources allocation in Kamonyi District. The study concluded that internal controls are predictors of human capital resources allocation. It recommends that Kamonyi District should harmonize the usage of internal controls.

*Keywords***:** internal control system, resource allocation

**Introduction**

Internal control affect human capital resources allocation. However, Districts still have problems of monitoring properly resources while they have internal controls. In 2014 Transparency International Rwanda (TI-RW) (2014), revealed that one third of the total expenditures of 30 districts in the financial year of 2013/14 channeled through local governments was not distributed properly. Until 2018, this issue was still not resolved. This is proved by National Institute of Statistics of Rwanda (NISR) (2018) that reports a poor planning for resources allocation. Another relevant issue is the case of paying non-existing staff amounting Rwf 12.894 million in five districts (NISR, 2018).

The objective of the study is to investigate the effect of internal control (control environment, risk assessment, information and communication, control activities and monitoring activities) on human capital resources allocation in Kamonyi District. Reseachers assume that “Internal control (control environment, risk assessment, information and communication, control activities and the monitoring activities) do not significantly affect human capital resources allocation”.

**Literature**

Frazer (2012) describes internal control as the procedures and policies that ensure adherence to management directives. Ndungu (2013) asserts that internal control components are a set of organizational procedures and policies that ensure the processing of transactions in a way to avoid theft, waste, and misuse of an organization’s resources.

Control environment is the first component of internal control. Uwadiae (2013) describe a control environment as the set of standards, processes, and structures that provide the basis for carrying out internal control across an organization. Control environment is the foundation of the whole system of internal control. Set up control environment means set the rhythm of the organization so that everyone in the organization is affected to have an awareness of the importance of control (Yurniwatia & Rizaldi, 2015).

Another component of internal control is risk assessment. Risk assessment is the identification and analysis of risks that could prevent the organization from achieving its objectives. Properly identifying risks will allow management to determine how to mitigate and manage these risks (Babalola, 2020).

Control activities are the third component of internal control system. Control activities are the policies and procedures that help ensure that management directives are carried out (Babalola, 2020). Control activities are the actions established through policies and procedures that help ensure that management’s directives to mitigate risks towards the achievement of set objectives are carried (Uwadiae, 2013).

Uwadiae (2013) described information and communication as a repeated process of providing, sharing, and obtaining necessary information. Communication can be defined as the process of transmitting information and common understanding from one person to another (Keyton, 2011). Information and communication relate to the identification and transfer of pertinent information in a timely manner that permits personnel to perform its responsibilities.

Monitoring is the last component of internal control. Monitoring can be defined as a continuing function that aims primarily to provide the management and main stakeholders with early indications of positive or negative progress, in the achievement of objectives. Monitoring helps organizations to assess the quality of performance over time and determine the efficiency of its controls. This process also assists timely decision making, ensure accountability, and provide the basis for evaluation and learning (Obeidat *et al*., 2016).

According to Goldin, (2014) human capital is the stock of skills that the labor force possesses. The flow of these skills is forthcoming when the return to investment exceeds the cost (both direct and indirect). Returns to these skills are private in the sense that an individual’s productive capacity increases with more of them. But there are often externalities that increase the productive capacity of others when human capital is increased. Organization can invest in human capital, for example, through education and training, enabling improved levels of quality and production (Goldin, 2014).

 Human capital resources include the training, experience, judgment, intelligence, relationships and insight of individual managers and workers in a firm. The organizational capital resources include a firm’s formal reporting structure, its formal and informal planning, controlling, and coordinating systems, as well as relations among groups within a firm and between a firm and those in its environment (Rahim, 2014).

**Methodology**

The study adopted descriptive survey research design. The study used primary data that were collected by using adopted structured questionnaire in order to get the perceptions of the respondents on internal control and resources allocation in Kamonyi District. The population of this study was 383 staff of Kamonyi Districts. However, all of them do not directly have the information about the internal control and resources allocation in their districts. The sample size of this study was 108. A structured, valid and reliable questionnaire was used to collect primary data. The following operationalization of variables was adopted:

X= internal control (Independent variable)

X= f(x1, x2, x3, x4, and x5)

Y= Ressources Allocation (Dependent variable)

Y= Ressources Allocation(RA)

Where :

Y=f (y2,)

y2= Human capital resources allocation (HCRA)

Based on these variables, the following functional relationships were developed and helped in designing econometric models to be used to test the formulated null hypotheses.

HCRA=f(CE, RS, CA, IC, MA)……….(5.2)

HCRA = β0+β1CE+ β2RA+ β3CA+ β4IC+ β5MA + μ model 2

Where β0 is the intercept for each model (1-5), β1-β5 are coefficients of explanatory variables, using primary data and μ= error term.

**Findings and Discussion**

The data collected from the field were presented in this section as follows:

Table 1

Model Summary between internal control and Human capital resources allocation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | .951a | .904 | .899 | .39936 | 2.462 |
| a. Predictors: (Constant), monitoring activities, risk assessment, control environment, control activities, information and communication |
| b. Dependent Variable: Human capital resources allocation |

Table 1 presents the coefficients of model in order to predict effect of internal control as means of control environment, risk assessment, control activities, information & communication and monitoring activities on human capital resources allocation. Consequently, such variables have scored an adjusted R square equals to 0.889 that is positive contribution. In this case, it shows almost 88.9% is the contribution of internal control on human capital resources allocation at Kamonyi district. Consequently, the remaining test model of 11.1% of difference in human capital resources allocation might be contributed by other variables that are not covered in this study.

Table 2

ANOVA between internal control and human capital resources allocation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 137.033 | 5 | 27.407 | 171.843 | .000b |
| Residual | 14.513 | 91 | .159 |  |  |
| Total | 151.546 | 96 |  |  |  |
| a. Dependent Variable: Human capital resources allocation |
| b. Predictors: (Constant), monitoring activities, risk assessment, control environment, control activities, information and communication |

Table 2 displays ANOVA (Analysis of Variance) measures effect of independent variables (control environment, risk assessment, control activities, information & communication and monitoring activities) on dependent variable that is human capital resources allocation. Therefore, the results gave a positive F-value (171.843) with a significant value of 0.000 which is less than alpha (0.005), and both imply that there is positive effect of internal control and human capital resources at Kamonyi district. Therefore, the null hypothesis (H02) that suggests that “internal control (control environment, risk assessment, information and communication, control activities and the monitoring activities) do not significantly affect allocation of human capital resources”, cannot be accepted.

Table 3

Coefficients of internal control on human capital resources allocation

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 16.338 | 2.283 |  | 7.156 | .000 |
| Control environment | .198 | .132 | .177 | 1.495 | .138 |
| Risk assessment | .004 | .054 | .004 | .075 | .940 |
| Control activities | -.239 | .145 | -.195 | -1.653 | .102 |
| Information and communication | 1.312 | .109 | 1.943 | 12.075 | .000 |
| Monitoring activities | -1.600 | .196 | -1.357 | -8.171 | .000 |
| a. Dependent Variable: Human capital resources allocation |

The established multiple regression equation for predicting human capital resources allocation from the five independent variables was as follows:

y2= 16.338+.177x1+.004x2-.195x3+1.943x4-1.357x5+ɛ

**Where**

 y1= Human capital resources allocation

x1=control environment, x2= risk assessment, x3= control activities, x4= information and communication, x5= monitoring activities ɛ=error term.

The regression equation above has established that taking all factors into account (control environment, risk assessment, control activities, information and communication and monitoring activities) constant at zero, human capital resources allocation would be at 16.338. The findings presented also show that taking when all other independent variables held at zero, a unit increase in the control environment would lead to a .177 increase in the scores of human capital resources allocation. Furthermore, the findings shows that when all other independent variables held at zero, a unit increase in the scores of risk assessment would lead to a 0.004 increase in the scores of human capital resources allocation. Taking all other independent variables at zero, a unit increase in the control activities would lead to a 0.195 decrease in the scores of human capital resources allocation. Taking all other independent variables at zero, a unit increase in the scores of information and communication would lead to a 1.943 increase in the scores of human capital resources allocation. Finally, the study found that taking all other independent variables at zero a unit increase in the scores of monitoring activities would lead to a 1.357 decrease in the score of human capital resources allocation at Kamonyi district.

In general, Information and communication had the greatest effect on human capital resources allocation, followed by control environment and risk assessment. However, control activities and monitoring activities had a negative effect on human capital resources allocation. Variables information and communication and monitoring activities had both a significant p-value of 0.000 which is less than the alpha (0.05). This affirms that human capital resources allocation of at Kamonyi district vary with regards to the information and communication and monitoring activities at 5% level of significance. However, the remaining three independent variables had all scored a significant p-value of which is greater than the alpha (0.05), In this case, this implies that control environment, risk assessment and control activities do not have a significant effect on human capital resources allocation at Kamonyi district.

**Conclusion and recommendation**

Based on the findings, this study concludes that internal control (control environment, risk assessment, information and communication, control activities and monitoring activities) predict human capital resources allocation to the level of 88.9%. In addition, there is a positive and significant effect of internal control on human capital resources allocation.

Therefore, other researchers are called to assess internal control and Human capital resources allocation of local government of Rwanda using other districts of different provinces in Rwanda. Researchers also recommend other researchers to conduct the same study but by using other variables of internal control that are not included in this study that were presented by 11.1%.

**References**

Babalola, J.B. (2020). *Governance and internal control in public institutions, Department of Educational*

 *Management*, University of Ibadan, Nigeria.

Frazer, L. (2012).The Effect of internal control on the operating activities of small restaurants. *Journal of*

 *business & economics research (JBER) 10* (6), 89-97.

Goldin, G. (2014*). Human Capital*: *Handbook of Cliometrics*. Harvard University: Springer-Verlag,

 forthcoming.

Ndungu, H. (2013). *The effect of internal control on revenue generation*: A study of the University of

 Nairobi enterprise and service ltd. Unpublished MBA Dissertation.

NISR. (2018). National Institute of Statistics of Rwanda (NISR), Imihigo Evaluation Report 2017/2018,

 September 2018. Kigali, Rwanda.

Obeidat, B. Y., Hashem, L., Alansari, I, & Al-Salti, Z. (2016). The effect of knowledge management uses

 on total quality management practices: A theoretical perspective. *Journal of management and*

 *strategy*, *7*(4).

Rahim, H. (2014). *Competitive Strategic Management*, Prentice-Hall: Englewood Cliffs (NJ).

TI-RW. (2014). Analysis of the causes of financial and non-financial weaknesses iIdentified in the

Auditor General’s Reports of decentralized entities for the financial year ending 30 June 2014. Transparency International Rwanda.

Uwadiae, O. (2013). COSO, An Approach to internal control framework. *Financial Reporting*, Delloite.

Yurniwatia, A. & Rizaldi.A. (2015). Control environment analysis at Government internal control system:

 Indonesia case, 2nd global conference on business and social science-2015, GCBSS-2015, Bali,

 *Social and Behavioral Sciences* 844-850.

**Financial Statements Analysis and Financing Decision Making in Manufacturing Firms in Rwanda**

**Case Study: INYANGE Industries and BRALIRWA Plc**

Girinshuti Iréné\* & Assoc. Prof. Butera Edison, PhD

buteraedison@gmail.com

Adventist University of Central Africa (AUCA), P.O.Box 2461, Kigali, Rwanda

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Abstract**

The study investigated the contribution of financial statement analysis on decision making in manufacturing sector in Rwanda. The choice of this topic was inspired by the constant affirmation that Corporate Decision Making in Manufacturing in Rwanda is still critical. Researchers assumes that there is no significant effect of financial statements analysis and Financing Decision Making in Manufacturing Firms in Rwanda. Fnancial Statements Analysis were assessed trough Trend analysis, Ratio analysis (Profitability ratio, Liquidity ratio and Solvency ratio). The study adopted descriptive survey research design and questionnaire was used as instrument for data collection. Population of the study are 86 employees (39 employees from INYANGE industries and 47 employees of BRALIRWA Plc). These respondents were chosen because they are in a better position to provide the researcher with useful information on the current research project. Mean and standard deviations were used to assess the perception of respondents on indicators of Financial Statement Analysis and Financial Decision making while Regression analysis was also adopted to statistically analyze the effect of financial statements analysis and Financing Decision Making in Manufacturing Firms in Rwanda. According to the findings, elements of financial statement analysis have a major impact on corporate decision-making. However, flaws were identified, and suggestions were made. The components of financial statement analysis contribute to the adjusted R2 of business decision making, which is 57%. The results showed that the variables of financial statement analysis had an overall positive and significant impact on financial decision-making. The perceptions of the respondents were described as heterogeneous, which meant that some respondents disagreed with the various techniques employed by management to analyze financial statements and make decisions for their organization. Flaws were identified, and suggestions were made. Basing on the financial statements, the company should try to increase its current ratio by delaying any capital purchases, selling any capital assets that are not generating a return to the business (use cash to reduce current debt). The company should also improve its solvency level by putting some of their own (shareholders) cash into the business. They will have more to spend on growth and/or paying off liabilities. The company can also improve the profitability by focusing on building a bigger profit margin into each transaction. Further research was recommended to the role of financial statement analysis to the decision making in businesses in Rwanda.

***Keywords****:* Financial Statement Analysis, Corporate Decision Making

**Introduction**

The study assessed the effect of financial statements analysis and financing decision making in manufacturing firms in rwanda. The case study is INYANGE Industries and BRALIRWA Plc. The choice of this topic was inspired by the constant affirmation that Corporate Decision Making in Manufacturing in Rwanda is still critical. Existence of high-quality information is one of the key presumptions in the decision-making process and the improvement of the economy. Financial statements and accounting information systems account for a sizable portion of this data. Financial statements must provide an accurate and unbiased picture of the current state of a company's operations. In other words, it makes sense to audit financial accounts to assure accuracy. It is crucial to stress that diverse users must be able to "understand" such financial statements when considering them as a factor in decision-making. Financial statement contents can be "read" to provide a variety of tools and analysis techniques for comprehending business. One of the most important indicators of a high-quality firm is the existence of a well-established management process based on financial statements and other financial data. The objective of the study is to determine the effect of financial statement analysis (horizontal analysis and ratio analysis) on Financing decision in selected manufacturing firms. Reseachers assumes that (H01) that there is no significant effect of financial statement analysis (horizontal analysis, and ratio analysis) on Financing decision in selected manufacturing firms.

**Literature**

Financial statement analysis involves gaining an understanding of an organization's financial situation by reviewing its financial reports (Fraser & Ormiston, 2014). The results can be used to make investment and lending decisions. This review involves identifying the following items for a company's financial statements over a series of reporting periods: Trends: create trend lines for key items in the financial statements over multiple time periods, to see how the company is performing. Typical trend lines are for revenue, the gross margin, net profits, cash, accounts receivable, and debt (Ahlam, 2016).

Horizontal analysis (also known as trend analysis) is a financial statement analysis technique that shows changes in the amounts of corresponding financial statement items over a period of time. It is a useful tool to evaluate the trend situations. The statements for two or more periods are used in horizontal analysis. The earliest period is usually used as the base period and the items on the statements for all later periods are compared with items on the statements of the base period. The changes are generally shown both in dollars and percentage (Boyd, 2013).

Ratio analysis can be defined as the process of ascertaining the financial ratios that are used for indicating the ongoing financial performance of a company using few types of ratios such as liquidity, profitability, and solvency ratios and few examples of such ratios are return on equity, current ratio, quick ratio, [dividend payout ratio](https://www.educba.com/dividend-payout-ratio/), debt-equity ratio, and so on. Ratio analysis is a process used for the calculation of financial ratios or in other words, for the purpose of evaluating the financial wellbeing of a company. The values used for the calculation of financial ratios of a company are extracted from the financial statements of that same company. Ratio analysis is used to evaluate relationships among financial statement items. The ratios are used to identify trends over time for one company or to compare two or more companies at one point in time (Bloomenthal, 2017). Decision making is a process of selecting the best course of action from among many alternatives. It is useful for the successful operation of organizational activities. All the managerial functions such as planning, organizing, directing and controlling are determined by the decision. The following points describe the significance of decision making in the organization (Foust, 2017).

Financing decisions have a long-term impact on the performance of the supply chain which may need revisions after a long time period of usually three or more years. It focuses on the structural decisions related to the chain’s configuration and infrastructures, the strategies to allocate resources, and the technologies to perform processes at each stage. They are usually taken at the highest levels of management, include a wide range of uncertainties and carry higher levels of risk. However, effective Financing decisions lead to increased profitability and high levels of rewards for all stakeholders in the supply chain (Balaman, 2019).

Investing decisions are made to execute the short-term processes with the aim of achieving the long- and medium-term goals that the strategic and tactical level decisions have adopted. Given the constraints established by the configuration and medium-term planning policies, the goal during the operational level is to guarantee the continuous operation of the facilities in the supply chain and to maximize benefit from short-term activities. These activities include: daily and weekly forecasting to estimate the end users’ demand, setting the due date when demand is to be met and reviewing the variations between lead time and due date, daily and weekly production planning and scheduling, allocation of a shipment of biomass sources or products to a particular transportation mode and vehicle, daily and weekly delivery schedules and routes, fleet management, and organizing the labor and working shifts(Yao, 2019).

 Dividend decisions are made on a longer-term basis, whether monthly, quarterly, or even annually. Production planning, transportation planning, and resource planning are the best-known types of logistics Dividend decisions. These decisions are often made by middle managers or logistics engineers and often with disaggregated data.

**Methodology**

Due to the fact that it permitted the use of a questionnaire to collect data for both independent and dependent variables as well as the financial statements from the years 2015 to 2021, a descriptive survey research design was employed. The study's target audience was 86 employees (39 employees from INYANGE industries and 47 employees of BRALIRWA Plc). These respondents were chosen because they are in a better position to provide the researcher with useful information on the current research project. Mean and standard deviations were used to assess the perception of respondents on indicators of financial Statement Analysis and financial decision making while Regression analysis was also adopted to statistically analyze the effect of financial Statement analysis and financial decision making. An item with a mean between 1 to 1.99; 2 to 2.99; 3 to 3 to 3.99 and 4 to 5 were considered as very week; week; strong and very strong respectively. A standard deviation with a value less than 0.5 showed same perception of respondents around the mean (homogeneity). Whereas a standard deviation with a value greater than 0.5 showed different perception of respondents around the mean (heterogeneity). Multiple linear regression was used to test hypothesis. The following operationalization of variables was adopted:

X = Independent Variable

Y = Dependent variables

Y = f(x)

Where

X = {(X1= Trend analysis (TA), X2== Ratio analysis (RTA) while the Y= (y1= Financing decision (FD); }.

Equations:

FD=f (TA, RTA) f1

Therefore, based on the specification of variables, the following models have been specified in relationship with the research hypotheses and were used to test hypotheses based on primary data:

FD=β0+β1 TA + β2 RTA+ ɛ Model

**Findings and Discussion**

Perceptions of Respondents on trend analysis

Table 1

*Perception of respondents on trend analysis*

|  |  |  |
| --- | --- | --- |
| **Variables** | **Mean** | **Standard Deviation** |
| In our organization, trend analysis is well used to forecast uncertain events in the future. | 4.6 | 0.84 |
| In our company, horizontal analysis is well used in making effective decisions | 4.3 | 0.55 |
| Our workers are competent in using trend analysis | 4.1 | 0.89 |
| **Overall** | **4.33** |   |

**Source:** Primary data, (2022)

The findings show that at a mean of 4.6, trend analysis is effectively used in the respondents' organization to forecast uncertain events in the future. However, they had varied perceptions, as shown by a heterogeneous standard deviation of 0.84. According to a strong mean of 4.3 and a varied standard deviation of 0.55, the respondents overwhelmingly agreed that horizontal analysis is effectively used in their firm when making decisions. Finally, a strong mean of 4.1 indicates that respondents strongly agree that workers are skilled in applying trend analysis, but a 0.89 standard deviation reveals that respondents' opinions varied.

Perceptions of Respondents on Ratio analysis

Table 2

*Perception of respondents on Ratio analysis*

|  |  |  |
| --- | --- | --- |
| **Variables** | **Mean** | **Standard Deviation** |
| Our managers use ratio analysis to pinpoint strengths and weaknesses from which strategies and initiatives can be formed | 3.88 | 0.31 |
| Managers use profitability, liquidity and solvency ratios to measure our results against other companies | 4.44 | 0.87 |
| Our company makes judgments concerning management effectiveness and mission impact using financial ratios |  |  |
| 4.19 | 0.81 |
| Our managers have enough competence in interpreting profitability, liquidity and solvency ratios | 3.74 | 0.38 |
| **Overall Mean** | **4.06** |   |

**Source**: primary data, (2022)

The ratio analysis results show that, at a mean of 3.88, the respondents firmly agreed that managers use ratio analysis to identify strengths and weaknesses from which strategies and initiatives can be developed. They had the same impression, as shown by a homogeneous standard deviation of 0.31. A strong mean of 4.44 and a diverse standard deviation of 0.87 show that the respondents firmly concur that managers utilize profitability, liquidity, and solvency ratios to compare performance with those of other organizations. The respondents highly agreed that their organization uses financial ratios to make decisions about management performance and mission impact, as shown by a strong mean of 4.19. Finally, a strong mean of 3.74 and a standard deviation of 0.38 show that the respondents firmly agreed that their managers have sufficient competence in assessing profitability, liquidity, and solvency ratios.

**Perception of respondent on corporate decision making**

The respondents' opinions of corporate decision-making are presented in this section. Finance, investment, and dividend decisions are the sub factors that have an impact on business decision-making.

**Perceptions of Respondents on financing decision**

**Table 3.**

***Perception of respondents on financing decision***

|  |  |  |
| --- | --- | --- |
| **Variables** | **Mean** | **Standard Deviation** |
| In our firm, financing decisions ensures the sustainability and growth of the company | 4.18 | 0.92 |
| Financing decisions are revised after each reporting period | 4.54 | 0.47 |
| Financing decisions of our company usually have a long-term impact on the performance of our supply chains | 3.68 | 0.91 |
| All financial decisions that were taken have been effective | 2.85 | 0.78 |
| **Overall** | **3.81** |   |

**Source**: Primary data, (2022)

The findings on financing choices show that, at a mean of 4.18, the respondents firmly believed that, in their company, financial choices ensure the viability and expansion of the business, as shown by a diverse standard deviation of 0.92. A to strong mean of 4.54 and an uniform standard deviation of 0.47 show that the respondents firmly concur that financial decisions are changed following each reporting period. The respondents had different perspectives, as demonstrated by a heterogeneous standard deviation of 0.78, but they inclined to disagree that all financial decisions made had been successful, as indicated by a trend to weak mean of 2.85

## Horizontal Analysis of financial statements

 The research employed horizontal analysis in this section to evaluate the financial statements from 2015 to 2021

Table 4

*Horizontal Analysis*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **In millions rwf** | **2015** | **2016** | **2017** | **2018** | **2019** | **2020** | **2021** |
| **Revenues** | 84088 | 88799 | 86354 | 98954 | 100691 | 107111 | 123596 |
| **Net profit** | 7106 | 1398 | 5079 | 7242 | 1192 | 9005 | 17525 |
|  |  |  |  |  |  |  |  |
| **Non-current assets** | 88979 | 92264 | 89302 | 92948 | 88752 | 89260 | 87118 |
| **current assets** | 33903 | 39476 | 38426 | 41853 | 32989 | 38011 | 29290 |
| **total assets** | **122882** | **131740** | **127728** | **134801** | **121741** | **127271** | **116408** |
|  |  |  |  |  |  |  |  |
| **Non-current Liabilities** | 26819 | 36884 | 34742 | 30743 | 23218 | 15806 | 13556 |
| **Current Liabilities** | 60680 | 63118 | 57295 | 64981 | 63912 | 68877 | 51739 |
|  | **87499** | **100002** | **92037** | **95724** | **87130** | **84683** | **65295** |
|  |  |  |  |  |  |  |  |
| **Equity** | **35383** | **31638** | **35691** | **39077** | **34611** | **42588** | **51113** |
|  |  |  |  |  |  |  |  |
| **total liabilities & equity** | **122882** | **131640** | **127728** | **134801** | **121741** | **127271** | **116408** |

Source: BRALIRWA financial statements from 2015 to 2021

 Revenues climbed by 5% between 2015 and 2016, decreased by 2% between 2016 and 2017, and then increased by 14%, 1%, 6%, and 15% between 2018 and 2021. Net profit decreased by 80% between 2015 and 2016, grew by 263% between 2017 and 2018, decreased by 8% between 2019 and 2020, and increased by 94% between 2020 and 2021. From 2015 to 2016, total assets increased by 7%; they decreased by 3% in 2017 and rose by 5% in 2018. It fell by 8% in 2019 and rose by 4% in 2020. In 2021, it fell by 8% more. Total liabilities climbed by 41% between 2015 and 2016, decreased by 7% between 2017 and 2018, and increased by 4% between 2018 and 2021. From 2015 to 2016, total equity fell by 7%; however, in 2017 and 2018, it rose by 12.8% and 9%, respectively. It decreased by 11% in 2019 before rising by 23% and 20% in 2020 and 2021, respectively.

## Ratio analysis of financial statements

 In this section, the profitability, liquidity, and solvency ratios for BRALIRWA'S financial statements from 2015 to 2021 are analyzed.

**Profitability ratio**

 The common profitability measures are return on assets. The return on assets ratio formula is calculated by dividing net income by average total assets. The formula to calculate return on assets is:

|  |  |
| --- | --- |
| ROA =  | Annual Net Income |
| Total Assets |

Table 5

Return on asset

|  |  |  |  |
| --- | --- | --- | --- |
|   | **Net income** | **Total asset** | **Return on asset in %** |
| 2015 | 7,105,699 | 122,882,563 | 5.78 |
| 2016 | 1,397,836 | 131,740,315 | 1.06 |
| 2017 | 5,078,741 | 127,728,532 | 3.98 |
| 2018 | 7,242,431 | 134,801,291 | 5.37 |
| 2019 | 1,191,821 | 121,741,195 | 0.98 |
| 2020 | 9,005,000 | 127,271,000 | 7.08 |
| 2021 | 17,525,000 | 116,408,000 | 15.05 |

**Source:** BRALIRWA Plc.’s financial statements from 2015 to 2021

 The ROA for BRALIRWA Plc in 2015 is 5.78%. Accordingly, 5.78 of the net income was generated for every Rwf of BRALIRWA Plc invested in assets during the year. In 2016, BRALIRWA'S ROA was 1.06%. Accordingly, every Rwf of BRALIRWA Plc invested in assets throughout the year generated at least 1.06 of the net revenue. The ROA for BRALIRWA Plc in 2017 is 3.97%. Accordingly, every Rwf of BRALIRWA Plc that was invested in assets throughout the year generated 3.97 of the net revenue. The ROA for BRALIRWA in 2018 is 5.37%. Accordingly, every Rwf of BRALIRWA Plc invested in assets throughout the year generated at least 5.37 of the net revenue. The ROA for BRALIRWA Plc in 2019 is 0.97%. Accordingly, each BRALIRWA Rwf invested in assets throughout the year generated 0.97 of the net revenue. The ROA for BRALIRWA Plc is 7.08% in 2020. Accordingly, every Rwf of BRALIRWA Plc invested in assets throughout the year generated at least 7.08 of the net revenue. The ROA for BRALIRWA Plc in 2021 is 15.05%. Accordingly, each Rwf of BRALIRWA Plc invested in assets throughout the year generated at least 15.05 of the net income. In general, the 2021 ratio demonstrates that while all years had substantial income, 2021 received higher income than the other years.

 Based on this ratio for 2021, we can conclude that BRALIRWA has performed more efficiently than the remaining years (using assets to generate revenue). This can be a result of increased productivity, rising demand, or intense market competition. The study came to the conclusion that BRALIRWA managed its resources to produce profits better in 2021 than it had in any previous year.

**Liquidity ratio**

 The company's current ratio is calculated through liquidity analysis. The current ratio demonstrates how many times the company's assets can cover its current debt commitments. "Current" typically refers to a brief interval of less than a year. Additional ratios, such as the "current ratio," are taken into consideration when determining how financially healthy a corporation is.

**Current Ratio:** Current Assets/ Current Liability

Table 6

Current ratios

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Current assets** | **Current liability** | **Current ratio** |
| 2015 | 33,903,203 | 60,679,880 | 0.56 |
| 2016 | 39,476,144 | 63,117,898 | 0.63 |
| 2017 | 38,426,063 | 57,295,213 | 0.67 |
| 2018 | 41,852,865 | 64,981,930 | 0.64 |
| 2019 | 32,989,267 | 63,912,652 | 0.52 |
| 2020 | 38,011,000 | 68,877,000 | 0.55 |
| 2021 | 29,290,000 | 51,739,000 | 0.57 |

**Source:** BRALIRWA’S financial statements from 2015 to 2021

 Table 6 presents the ratio and shows the current assets available to cover current liabilities at the balance sheet date. There should be a reasonable buffer of current assets over current liabilities as an indication of the ability of the firm to pay its debts as and when they fall due. As presented in Table 4 which shows that BRALIRWA will face an issue of assets to invest in other wealth-generating activities. As balance sheets are prepared as of a particular date, the actual amount of liquid assets may vary considerably from the date the balance sheets are prepared. Further, accounts receivable and inventory may not truly be liquid. A company may have a relatively high current ratio yet still be unable to meet cash needs if its accounts receivable are of poor quality or if its inventory can only be sold at a loss.

**Debt Ratio**

**Long Term Debt to Equity Ratio= Long Term Debt/ Total Equity**

Table 7

**Solvency Ratios**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **long term liability** | **Total equity** | **Evaluation %** |
| 2015 | 26,819,470 | 35,383,213 | 75.80 |
| 2016 | 36,984,167 | 31,638,250 | 116.90 |
| 2017 | 34,742,396 | 35,690,923 | 97.34 |
| 2018 | 30,743,145 | 39,076,216 | 78.67 |
| 2019 | 23,217,641 | 34,610,902 | 67.08 |
| 2020 | 15,806,000 | 42,588,000 | 37.11 |
| 2021 | 13,556,000 | 51,113,000 | 26.52 |

**Source:** BRALIRWA’S financial statements from 2015 to 2021

 **Long Term Debt to Equity Ratio in 2015,2016, 2017,2018,2019,2020,2021 and their results of** 75.79%,116.89%,97.34%,78.67%, 67.08%,37.11% and 26.52% respectively. The results **imply that** in 2016, leverage has the higher ratio and this meaning that year of 2016 are riskier than remaining years.

**Test of Hypothesis One**

 This section shows the results from the data collected that helps in answering research question one, achievement of objective one and testing null hypothesis one. Researchers assume that, there is no significant effect of financial statement analysis (trend analysis and ratio analysis) on financing decision in BRALIRWA.

Table 8

Model Summary of Financial statement Analysis and Financial Decision Making

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .78a | .69 | .57 | 2.30882 |
| a. Predictors: (Constant), Ratio analysis, Trend analysis |

 The results demonstrated a significant direct relationship between the financing decision and the financial statement analysis's constituent parts (ratio analysis and trend analysis). Additionally, variations in the financial statement analysis components account for 57% of variation in financing decisions, while other factors excluded from model 1 account for 43% of the financing decision.

Table 9

***ANOVA between Financial statement Analysis and Financial Decision Making***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model | Sum of Squares | df | Mean Square | F | Sig. |
|  | Regression | 43.108 | 2 | 21.574 | 3.017 | .011b |
| Residual | 442.415 | 83 | 5.321 |  |  |
| Total | 485.583 | 85 |  |  |  |
| a. Dependent Variable: Financing decision |
| b. Predictors: (Constant), Ratio analysis, Trend analysis |

 From ANOVA Table, the F-test is 3.017 has a p-value = 0.011. This imply that all financial statement analysis components variables jointly have positive and significant effect on financing decision. Therefore, H01 which states that there is no significant effect of financial statement analysis components on financing decision is not accepted at all levels of significance.

Table 10

Coefficient of Financial statement Analysis and Financial Decision Making

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
|  | (Constant) | 13.061 | 2.358 |  | 5.540 | .000 |
| Trend analysis | .297 | .115 | .357 | 2.570 | .011 |
| Ratio analysis | -.189 | .185 | .123 | 1.015 | .319 |
| a. Dependent Variable: Financing decision |

 From coefficient table, trend analysis has a positive and significant effect on financing decision (β1= 0.357, t= 2.570, sig. =0.011). This indicates that 1-unit change in trend analysis will lead to 0.357-unit change in financing decision.

 From coefficient table, ratio analysis has positive and significant effect on financing decision (β2= 0.123, t= 1.015, sig. =0.319).

The above table shows that financial statements analysis have a positive significant effect on financial decisions. This is in line with the discussion made by Hossain (2015) in his study on the overview of financial statement analysis, where he claimed that the variables of financial statement analysis help in gathering the data offered in the statements to produce quantified data to support the analyst's final decision regarding equity, credit, or another decision of interest.

**References**

Ahlam, Q. (2016). *The Role of Financial Statements Analysis in Financial Decision Making.* *International Journal of Service Sciences*, *7*(2/3), 260-273

Balaman, Ş. Y. (2019). Decision-Making for Biomass-Based Production Chains. *Academy of Management Journal* 8(3) 45-46.

Bloomenthal, A. (2017). *What Is Ratio Analysis?* Hoboken, NJ: John Wiley & Sons.

Boyd, K. (2013). *Horizontal and Vertical Analysis.* New York: McGraw-Hill.

Foust, J. (2017). *What are the basic characteristics of managerial decision-making?* Boston.

Fraser, L. M., & Ormiston, A. (2014). *Understanding financial statements (9th ed.).* New Jersey: Prentice Hall.

Yao, Y. (2019). *Decision-Making for Biomass-Based Production Chains.* Dhaka: University Press.

**Ìmὸsé: An Aesthetic Appreciation of Beauty in Ẹdo Ontology**

Emmanuel Asia\*, *PhD* & Joseph N. Odigie

Department of Philosophy, Faculty of Arts, University of Benin, Benin City, Edo State, Nigeria

emmanuel.asia@uniben.edu

**Abstract**

This paper uses the notion of beauty in Ẹdo aesthetics to mediate between imitation and form in western aesthetic theories. It shows that an analysis of ìmὸsé in Ẹdo Ontology could serve as an alternative solution to the various contradictory theories of beauty. While adopting the critical analytic method of inquiry this work argues that if we must have an accurate account of beauty, we should look beyond the inner beauty of a lady and attempt to understand how ìmὸsé evokes emotional feelings. Furthermore, this work posits that ìmὸsé is infectious and this metaphor of infection which the Ẹdo notion of beauty superimposes on the audience has a representational character and formalistic/structural credentials.it was discovered that although beauty in Edo ontology has two aspects, namely, inner and outer beauty, it is the outer beauty that supersedes when there is crisis between the two. Inner beauty is needed to where outer beauty fails. This work examines some Western notion of beauty such as Plato, Tolstoy, Hanslick, Collingwood, Kant and others and argues that the notion of beauty in Ẹdo ontology reconciles the several contradictory theories in Western theory of beauty. This is so because the Edo notion of beauty is neither formalistic nor imitational rather it stands at the middle of both theories. Thus, it is the submission of this paper that the Ẹdo notion of beauty which reconciles the imitational theory of beauty with the formalistic theory should be further researched into and used to understand the harmony and peace in the ecosystem*.*

*Keywords:* Aesthetics, Ìmὸsé, Ontology, *Ẹdo*, Form, Expression, Imitation, Philosophy

**1.0 Introduction**

The beauty of the *Ẹdo* woman has left aestheticians breathless over the years. Like oil it soils throw the eyes, straight to the heart of a man and leaves him blind to no other. This work attempts to examine the notion of beauty in *Ẹdo* ontology. The value judgment question of what makes a woman beautiful or how to mediate between imitation and form in aesthetics is an old problem which has defied several solutions. Again, although, the term aesthetic is an 18th century coinage by Alexander Baum-garten and Kant gave it a special focus in his *Critique of Judgement* in 1790 and most modern aesthetic theories focus on art – rather than, for instance, on questions about natural beauty as we have in the ancient discourse (Bychkov and Sheppard, 2010: xii). Furthermore, Oleg Bychkov and Anne Sheppard (2010) correctly aver that:

The most common description of the subject of modern aesthetics, arising out of eighteenth- and nineteenth-century theories, is that aesthetics is concerned with issues connected to natural and artistic beauty and with art, including all aspects of its appreciation and production. Interest in natural beauty, and the issue of beauty as such, faded for a while but is now reviving (Bychkov and Sheppard, 2010: xii)

Beauty encompasses several works of life. In Anne Sheppard’s view “natural beauty may be found in many forms. We can enjoy simply looking at a clump of primroses, a well-groomed horses, or a beautiful woman just as we can enjoy simply looking at mountain scenery” (Sheppard, 1987:56). Perhaps, aesthetics appreciation of nature is not confined to the sense of sight alone since we can take pleasure in the smell of sand after the rain. Hence, since the epiphany of beauty encompasses a wide array of things we shall refer to beauty as it pertains to a woman’s beauty in this discourse.

Modern discussions of the arts, and modern aesthetics, tend to emphasize subjectivity and individual taste. Ancient thinkers on the other hand assumed that there are objective criteria of beauty and objective principles of art. Until recently, African notion of beauty have not been given an academic attention. However, after the work of Van Damme *Beauty in Context: Towards an Anthropological Approach to Aesthetics* (1996) different works such as Gbadebo (2011), Matiza (2013), Ibanga (2017) Njiofor (2018) and Osaghae (2019) began to emerge. The major failure of this culturalist reconstruction of beauty was their inability to see that the African notion of beauty reconciles the cleavage between the expressionists (whether representational or imitational) and the formalist theories of beauty.

The well-known theories of art are imitation or expression, forms, institutional and idealist. To project the African notion of beauty as reconciliatory of these various contradictory theories of beauty, this work adopts *ìmὸsé* which is the Ẹdo word for beauty. However, to understand the conceptual idioms imbedded in *ìmὸsé* and how it reconciles the divide between the various theories of art, let us first critically analyze some theories of art.

**2.0 An Overview of Some Theories of Art**

In the tenth book of the *Republic*, Plato demonstrated a view of art as imitation. Although, Plato’s main concern is literature, he uses an illustration drawn from painting. He relates the illustrations to his theory that there exist ideal Forms of many qualities, Forms of which the instances in the world of sense-experience are only copies (Sheppard, 1987:5) Plato’s position is that the particular is like the Form but it is not the same as the Form. In this platonic sense therefore, one can speak of three levels of a thing, the Form of a Bed made by God, then there is the bed made by a carpenter, the one which we can touch, and sleep on and finally there is a copy of a bed produced by the painter.

The carpenter’s bed is not only inferior to the Form of a Bed; it is even according to Plato, less real than the Form. Correspondingly, the painted bed is still more inferior, still less real. In a telling passage he says it would be easy to make everything in the world, to make it, that is, in the way the artist does: “The quickest way is to carry a mirror with you everywhere; you will then quickly make the sun and things in the heavens, the earth as quickly, yourself and other living creatures, manufactured articles and all that was mentioned just now.” (Grube, 1927:11) Plato places a negative value on the works of art. For him, the works of art does not tell the truth, at best it gives an illusory view of things. No wonder in his censorship, Plato removed music, drama and paintings because for him, they can corrupt the heart of a leader. Plato was not oblivious of the infectious character of art to a leader’s heart.

One attempt to rescue this situation was to remove the second proviso, to say the painter does not paint from the carpenter’s bed but rather that he paints from the Form directly. This will mean that the painter’s produce copy is equal in value to the carpenter’s bed. This position even weakens Plato’s position the more, because, now the painter is no longer painting from any actual object from which we can evaluate his work. In whatever version we cast imitation, it does not give us sufficient reason why we value works of art. Again to what extent can we say all works of art are imitative?

The word imitation symbolizes that something is not real. Let us revert back to Plato’s use of the Greek word *mimesis* which can be roughly translated as representation. But whether we stick to Plato’s use of representation or imitation, this does not dissolve the problem – what is the relationship of the work of art with the world or to what extent does the representation resemble the represented. The extreme view that representation is deceptive to the view that it is conventional does not dissolve the problem. The view of conventionalism is that there is in reality not resemblance but an arbitrary assigned correspondence. Commenting on this Anne Sheppard (1927:10) noted that while the view that representation aims at illusion favours the analogy of the mirror, the view that representation is conventional adopts an analogy between art and language. Through so many vivid examples Sheppard tries to prove that none of these views could account for artistic representation such as crying for Hamlet in Hamlet or Jack in Titanic

Understanding a work of representational art involves both recognition of resemblance and an appreciation of convention but this alone cannot account for representation of emotions or states of mind. For Sheppard (1987), to argue that emotions or states of mind can be represented as we represented say the Carpenter’s bed, is to extend the notion of representation too far. Such extension, according to her, weakens it so that it because once again vague and ill-defined. Although much art is representational, not all of it is and it is an exaggeration to argue that art is to be understood simply in terms of representation or imitation only. Hence, let us explore others points of view and use same as objection to imitationism.

There is also the point that the artists aim is to express emotions, thereby making expression a source of aesthetic value. This can be seen in the case of music, and poetry. Emotions of the writer/artists could be expressed legitimately or otherwise but there are cases where the emotion of the audience is aroused by the writer no matter how detached the audience tries to be. Tolstoy, for instance, is of the view that art is the contagion of feeling (Sheppard, 1987:20). The true artist both expresses and evokes emotion. That is to say, by means of his art he infects his audience with the feelings he himself experiences. This theory of the metaphor of infection is use by Tolstoy, as Sheppard correctly noted, “as a criterion for the evaluation of art: the quality of art is to be measured by the quality of the feelings with which it succeeds in infecting the audience” (p.20) The issues Tolstoy (1898) wrestled with in his *What is Art?* are weighty. First he stresses the role of art as communication between the artist and his audience. Secondly, he divorces the appreciation of art from knowledge and intellectual activity. A good art, according to him should demonstrate the feelings of brotherly love and the simple feelings of common life over feelings of pride, sexual desire and discontent with life.

Tolstoy’s metaphor of infection fails to distinguish between the moral and the aesthetic. This is so because if we remove the moral element of Tolstoy’s theory, what we have left will be successful infection of a wide audience is the test of good art. Although Tolstoy wanted artist to express individual emotions with clarity and sincerity he does this by paying little attention to the impossibility of this feature. His view is radical and provocative but its weaknesses and idiosyncrasies are clear enough (Sheppard, 1987). More surprisingly, Tolstoy does not give room for morality in beauty.

 A subtle theory of art as expression was later put forward by Croce (1921) and Collingwood (1938). These two scholars made a distinction between conceptual thoughts on the one hand and intuition or as Collingwood would put it imagination on the other. There are obvious objections to imaginative expression or intuitive expression when we consider abstract arts like music which seems to express emotions but do not present us with a situation in which to imagine how we would feel.

Another theory of art worth considering is the theory of art as form. Broadly speaking, art as form deals with the features of a work of art, say music. Scholars have stressed that the formal qualities of works are to be considered when discussing works of arts. Kant for example in his *Critique of Aesthetic Judgement* made a distinction between ‘free’ and ‘dependent’ beauty and claimed that free beauty is ascribed to an object in virtue of its form alone, without consideration of any end to which the object may be directed. A flower is an example of this kind of beauty. We shall return to this Kantian aesthetic judgement. For now it is imperative to say that Kant is one of the foremost formalist theorist but there are others such as Hanslick’s formalist view of music and Clive Bell’s and Roger Fry’s visual art as significant form.

Thus Hanslick (1895) view is that a proper aesthetic contemplation of music involves only the music itself considered for its own sake and without reference to any further end. What is thus contemplated is the sounds of the music and the forms created by their movement, namely the melody, the harmony, the rhythm, and the instrumentation. Hence, in his *The Beautiful in Music,* Hanslick (1895) says that it is such elements which the composer has in mind when he composes a piece of music, the composer thinks of his piece in purely musical terms and the listener should do likewise and Hanslick suggested that there is something in the music itself that makes it create the feeling of love, longing, courage, piety and delight in the listener. Although definite feelings and emotions are unsusceptible of being embodied in music, “our emotions have no isolated existence in the mind and cannot therefore be evoked by an art which is incapable of representing the remaining series of mental states.” (Hanslick, 1895:21)

Hanslick’s argument is limited to music only. His argument against the view that music can express specific emotions is facile. Although, for him music can arouse particular feelings in the hearer but this is only secondary and not a purely aesthetic effect. Thus for music to be beautiful only the formal pattern matters, the expressive qualities has nothing to do with the beauty. According to Sheppard, Clive Bell and Roger Fry developed a formalist theory independent of Hanslick’s view. Bell in his book *Art* introduced what he called ‘significant form’ and claimed that this and this alone was the distinctive characteristic of great art which aroused a special “aesthetic emotion” Bell had in mind ancient Greek art and medieval art as examples of art with significant forms.

While Hanslick’s theory is a fallout of his negative view of expression, Bell’s significant form is as a result of his negative view of representationism in art. Bell, however, failed to account for the sort of forms that count as significant in visual art. Again what makes the form to be significant as Sheppard would ask ‘significant of what?’ (Sheppard, 1987:45)

There are other subtle formalist theories such as structuralism (this view places emphasis on the relationship between different elements in a work) while we also have comprehensive formalist theory (this view sees the essential characteristics of art in its presentation of elements in ordered and unified relationship). It must be said that an analysis of Ìmὸsé in Ẹdo ontology combines formalism with expressionism on the one hand and formalism with imitationism on the other hand. Before we digress, let us consider the Ẹdo notion of beauty.

 3.0 **The Notion of *Ìmὸsé* in *Ẹdo* Ontology**

A Dutch newspaper while commenting on the exhibition *Africa: The Art of a Continent* in the Royal Academy in London a few years ago notoriously claimed that though Africa has a thousand languages but there is no word for art. This column argues that all cultures have ideas about beauty and ugliness and about what is well made and what is not (Schipper, 2000: 168-169). Van Damme (1996) in his description of what he called “non-Western art” demonstrated how notions of beauty result from sociocultural ideal. He further shows that people are afraid of chaos (with death and decomposition as its ultimate forms), and therefore they strive for order in their existence. To create harmony is fundamental: e.g., by means of objects that are agreeable to look at (Schipper, 1996:170). Van Damme attempt to marry a formalist explanation of art with a contextual appreciation but he latter opts for the contextualistic approach, because, he argues, intercultural research makes clear that people’s appreciation for certain works of art is not independent from themes and contents. Aesthetic values are so much interwoven with religious, political, and economic aspects in society that the terms in which aesthetic appreciation is expressed mainly refer to richness, prestige, and religious and political symbolism. It is from this perspective that the *Ẹdo* concept of beauty should be conceptualized and contextualize. In short, in *Ẹdo*, a man who marries a lady that gives him peace and harmony is the man who marries a beautiful wife.

In *Ẹdo* linguistics the word *ìmὸsé* is more often applied to women and rarely to men, horses, cows, wine or flowers. When an *Ẹdo* person says *cmό mόsé* he means to say “children are beautiful” this goes to show that beauty is a generic word for persons and it can only be used as derivative for objects and arts. Again the term *ìmὸsé* in *Ẹdo* ontology has a feminine undertone and although *ìmὸsé* is genderless, it is often given as a name to a female child. But how can we known the beautiful in *Ẹdo* ontology?

It is pertinent to say upfront that there are obvious elements in the *Ẹdo* notion of *ìmὸsé*. First, beauty can be attributed to both men and woman and natural objects. Secondly, there is inner and outer beauty and it is possible for both to fade away. But how can we identify the beautiful? Diana-Abasi Ibanga (2017) focuses on how the beautiful can be known. She argues that unlike the individualistic conception of beauty in Western philosophy, the African concept of beauty is both relational and functional. She further tried to show that in African context there is no beauty, for beauty’s sake and that the beautiful is considered in terms of good conduct and physical attractiveness. Furthermore, she avers that African concept of beauty is only intelligible when considered in the context of African ontology.

There are basic problems in some of Ibanga’s elements of beauty. First, while we might agree that functionality has a role to play in the conception of beauty in *Ẹdo* ontology, it is not always the case that objects will derive their beauty from other objects proximate to it (Ibanga, 2017: 257). In short, an ugly lady can be related to a beautiful lady in the *Ẹdo* ontology. Beauty is not derivable from relativity and to place beauty on the still debatable metaphysical concept of *Ibuanyindanda* espoused by Innocent Asouzu is very shocking. Indeed, it is monstrous to claim as Ibanga did that:

An object is considered beautiful to the extent that it co-relates and inter-relates with other objects within the cultural axiom it belongs. Without the other, a person or object cannot affirm its beauty (Ibanga, 2017:257)

Perhaps, the function of beauty in Ẹdo ontology has an emotional undertone which is not communal as erroneously thought by Matiza (2013) and Ibanga (2017). The function of beauty is to attract eligible and legitimate suitors to the lady. It also serves the purpose of arousing emotional feelings and admiration from people towards the lady. Another element is an overemphasis on the inner beauty (good conduct) of a lady. To be sure, in *Ẹdo* ontology a beautiful lady ought to have inner beauty to be complete, however, her outer beauty supersedes her inner beauty when conflict arises.

Moses Gbadebo’s aptly captures the *Ẹdo* concept of *ìmὸsé* in his paper “The Western and Yoruba Concept of Beauty: A Comparative Analysis” when he examines the Yoruba concept of *Ewa*. *Ewa* (beauty) is attributed to Orisa-nla who is believed to be the molder of man’s physical feature. For him, *Ewa* has two meaning namely: physical beauty or outer beauty (*ewa-ode*) and behavioural beauty or inner beauty (*Ewa-inu*). Although he correctly noted that inner beauty can fade away he however dabbled into the false relational theory of Ibanga and failed to see that outer beauty fades away faster than inner beauty. Factors such as experience, location, association and psychology have been identified as enemies of character in *Ẹdo* ontology. Beauty (outer) can take a woman to a man’s house in *Ẹdo* ontology, it is her character (inner beauty) that will keep her.

Little wonder why Ibanga and others are stressing the inner beauty of a woman as more important than the outer beauty because even in beauty contest (which the *Ẹdos* invented through their crafts years before the Whiteman) no one asked about the moral worth of the lady or crafts. In short there is a story of a man whose wife had outer beauty in the complete sense of the word and the man was so attracted to her so much so that he did not want anyone to come close to her. As the story went, the man went to the farm with the lady (Aloro) and when it was about to rain, he cut off the head of the lady (Aloro) and kept it in his bag and after the rain… though a sad story but it is analogical to the proverbial black goat whose owner must search for it before nightfall, the husband to a beautiful lady in *Ẹdo* does not wait on *èken* day for the market to close before going to search for his wife.

This metaphor of attraction pervades the aesthetics display of beauty in *Ẹdo* both in women and in arts and it is what Placid Tempels erroneously called vital force in his *Bantu Philosophy*. This is why in Ẹdo discourse of beauty even though the moral element is needed it is insufficient to make a lady beautiful without her beauty being infectious. This infection is not communal but individualistic as the beauty of a lady infects a particular man and not all men. This is why it is said that beauty lies in the eye of the beholder. Beauty can only be recognized through the mind’s eye. Beauty is simply the interest and appeal a lady generates. This structuralist credential is very important in assessing *ìmὸsé* in *Ẹdo* ontology. Hence, the test of a lady’s beauty is the level of infectiousness. This metaphor of infection pervades the *Ẹdo* appreciation of both inner and outer beauty.

Njiofor (2018) on his part examines the general attitude of the African towards beauty in human existence. He avers that the *esse* (being) of beauty lies in the form (perceptible pleasing appearance or physical qualities) of an aesthetic object characterized by ordered proportion and he further argues that beauty in African sense has a moral undertone and is tied to that which is good. For this knowledge of beauty and its realization of its relevance to man and human community would help us create lasting value, achieve satisfaction and serenity, maintain global harmony and improve on the quality of life generally in all spheres.

Beauty is the combination of qualities that gives pleasure to the senses and especially the eyes, ear or the mind, a pleasing or attractive feature (Njiofor, 2018:34; Crowther, 1995:92). In *Ẹdo* there is a conventional projection of beauty which is innate or in the psyche of every *Ẹdo* person, this explains why when an *Ẹdo* person sees a beautiful person he can tell from her look if she is of *Ẹdo* extraction or not. Hence, a beautiful person must resemble the social construct which is innate or in the psyche (idea) of every *Ẹdo* person. It is this sense of resemblance or representation that we say the *Ẹdo* theory is imitational. Also, just as a person need not be deficient in character *(Ùnyìmwè*) in *Ẹdo* ontological categorization of a beautiful person, the person ought not to be found wanting in physical structure. This structuralist affiliation which we call *ègbé nè ὸ mὸsé* and *ὸ* s*é ὸkhuo* (beautiful body and she is up to a woman) portends the formalist doctrine in the *Ẹdo* notion of *ìmὸsé*.

**Art, Beauty, and Aesthetic Appreciation in Ẹdo Ontology**

Aesthetic appreciation in *Ẹdo* discourse is directed here towards the harmony, peaceful and appeal which a lady infects in a man. Why and how do we admire a beautiful girl in *Ẹdo*? First, we admire a beautiful girl because she reminds us of the harmony and perfection in nature. The sight of beauty constantly reminds an *Ẹdo* person that there is peace and order in nature. It is the longing for this harmony and peace which beauty brings that makes an *Ẹdo* man to wish to marry a beautiful lady as it is believed that she will bring good luck, peace and harmony to the home.

The *Ẹdo* person’s religious response to nature is not far-fetched. A religious response would be that we admire God by admiring a beautiful girl (his creature) and this is very true in Ẹdo. However, critiques might argue that this is only for the believers and there is no reason to regard a beautiful girl as an expression of the emotions of a divine artist. Even if a beautiful girl has being made by God, why should we suppose that he uses it to express human emotions? This first element does not hold water as we do not have non-believer (atheist) in Ẹdo but the response to the second position has not been too encouraging, hence a third reason which is that we are admiring the infectious element and feelings which a beautiful girl arouses or evokes in us.

Should we admire a beautiful girl because she could evoke emotion in us? In formalism we consider the beautiful girl herself and not the maker of the girl. We can appreciate the shape, colour and height of a girl and this admiration arouses/evokes an emotional feeling of hope, trust, longing and appreciation of life in general. This appreciation sometimes portends consummation of a lady’s beauty.

Consummation of a lady’s beauty is not sufficient for appreciation of her beauty. Hence we must look for a satisfactory account of aesthetic appreciation that must explain both aesthetic pleasure and aesthetic detachment. And at the same time it must make room for the intellectual element in aesthetic response. Aesthetic appreciation is a complex matter. Aesthetic pleasure and its reverse must be distinguished from the other emotions. While a beautiful girl may arouse the pleasure of love, amusement, sympathy, rapturous enthusiasm, there are also negative aesthetic responses as when we see an ugly girl she may evoke the reverse of pleasure in varying degrees from mild distaste to utter disgust. Aesthetic pleasure, according to Sheppard is manifested in a desire to continue or repeat the experience. Kant’s understanding of aesthetic judgment clearly captures the distinctive aspect of aesthetic appreciation in Ẹdo ontology. Kant in his broad use of aesthetic judgment distinguishes between what he calls ‘the judgment of taste’ and the ‘judgment of the agreeable or the pleasant’. The Ẹdo appreciates a beauty because she is pleasant to the eyes and as a matter of sense perception, because she matches his taste. The phrase *ὸ sé mwè ὸkén* which literarily translates to “I am contented with her beauty” goes to show that beauty is an individual matter of taste and not communalistic

**5.0 Conclusion**

To conclude this discourse and by way of evaluation, it is very instructive to respond to the three problems which Kant left unresolved. These problems according to Sheppard, includes how aesthetic disputes may be resolved, how aesthetic judgments may be justified, and how aesthetic comparisons are possible? In *Ẹdo* aesthetic disputes, that is when there is disagreement as to the prettier between two ladies after considering their outer beauty and inner beauty (*Ùnyìmwè*), the ladies family background is called into question. A lady with a good family history is most likely to be more infectious and attractive than a lady without a family name. This brings into question whether we can interpret a girl’s beauty based on her filial circumstances. In other words, to what extent are we justified in saying, a beautiful girl can be morally deficient.

The *Ẹdo* notion of beauty or *ìmὸsé* might not on the surface respond to every aspect of art since it is a collective philosophy of a people and not a product of individual ratiocination. Although, we have been able to show, to some extent, that it could mediate between imitation and form, *ìmὸsé* should be further research into and use to project development, morality, quality of life, social interaction and ecological harmony in nature. The *ìmὸsé* which is inherent in harmony and peace which the natural world displays will further show that beauty is infectious. This is why the *Ẹdo* man does not kill the other but straightens himself through it. Nature again becomes a living organism (Asia, 2022: 5).

**References**

Asia, E. (2022) “The Interconnectedness of Realities in Ẹdo Ontology: Projecting Sacred Symbols as a Possibility of Sustainable Eco-justice,” in *JIDA: Journal of Inter-Discourse Academia*, vol. 3(2), pp. 5-15

Bychkov, O. V. and Sheppard, A. *Greek and Roman Aesthetics*, Cambridge: Cambridge University Press

Crowther, J. (1995). *Oxford Advanced Learner’s Dictionary of Current English.* Oxford: Oxford University Press

Gbadebo, M. D. (2011). “The Western and Yoruba Concept of Beauty: A Comparative Analysis” in *LWATI: A Journal of Contemporary Research*, 8(1), pp. 286-296.

Grube, G. M. A. (1927). “Plato’s Theory of Beauty,” in *The Monist*, 37(2), pp. 269-288

Hanslick, R. (1891). *The Beautiful in Music* (trans.Gustav Cohen) Indianapolis: Bobbs-Merrill Educational Publishing.

Ibanga, D. (2017), “The Concept of Beauty in African Philosophy,” in *Africology: The Journal of Pan African Studies* 10(7), pp. 249-260

Janaway, C. (October, 1993) “Beauty in Nature, Beauty in Art” in *British Journal of Aesthetics*, Vol. 33(4), pp.

Kant, I. (1987) *Critique of Pure Judgement.* Indianapolis: Hackett Publishing Company

Matiza, V. M. (2013). “African Social Concept of beauty: its relevancy to literary criticism”, in *Asian Journal of Social Science and Humanities*, 2(2), pp. 61-70

Njiofor, J. C. (August, 2018). “The concept of Beauty: A Study in African Aesthetics” in *Asian Journal of Social Sciences and Humanities*, Vol. 7(3), pp. 30-40

Osaghae, P. I. (Sept., 2019). “Igwebuike: The Concept of Beauty in igbo-African Philosophy” in *Igwebuike: An African Journal of Arts and Humanities* Vol. 5(7), pp.

Schipper, M. (Winter 2000). “Beauty in context: Towards an Anthropological Approach to Aesthetic (Review)” in *Research in African Literatures*, Vol. 31(4), pp. 168-172

# Sheppard, A. (1987). *Aesthetics: An Introduction to the Philosophy of Art,* Oxford: Oxford University Press.

Van-Damme, W. (1996). *Beauty in Context: Towards an Anthropological Approach to Aesthetics*, Leiden: E. J. Brill.

**Infrared Laser Beam Facility Formed since Birth in the Pineal Gland as a Communications Mechanism**

Dr. Kenneth Gordon Greenaway, Ministry of Health, Antigua and Barbuda

kenneth.greenaway@gmail.com

**Abstract**

This article describes and discusses the existence and functions of an Infrared (IR) Laser beam function formed in the Pineal Gland in humans and perhaps in animals. The formation of this facility begins from the embryonic stage of life when specialized cells from the roof of the mouth migrate to the middle of the Brain in the adult.   This function is based on the pineal gland’s unique histochemical features that of having an abundance of aluminium which is encased in the gland's pial capsule and is separate from the brain's neuronal tissue. The aluminium has 98% reflectance characteristics and therefore acts like "virtual mirrors" so positioned that “active species” photons are accelerated as they bounce from one aluminium "virtual mirror" to the other thus forming a Laser beam. As opined below the purpose of this laser beam is supposed to provide (1) energy and (2) data to cells of the whole body. Communications between cells are thus provided. Laser is the acronym for "light amplification by stimulation of emitted radiation".   This Laser occurs at infrared (IR) wavelength (viz. infrared laser)    It is being proposed that the body does produce a Laser via a circuitous route from sunlight to the pathway known as the (mRGCs) melanopsin expressing retinal ganglion cells previously called non-visual photo-receptors.

 *Keywords***:**  pineal gland, infrared Laser, photons, seven-day rhythms.

**Introduction**

The Pineal Gland (PGL) is a reddish-grey body about 8–12 mm long – the size of two adjacent grains of rice or a pea in the centre of the brain.  It is appended to the posterior aspect of the third ventricle in the brain.  It is attached to the cerebellum posterior and hangs in the Cerebro-Spinal Fluid at the top of the Spinal column. It is a midline structure which is seen on X-Ray and MRI Scans as a calcified structure.

**Structure and composition**

The PGL is a neuroendocrine structure with a lobular parenchyma of pinealocytes surrounded by connective tissue in humans and animals.   The surface of the Pineal Gland is covered by a Pial Capsule.

The Pineal Gland has a high degree of vascularity second only to that of the kidneys, relative to size.

In addition to pinealocytes, four other cell types have been identified in the Pineal Gland.

**Cell type description**

     •.   a) Pinealocytes

These have a cell body with 4 – 6 processes emerging.   The pinealocytes produce and secrete the hormone melatonin.

   •. b) Interstitial Cells

These are located between the pinealocytes.

c) Perivascular phagocytes

The gland has many capillary vessels which are closely surrounded by perivascular phagocytes.  The latter act as “clean up” cells to remove unwanted substances from the capillaries.

d) Pineal Neurons are located in the PGL of humans and animals.  Tiny nerve fibres run through the posterior commissure and the habenula which are areas of the brain governing coordination of the left and right hemispheres controlling sleep and mood.

e) Peptidergic neuron-like cells. -

The PGL receives a sympathetic innervation from the superior cervical ganglion.

Also present is a parasympathetic innervation from the sphenopalatine and otic ganglia.

Further, some nerve fibers penetrate the PGL via the pineal stalk showing a central innervation.

Lastly, neurons in the trigeminal ganglion innervate the gland with nerve fibers containing the neuropeptide pituitary adenylate-cyclase-activating polypeptide (PACAP).

Human and animals’ pineal glands contain gritty calcified material called corpora arenacea (or “brain sand”) – composed of calcium phosphate, calcium carbonate, magnesium phosphate and ammonium phosphate and calcite deposits.  Calcification begins at about 50 years but can occur much earlier.

Also very significant here, is the abundant presence of aluminium found in the PGL when compared with surrounding tissues.

 **Activation of the gland**

Briefly: Light information from sunshine activates a recently discovered pathway in the retina called non-visual photoreceptors or mRGCs. Thus blind persons can experience activity in the PGL, in bright light.     The latter leads to hormonal production of serotonin and melatonin, in the absence of light at night in dim light.

Therefore dim light – acts in the retina on non-visual photoreceptors recently known as melanopsin expressing retinal ganglion cells or mRGCs. Light from non-visual photoreceptors or mRGCs goes to the suprachiasmatic nucleus of the hypothalamus (SCN).

↓   Then to superior cervical ganglion–controls blood and skin of the head, causes pupillary dilatation and elevation of eyelids.

↓   Then to the pineal gland which has light-sensitive cells like the retina.

↓

Then further distribution to the remainder of the body as described below.

**Histology**

Pineal Gland does not develop from brain tissue but emerges from specialized tissue at the roof of the mouth (is it still an ectodermal germ layer?). From this point, the fetal pineal travels to the centre of the head, although no blood brain-barrier is present there are some “clean up” nerves around the pineal to protect it from hormones epinephrine and nor-epinephrine which usually modulate stress response.  Because these “stress hormones do not affect the pineal, it has an inhibitory effect on other endocrine organs and the rest of the body.

**Pineal gland functions**

It is well-documented that:

➢ In the Pineal Gland, Amino Acid Tryptophan is converted to Serotonin (in daylight) and produces Melatonin (as night falls).

➢ Receptors for Melatonin can be found in SCN/anterior pituitary/retina/Lymph Glands

➢ Melatonin causes increased humoral and cell-mediated Immune Response with a Feedback system from Immune Cells to the Pineal Gland.

➢ Melatonin

1) Anti-platelet

2) Anti-Hypertensive} Leads to decreased risk of myocardial infarction and

3) Anti-Aging effects} a younger physique

4) Recent research has shown that there is a relationship between melatonin and the suppression of tumor growth.  For example, removing the Pineal Gland leads to the growth of tumors and metastases, especially in breasts and ovaries.

5) Conversely, melatonin seems to inhibit certain types of cancer cells and may facilitate gene expression.

6). Extracts of the pineal gland also yield better results on tumor suppression than melatonin alone.  Therefore there may be other substances in the pineal gland yet to be discovered.

7). Research linking melatonin and the immune system could yield highly effective and innovative treatments for cancer in future.

8). Note also, recent research shows that, if the eyes remain intact and only the Rods and Cones have degenerated, the Pineal function continues normally (Lucas et al., 1999). It is known that rods are activated by dim light and cones by bright light and color.

Therefore there were obviously undiscovered Non-Image or Non-Visual Photo-receptors cells and these are also associated with blood pressure, changing pupil size, mood and attention.   The new name is melanopsin-expressing retinal ganglion cells or (mRGCs).

Mention may be made here of a relevant situation in human eyes, analogous to the non-visual photoreceptive mentioned by FW Cope’s article “Kinetics of Light Emission by Photosynthetic Systems” in Bulletin of Mathematical Biology Vol. 37 March 1975.  He advocates that Measured Light Intensity is Not proportional to Reactant Concentration but to Reaction Rate. Therefore, following Cope’s argument, in this article, the question can now be asked: Could a reduction in the photoreceptor activity in the eyes at night, as in Postulate N°C2, be due to a reduction in reaction rate when an electrical charge from Postulate B is absent.

It is also important to notice here that S.B. Lang et al in the article Piezoelectricity in the human pineal gland, discovered that aluminium was consistently observed in the Pineal Gland using independent methods of measurement.

 Now aluminium is corrosion resistant with a 98% reflectance of photons, it is strong and light in weight.  This situation is analogous to recent attempts to make photonic computers using silver oxide materials.  It is ironic that aluminium is known to be neurotoxic and is probably involved in Alzheimer’s disease, whereas its presence in the Pineal Gland is abundant and shows no harm.  It is hypothesized therefore that aluminium has an integral function in the Pineal Gland as opposed to the surrounding hypothalamus and pituitary tissue where it is seldom present.  The explanation could be that the pineal gland is embryologically formed from tissue at the roof of the mouth and is innervated by the sphenopalatine nerve, and the otic ganglia, with an abundant blood supply from the internal carotid arteries.  The presence of aluminium with its high reflectance of 98% could be integral to the formation of an Infrared laser–type situation in the pineal gland as indicated in the daylight hours chart attached when there is accentuated amplification of photon activity between these virtuals.

**Purpose of Study**

Regarding the accompanying Schematic Diagrams, it can be quickly and clearly seen that there are three (3) main Postulates A, B and C with C divided into C1 and C2.  The inter-relationships of these postulated systems may affect the PGL with a Serotonin Stimulatory effect during daylight and a melatonin inhibition effect at night.

These systems should work if it is first established that in or around the eyes, there are:-

1) Piezo-electric or Ferro-Electric crystals present and adjacent to the optic nerves.

2) Spontaneous Electro-luminescence in phosphors-type materials in juxtaposition to the optic nerves.

3) Intrinsic Electro-luminescence after an electrical charge injection into electro-luminescence materials or phosphors in the eyes.

4) Peri-Neural analog Data Transmission along nerves as discovered by Becker.  It is hypothesized here that this analog beta transmission traveling parallel to the digital neuronal Data Transmission is achieved by a photonic transmitting mechanism.

5) Electron-Phonon (trapped photon) coupling and infrared coaxial transmission line theory of energy transport in optic nerve.

6) Collagenous (fibre-optic-like) tissue harnessing photonic transmission in the body.

**Questions to be considered:**

At this stage in the discussion of the purpose of the proposed study, it is critical to ask a few questions:-

 1) Could spiralling configurations and Electron-Phonon coupling be the all-important factors for data and energy transfer causing the harmonization of some communication control mechanisms discussed previously?  Perhaps these information transfer transmission requirements may allow for the transmission of specific frequency, wavelength and resonance parameters, necessary for the health of body cell which have special pre-programmed memories for communication the absence of which lead to disease.

2) Does collagenous Tissue, which envelopes every cell of the body, exert a fibre-optic effect, transmitting important photons/light for Energy and Data whose distortion may cause disease?

3) If questions 1 and 2 are valid, could it be that light transmission in specific configurations and frequencies is the most important factor responsible for energy Transfer for RAPID Photonic switching and computing characteristics and for Life itself?

4) Conversely could it be that our previously held opinion that all energy was from glucose derived from food eaten is only partially true and that nutritive substances were mainly for re-building, restoration and maintenance of tissues?

5) The ultimate question, therefore, is: Could a properly-functioning pineal gland, with perfect dissemination of Photons, Electrons and Hormones, act as a central communication control center for the transmission of Data and Energy, permitting optimal health for the whole individual?  When all of the above ideas are associated with ideals established in the Acronym “NEWSTART” and are followed then good health may be maintained and restored, thus eradicating the necessity for several expensive and dangerous drugs currently in use!!

6) Can we use the “NEWSTART’ principles described below to rejuvenate/control the functions of the pineal gland and its connections (a) to support the humoral and cell-mediated immune system? (b) to provide adequate hormones to the endocrine organs. (c) to exert an appropriate electron/photon control on cells to suppress or prevent disease in our bodies.

**Summary of hypotheses**

We know that at least two or perhaps three systems are affecting the pineal gland via the eyes, that is, visual and non-visual photoreceptors called mRGCs.  The latter mechanism has recently been identified.

     The proposal then is to initially examine specimens of human eyes and surrounding tissues to look for:-

1) Piezo-electric crystals – using the second harmonic generation technique, analogous to those used by S.B. Lang et al of the Pineal Gland Tissue.

2) Ferroelectric crystal

3) Phosphors-type materials exhibiting electro-luminescence both by (a) spontaneously with UV light and (b) when an electric charge is injected into the crystals, in solid or in fluids.

After establishing the presence of these, then checks may be made for possible transmission of infrared coaxial trapped photons by electron-phonon coupling in the optic nerve of beyond.  The checks of the pineal glands activity can be made by.

(1) Melatonin blood levels assay.oo

(2) Changes in blood pressure.

(3) Pupillary Dilatation examinations.

(4) Eyelids Elevation examinations.

(5) Changes in rectal temperature.

**Objectives**

The primary objective here then is to investigate the ocular region for PE and EL materials and analogous to the second harmonic generation studies of P.E. materials in PGL [23].

As in A, it is presumed that energy as Infra-Red trapped photons with Electron-phonon coupling is transported along the optic nerve by an Infra-Red coaxial transmission line mechanism as mentioned by Freeman W. Cope in Bulletin of Mathematical Biology Vol. 35 [ 6,7 ].  This type of coaxial transmission seems to fit the established method of energy transfer in a spiral-shaped configuration which seems so essential for life. Spiralling seems to be important for transmission in

(A) Cosmic energy.

(B) spiral-shaped DNA molecules which cannot function if their base pairs are arranged linearly, and metabolic changes for life take place only when the spiralling re-occurs.

(C) Other shapes of natural substances such as shells, leaves, and DNA Helix structure.

**Other questions**

   1). The question must be asked at this point:-  In addition to the other control mechanisms of the PGL discussed, could it be possible that most diseases occur as a result of the loss of vital information transmitted by this Spiraling Effect of Coupled Photons and Electrons.  Thus many distorted resonance characteristics for which the cells of the body have been pre-programmed to function could be caused by (a) distorted information from a mal-functioning PGL or (b) from diseased collagenous tissue which fails to transfer proper Photonic data by fibre-optic health-promoting resonance effects to somatic and brain cells altering essential spin and vibration?

   2).Conversely could a properly functioning PGL plus the establishment of “NEWSTART” ideals, restore and maintain good health and therefore eradicate the need for several drugs currently in use?

**Proposal for testing methodologies**

We know that there are at least two (or perhaps three systems affecting the PGL via the eyes, that is Visual and Non-Visual Photoreceptors.  (Or mRGCs.) The current name of melanopsin expressing Retinal Ganglion Cells. The Proposal then is to initially examine specimens of the eyes and surrounding tissues to look for:

1) Piezo-electric crystals using Second Harmonic generation techniques analogous to that used by S B Lang et al on the Pineal Gland tissues.

2) Ferro-electric crystals

3) Phosphors-type materials exhibiting electro-luminescence both (a) spontaneously with UV light and (b) when an electrical charge is injected onto the crystals solid or in fluids.

When the presence of these may be established, then checks can be made for possible transmission of IR Coaxial.

Following this initial assessment, then several other hypotheses as outlined will need to be validated.  Moreover, there are other important considerations to be made and further questions to be posed:  for example in the New Scientist, IBM researchers in the USA noted that in “Electroluminescent” on the topic of “Photons Trapped by Trick of Light,” optical microchips that can store light for short periods before sending it on its way have been constructed for the first time.

**More discussion**

Two important points were:

1. Light is good at transmitting data

2. Can signal on/off switch.

But light is difficult to store because they interact only weakly with each other and with transparent materials.  Therefore light data has to be converted to an electronic form for storage, processing and movement around on the microchip.

Note: an intriguing question regarding the analogous situation in the Pineal Gland is this:  While some IR Photons in the Pineal Gland are converted to electrons, is it possible that longer than normal data storage is allowed due to Photons being reflected back and forth between a 98% reflectance Aluminium Crystals which are so prevalent in Pineal Gland thus acting as an “Optical Buffer” and causing initial processing of data even before it is transmitted to the Cerebral Hemispheres for further detailed processing in the hippocampus,  Then during sleep, the data is transmitted to the long term memory (LTM) storage in the Frontal cortex of the Brain.

Furthermore, to emphasize the importance of light we can note in Wikipedia, recent research has demonstrated that temporary trapping of light in crystals is a necessary element to replace electronic storage for computer logic by photonic logic - using light in logic gates (i.e. and, nand, or, nor, xor, xnor).  Switching is obtained using non-linear optical effects when two or more signals are combined [35]. The question here is possible spiralling as a non-linear optical effect a critical factor in this situation?

We may also note in passing that the resonators are especially useful in Photonic logic, since they allow a build-up of energy from constructive interference, thus enhancing optical non-linear effects.

 Other approaches currently being investigated include photonic logic at a molecular level using photoluminescent chemicals.    Probably photo luminescence is taking place in the pineal gland supported by aluminium mirrors rebounding photons and thus increasing their energy level and wells as that of electrons.

 Another important question is:-What relevance does the presence of calcium-aluminium inclusions – which are the oldest compounds thought to be formed near the New Sun (néos helios, novus solis), [1] thousands of years ago, and which are found in the Pineal Gland, have in this case. With all embryological knowledge that the Pineal Gland is formed from specialized (Non-Brain) palatine tissue i.e. at the “Roof of the Mouth”, is it not possible that these old calcium-aluminium inclusions would have two important and essential properties for the Pineal Gland?

1) Almost perfect reflectance characteristics.

2) High heat resistance

Health issues to be addressed in tandem with the above.  They form part of eight NEWSTART principles for life.

**EXERCISE**

This strengthens the Immune System and maintains the heart and blood vessels in a healthy condition, lowering blood sugar, cholesterol and blood pressure.  Moreover, exercise triggers the release of endorphins which are morphine-like in action, giving individuals a sense of euphoria or well-being.

**SUNSHINE**

a) Energy production is from sunlight and water.

b) Production of vitamin D.

c) Prevention of depression in Season Affective Disorder (SAD) Syndrome during winter months.

d) Triggering of the release of endorphins (the feel-good hormone) in the brain.

**Conclusions**

This paper is designed to stress the following:

a. The Feedback Control between the Pineal Gland and the Immune System is all-important in the Prevention and Control of Disease since Melatonin positively impacts both Humoral and Cell-mediated Immunity. Melatonin also controls sleep-wake or the work–rest cycle.

b. Most of the Principles of NEWSTART are concerned with the Maintenance of the cell metabolic processes and the Re-constitution of damaged tissues.

c. However, most important is the view that the actual propagation, delivery and processing of “Vital” Energy mechanisms is controlled by Light, which seems to be more significant for energy production than for example nutritive substances.

d. Moreover, Data transmission from the Environment to the body cells via the Pineal Gland and the Brain as a whole seems to be mediated and controlled primarily by Light Signaling correct Information, and by changing states of “excitement” and movement of electrons.

e. Lastly in this regard, it is interesting and educational to read “the search for new applications for laser light beams” by Irati Kortabitarte [21].  As he explains, Photons created by an electrical or light stimulus reach a state known as “Active Species”. Then following a process in which electrons in an excited state spontaneously return to their fundamental level, then the accumulated energy liberates extra Photons with greater energy and longer wavelength than the initial photons, thus creating a laser light beam.  The “Active Species” photons are released in all directions but are trapped by two mirrors “judiciously juxtapositioned.”

It is not difficult to conjecture therefore, that is the case of the pineal gland where there are multiple mirror-like effects from aluminium and calcium-aluminium inclusions, that a to-and-fro movement is initiated with photons bouncing back and forth from one “mirror” to the other.  While these photons are trapped, they continue to influence other electrons thus creating even more high energy photons, that is even more “LASER LIGHT”, which can then be transmitted to all parts of the body, either by collagenous “fibre optic” effects or by coaxial transmission line through electron-phonon coupling.  Consideration should also be given here to the possibility of all-important spiralling effects since Kortabitarte found that “Active Species” photons line up and escape through one of the mirrors as a “laser light beam- continuous and pulsating”.  Simple multiplication of this effect by several mirrors in the pineal gland will re-create much-needed spiralling and frequency information necessary for life.  What we have here in the pineal gland then, is Photonic Computing which recent scientists have been laboring to invent.

Therefore regarding the potential energy from light, the experiments done on a retired Indian Mechanical Engineer called H R Manek who lived for over 211 days on sunlight and water only, will support this view.  Renowned NASA and International Scientists have performed many experiments on this advocate of the ancient practice of Sun-gazing with good results.

The Energy and Data transfer is achieved by Electron-Phonon Coupling and Infra-red Coaxial Transmission-line conduction plus collagenous fibre optics mechanisms to cells which will only respond appropriately to the correct pre-programmed frequency, wavelength and other possible parameters such as a Spiraling Configuration to stimulate correct resonance, vibration or “spin”.

The Pineal Gland then seems to be the smallest organ with a major role in the communication of information to the brain and body from the immediate Environment and the universe as a whole[.](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.galleries.com%2Fminerals%2Fsilicate%2Foligocla%2Foligocla.htm&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383820675%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=9%2BBNHEL9oqgb9VvAtWaSJkaiM1aPGeV72g03rzJQ2rY%3D&reserved=0)

**Abbreviated schematic diagram:**



**References**

Amethyst Galleries, Inc. (2007). *The Mineral Oligoclase*.

Becker, R. O. (1974)*. The basic biological data transmission and control system influenced by electrical forces. Electrically Mediated growth mechanisms in living systems*.

Bennett, R. (2020). *Overview: The Pineal G*[*land center of the physical brain. AVS Journals.*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.mindmachines.com%2Fthepineal-gland-article-richard-bennett.htm&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383820675%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=5n2tLQ30wfCBZWVTUMxGgqoIjSoLftSs5uBOKktdNdc%3D&reserved=0)

Chem, G .W. et al.[(2003)*. Generat*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Ffront.math.ucdavis.edu%2F0301.0031&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383820675%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=OLWNoGXFlHM4dhzelgt5bI6xxUrWYXDDZnbpGTiYae0%3D&reserved=0)*ion of coherent acoustic phonons* *in piezoe*[*lectric semiconductor heterostructures.*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Ffront.math.ucdavis.edu%2F0301.0031&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383820675%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=OLWNoGXFlHM4dhzelgt5bI6xxUrWYXDDZnbpGTiYae0%3D&reserved=0)

Childs, G. V. (2002). *P*[*ineal Gland Study Guide. Cytochemistry.*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Ffront.math.ucdavis.edu%2F0301.0031&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383820675%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=OLWNoGXFlHM4dhzelgt5bI6xxUrWYXDDZnbpGTiYae0%3D&reserved=0)

Cope, F. W. (1973).[*Electron-Phonon (trapped photon) coupling*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fcolossalstorage.net%2Fspintronics.htm&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383820675%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=lb%2F8Rskm1lkHRyTzLkYISNlioUQc6hloKh501ACgUmk%3D&reserved=0) *and infrared coaxial transmission line theory of energy transport in mitochondria and nerve. Bulletin of Mathematical Biology. 35. 627-644*.

Cope, F. W. (1973)*. Piezoelectricity and Pyroelectricity as a basis for forces and temperature detection by nerve receptors. Bulletin of Mathematical Biology.*

Cope [*F.W. 1975. Kinetics of light emission by p*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fcontent.nejm.org%2Fcgi%2Fcontent%2Ffull%2F332%2F1%2F6&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383820675%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=TGbkvqAXhkg%2BHL9wO5kayqTG%2Bi2%2BKPNepHFP5YYreD4%3D&reserved=0)*hoto*[*synthetic systems.*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fcontent.nejm.org%2Fcgi%2Fcontent%2Ffull%2F332%2F1%2F6&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383820675%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=TGbkvqAXhkg%2BHL9wO5kayqTG%2Bi2%2BKPNepHFP5YYreD4%3D&reserved=0) *Bulletin of*[*Mathematical Biology.  37*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fcontent.nejm.org%2Fcgi%2Fcontent%2Ffull%2F332%2F1%2F6&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383820675%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=TGbkvqAXhkg%2BHL9wO5kayqTG%2Bi2%2BKPNepHFP5YYreD4%3D&reserved=0)

Cornelissen G et al. 2005. *Mapping of Circaseptan and Circadian Changes in Mood. Scr Med (Brno) 2005; 78(2): 89-98.*

Czeisler [*C A.* et al*.* (1995)*. Suppression of Melatonin s*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fcontent.nejm.org%2Fcgi%2Fcontent%2Ffull%2F332%2F1%2F6&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383976891%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=hnKfubf%2Fw5b6DPf5J21sdBYOyv9cjW%2BzQzwvlja5uKM%3D&reserved=0)*ecretion in some blind patients by exposure to bright light. New England*[*Journal of Medicine, 332. 6-11.*](Journal%20of%20edicine%2C%20332.%206-11.%20) Available from https://www.nejm.org /doi/full/10.1056/NEJM199501053320102

Electroluminescence. (2007). Available from [www.britannica.com/eb/article-9032305/ electroluminescence](http://www.britannica.com/eb/article-9032305/%20electroluminescence)

Dhalakia, K. (2006). *Optical micro-manipulation takes hold. Laser beam shaping VII*.

Essenta Communication Inc. (2007).  *Light color and SAD syndrome. Essenta Communication.*

Gar[*r*one*, P.* (2007)*. Useful information for our health. Bioen*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.britannica.com%2Feb%2Farticle-9032305%2Felectroluminescence&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383976891%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=7yVAMawXjt8Hhk%2F34bjpEpLADRFKdPWyTpDOHxDTy%2FQ%3D&reserved=0)*ergy for the Bo*[*dy. Bioenergy Research*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.bioenergyresearch.com%2Feng%2Fbioenergy_for_body.htm&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383976891%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=TmlsWbsk7XLpjoI2uM%2BGPt%2FFvVZISUS6pMC%2FlHjB3fQ%3D&reserved=0)*.*

G[eorgia Institute of Technology. (2002). *Nanometer-* S](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.bioenergyresearch.com%2Feng%2Fbioenergy_for_body.htm&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383976891%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=TmlsWbsk7XLpjoI2uM%2BGPt%2FFvVZISUS6pMC%2FlHjB3fQ%3D&reserved=0)*cale light source is the first* to *show sin*[*gle-molecule electr*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fxml.ee.nd.edu%2F&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383976891%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=GigFM4lVVV9JQ74oCocHy9SNwcoRFnw0NKrtOGW4eIQ%3D&reserved=0)*oluminescence.*

Griefahn, B. et al[*.* (2006)*. Effects of infrared radiation on the diurnal rhythms of melatonin, rectal t*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fiospress.metapress.com%2Fapp%2Fhome%2Fcontribution.asp%3Freferrer%3Dparent%26backto%3Dissue%2C5&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383976891%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=4Na%2Bm9rdekdBPO3ytSDYe%2FVpFnDcBdGsnw%2BdWb%2BUvCk%3D&reserved=0)*emperat*[*ure and heart rate. [Abstract]. Occupational Ergonomics, 6(1).*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fiospress.metapress.com%2Fapp%2Fhome%2Fcontribution.asp%3Freferrer%3Dparent%26backto%3Dissue%2C5&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383976891%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=4Na%2Bm9rdekdBPO3ytSDYe%2FVpFnDcBdGsnw%2BdWb%2BUvCk%3D&reserved=0)

Herzog, [J.B*.* (2006). *Polar Optical Phonons in AI*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.healthwisdom.org%2Famrit%2Fpg35.htm&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383976891%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=Hpf0pOy3Flz8BfFmLaKrh2n0ImnoWqmQmN3D%2BAthYsw%3D&reserved=0)*N/GAN sup*[*erlattice structures*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fxml.ee.nd.edu%2F&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383976891%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=GigFM4lVVV9JQ74oCocHy9SNwcoRFnw0NKrtOGW4eIQ%3D&reserved=0)*. Ph*[*ysics of Electron Transport in Semiconduc*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fxml.ee.nd.edu%2F&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383976891%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=GigFM4lVVV9JQ74oCocHy9SNwcoRFnw0NKrtOGW4eIQ%3D&reserved=0)*tor Devices.*

Hilton,[G. (2003). Melatonin](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fxml.ee.nd.edu%2F&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383976891%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=GigFM4lVVV9JQ74oCocHy9SNwcoRFnw0NKrtOGW4eIQ%3D&reserved=0) and the Pine[al Gland in *Journal of*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fxml.ee.nd.edu%2F&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383976891%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=GigFM4lVVV9JQ74oCocHy9SNwcoRFnw0NKrtOGW4eIQ%3D&reserved=0) *Neuroscience*[*Nursing, 34(2), 74-89.*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.healthwisdom.org%2Famrit%2Fpg35.htm&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383976891%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=Hpf0pOy3Flz8BfFmLaKrh2n0ImnoWqmQmN3D%2BAthYsw%3D&reserved=0)

IBM Researchers in the US. (2006). *Photons trapped by trick of light. New* *Scientist*.

Jerndal,[J. (1982)*. The field resonance approa*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.healthwisdom.org%2Famrit%2Fpg35.htm&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383976891%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=Hpf0pOy3Flz8BfFmLaKrh2n0ImnoWqmQmN3D%2BAthYsw%3D&reserved=0)*ch*[*ing medicine. Health wisdom.*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.healthwisdom.org%2Famrit%2Fpg35.htm&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332383976891%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=Hpf0pOy3Flz8BfFmLaKrh2n0ImnoWqmQmN3D%2BAthYsw%3D&reserved=0)

Kortabitart, I. [(2006). *The search for new applications for*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.healthwisdom.org%2Famrit%2Fpg35.htm&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332384133101%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=yrIvxcbxBVdvVWWZ%2BitIkkRGYqdAjJs0PSWH7DG1EDE%3D&reserved=0)*laser light beams.*

La Morgia, C. (2010).  *Melanopsin expressing retinal ganglion cells. Vision Research*.

Lang, S.B. et al. (1996). *Piezoelectric*[*ity in the human pineal gland, Bi*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fimg.mediaplex.com%2Fcgi-bin%2F&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332384133101%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=DZhv22BqwNGNdw7m2wrX5a6wbR7js%2B3LkFZEr9rpGIs%3D&reserved=0)*oelectroche*[*mistry and Bioenergetics.*](mistry%20and%20Bioenergetics.%201996;%20)

Lucas, et al. (1997). *Regulat*[*ion of the Mammalian Pineal by a no*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fimg.mediaplex.com%2Fcgi-bin%2F&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332384133101%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=DZhv22BqwNGNdw7m2wrX5a6wbR7js%2B3LkFZEr9rpGIs%3D&reserved=0)*n-rod, non-cone ocular photoreceptors. Science*[*, 284(5413) 505*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.britannic.com%2Feb%2Farticle-9110444&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332384133101%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=4Z5QhqKno90KrVQPPi6UlHFemxYbsDbvca3c0YycXbA%3D&reserved=0).

Luminescence. (2007).  [*Encyclopedia Britannica*.](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.britannic.com%2Feb%2Farticle-9110444&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332384133101%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=4Z5QhqKno90KrVQPPi6UlHFemxYbsDbvca3c0YycXbA%3D&reserved=0)

Mortensen, R. L[*.* (2005). *The Brain takes shape: An early histor*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.britannic.com%2Feb%2Farticle-9110444&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332384133101%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=4Z5QhqKno90KrVQPPi6UlHFemxYbsDbvca3c0YycXbA%3D&reserved=0)*y. The New England Jou*[*rnal of Medicine, 352. 845-846*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fcontent.nejm.org%2Fcgi%2Fcontent%2Ffull%2F352%2F8%2F845&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332384133101%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=gJbmS%2FEHF6jPShwRm%2BCRjdrQ2p6P%2BQ9CnNNW5kJWsz8%3D&reserved=0) *p.*

Moore, R.Y[*. 1995. Vision without sight. The New England Jo*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fcontent.nejm.org%2Fcgi%2Fcontent%2Ffull%2F352%2F8%2F845&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332384133101%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=gJbmS%2FEHF6jPShwRm%2BCRjdrQ2p6P%2BQ9CnNNW5kJWsz8%3D&reserved=0)*urnal of Medi*[*cine, 332. 54-55 p.*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.astralsociety.com%2Ffiles%2FHRM&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332384133101%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=xr1px0nMaLuIuQcy8iX2tWLzo8BRAMLihOedEqFWRB4%3D&reserved=0)

Parmar, V.[(2007)*. Living on sunlight: About Hira Ratan Mane*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fcontent.nejm.org%2Fcgi%2Fcontent%2Ffull%2F332%2F1%2F54&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332384133101%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=ZEagJT0sIWS6LQYUptv%2B7Rqh9U3aqsxA0P5ZUUjQwiQ%3D&reserved=0)*k. Booklet: A comprehensi*[*ve sun gazing resource.*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.astralsociety.com%2Ffiles%2FHRM&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332384133101%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=xr1px0nMaLuIuQcy8iX2tWLzo8BRAMLihOedEqFWRB4%3D&reserved=0)

Rodriguez, C. et al. (2004).  [*Regulation of anti*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.astralsociety.com%2Ffiles%2FHRM&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332384133101%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=xr1px0nMaLuIuQcy8iX2tWLzo8BRAMLihOedEqFWRB4%3D&reserved=0)*oxidant enzymes: a significant*[*role for melatonin. Journal of Pineal Research, 36(1). 1-9 p.*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.blackwell-synergy.com%2Fdoi%2Ffull%2F10.1046%2Fj.1600-079X.2003.00092.x%3FcookieSet&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332384133101%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=BKzkD1wccUSoXvNS4%2BGOrzKwphQ4XVkmC%2BGMBwqJHVI%3D&reserved=0)

Scientific Frontline. (2006). *Far-out findings – new analysis suggests planets were formed from a giant mix.*

Simanonok, K. (2006). *Endogenous light Nexus Theory of Consciousness*.

Tewhey S. 2002. *Lit from Within: An introduction to ancient and modern perspective of the* *pineal gland.*

Ultra Violet Radiation. (2007). *Encyclopedia Britannica*.

Vigh, B. [et al](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fet.al%2F&data=05%7C01%7C%7C6c03a332ce5143da7c9908db296fca18%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C638149332384133101%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=T8GF9OmM%2F1lwpzPdAChiKTU8HXc1NzWomYCod4XTwa8%3D&reserved=0). (2002). *Nonvisual photoreceptors of the deep brain, pineal organs and retina*. *PubMed.*

Wikipedia. (2007). Available from <https://en.wikipedia.org/wiki/optical_computing>

Yellon, S. M. (2007). *Melatonin mediates photoperiod control of endocrine adaptations and humoral immunity in male Siberian hamsters. Journal of Pineal Research, 43(2).*

Zawilska, J. A. et al. (1996). *The effect of light with various wavelengths and impulse times on nocturnal suppression of N-acetyltransferase activation by serotonin in the pineal gland of the chick. PubMed.*

## Fast Pace Rise of Global English in Rwanda: Language Power and Influence

Assoc.Prof. Kayigema Jacques, PhD

Adventist University of Central Africa (AUCA), P.O.Box 2461, Kigali, Rwanda

jacqueskayigema@yahoo.com

**Abstract**

English, like many other major languages of the world, has risen very sharply for the last four centuries from the time people started moving from Great Britain to what is now known as North America, Australia, New Zealand, Asia and Africa. It is in this perspective that global English has spread to other parts of the world and exercised its influence over other existing languages.Four hypotheses serve as milestones and guidelines of this paper: (1) English has gained more influence in non-English speaking countries. (2) The downfall of other languages such as French and Arabic influence has given rise to the predominance of English. (3) The use of the English language as a global language has marked a new era in Africa. (4) English is a cultural heritage and not a cultural bomb.The paper discusses and analyses the rise and spread of English in Rwanda, how it became a language of instruction, and the influx of loanwords which have been adopted by Kinyarwanda languages and cohabitated with French, Arabic and Kiswahili. The data were collected from various sources, including publications, conversation, newspapers, school text books, commercial posters and hoardings. The study deals with major domains such as education, science, commerce, banks and banking, army, diplomacy, information communication technology, whereby English is more used than in any other domain. This is a challenging task for other researchers who will have to deal with the future of the global English in Africa in particular and in the world at large.

*Keywords*: global English, language power, rise, loanwords, domain

***Introduction***

This paper discusses the use of English in post-genocide Rwanda and its impact on Kinyarwanda and French. English has risen sharply for the last three decades because of the will of the Rwandan government to find ways of communicating with the external world in a more powerful language, Global English, than the previously predominant one, French. This work also highlights major domains where English speaks of its strength and the factors that led to the spread of English.

***Global English as a language of power and success***

Carpenter (2003) contends that English has become today’s predominant global language over major languages of the world because of the political and economical power both the USA and the British Empire have held for nearly two hundred years. In quoting Crystal (1997:1) and Phillipson (1992:1) he asserts that both authors agree that English has become the world’s dominant language, with some divergent views as to why, though.

 Crystal (1997) states that the language being discussed needs to be understood within the history, the culture, the ideology and the politics of the speakers of that particular language. Matters of power and of influence--political, military, cultural, religious or economic--cannot be fully understood without considering the peoples who wield that power and influence. When a certain people or nation are perceived as powerful and successful then the language spoken by that nation or people will, likewise, become influential

On the other hand, to explain the current dominance of English in the world, Phillipson (1992) utilizes ideas, concepts, numbers and theories from a wide range of topics and subjects (including but not limited to) professional conduct, ethics, matters of race, philosophy and science, political, economic, linguistic, social and cultural theories, history, educational policy, pedagogy, psychology, international relations, and technology. All of which, he argues, are closely related to—and help to elucidate—the world-wide linguistic dominance of English. The latter suggests that both power and ideology reside (apparently, innately) in the language of English.

 ***Kinyarwanda inside and outside Rwanda***

Kinyarwanda is primarily the language spoken in Rwanda, which is a land-locked country on the African continent, 26,338 square km in size, and with a population of 13,400,541 (February 22, 2023, est.) people Facts- Rwanda People-2023, CIA World Factbook. Rwanda is thus the most populated country in Africa with a population density of almost 420 people per square km. The country is very often given the title ‘Land of a Thousand Hills’, simply because of its fertile and hilly terrain. With an average altitude of 1,600 m above sea level, the country enjoys a temperate climate.

Currently, Rwanda has three official languages: Kinyarwanda, French and English. In addition, in view of the cultural, social, commercial, and political ties that exist between Rwanda and East African countries (Kenya, Tanzania, Uganda), Kiswahili too has been used in commercial centres as a lingua franca, and on the nationally broadcast radio.

Before Belgians introduced French into primary school in 1929, Kiswahili was used to serve as a language of communication in the colonial administration. Most Belgian colonial masters and missionaries of all denominations were using Kiswahili.

French is more widely spoken and more predominant than English and Kiswahili. It has been an official language since 1962, during which time the first constitutional law of the Republic of Rwanda was voted (24 November 1962). Article 69 of the decree of the Ministry of Education of 27 August 1966 stipulates that the language of instruction for primary school education is Kinyarwanda, but that the Minister can authorise the use of another language (Official Journal, Special N° of 04 June 2003, p.65)

As for languages of instruction in secondary education, article 80 of the same decree gives the Minister of Education the authorization of introducing another official language. It stipulates that Kinyarwanda and French are the official languages, but that the Minister can authorise the use of another language.

Before 1994 English was not used at primary school. At secondary school it was studied like any other subjects and at the tertiary level it could be studied among other subjects or as a major in the department of languages and literature. The weekly class load for English was based on a particular line or section of study. The number of hours per week ranged between 2 and 4. On the other hand, French was the language of instruction at secondary level.

 English became a third official language just after the 1994 genocide. Article 5 of the current Rwandan constitution law stipulates that ‘the national language is Kinyarwanda and that the official languages are Kinyarwanda, French and English’. It is in this perspective that since January 2009, English has been adopted as a medium language of instruction at all levels.

More than 24,000 Rwandans speak English. Rwanda is one of the territories where English is spoken as an “official (institutionalized) second language (L2) in the fields such as government, law and education” (Jenkins, 2003:2). English is gaining more influence over French. The motivation of using a prestigious language like English is highly noticed in every activity of life. Crystal (2003:67) notes that “new political decisions on the matter continue to be made: for example, Rwanda gave English official status in 1996.” This policy will make linguists have special consideration for Rwanda, unlike its neighbour, Burundi, which is not represented in the list of speakers of English in countries where the language has had special relevance. In fact, Burundi shares almost entirely the same historical and political background.

Kinyarwanda is not only spoken in Rwanda, though. It is widely spoken across politically agreed upon borders in neighbouring countries, such as the eastern DR Congo, northern Kivu (Rutshuru, Masisi, Nyiragongo) and southern Kivu (Uvira, Fizi, Mwenga). In addition, it has spread across to west Uganda (Bufumbira, Gisoro) and north-west (farther to Lake Albert, Rwicanzige, killer of locusts) and east Tanzania (Karagwe). This is because the former Kingdom of Rwanda spread over today’s Rwanda officially recognized territory. In Burundi, the neighbour to the south, it is mutually intelligible with Kirundi, in a similar way Flemish is intelligible to the Dutch-speaking inhabitants of the Netherlands.

***Writing in English is fashionable***

The subtitle above recalls Senghor’s question: “Why do we write in French?” “We write in French because French is a universal language,” he answered (Ngugi, 2005:32). However, in Rwanda the aim of writing in English is totally different.

The question as to know why today we prefer to write in English rather in other languages in order to express ideas more accurately, can be answered in the perspective of the hegemony of English. Unlike Senghor who wanted to tame the French language for cultural, political, and literary purposes, there is no leading literary figure in Rwanda who writes to promote English culturally, politically, or literarily, but rather people write English for lucrative and prestige ends.

In schools, English is taught because it is a global language for communication, scientific research, economy and commerce. However, outside the classroom, for example at home, parents and children use the vernacular language, Kinyarwanda, which makes it hard to practice English.

Asked why French is a medium of instruction in Africa, Senghor (1993) answered the question with the definition of *francophonie,* whichaims to spread French politics and culture.

*La Francophonie, c’est cet humanisme intégral qui se tisse autour de la terre : cette symbiose des « énergies dormantes » de tous les continents, de toutes les races, qui se réveillent à leur chaleur complémentaire […] le français est déjà enseigné comme langue nationale, langue officielle, langue de communication internationale ou, simplement, mais essentiellement, comme langue de culture. Si on introduit ou maintient l’enseignement du français en Afrique, si on l’y renforce, c’est, d’abord, pour des raisons politiques. Cependant, la principale raison de l’expansion du français hors de l’hexagone, de la naissance d’une Francophonie est d’ordre culturel*. [*Francophonie* is that integral humanism which weaves around the globe: that symbiosis of dormant energies of all the continents, all the races, which awake for the complementary warmth [...] French is already taught as a national language, an official language, a language of international communication or, simply, but essentially, as a language of culture. If teaching French in Africa is introduced or maintained, if it is reinforced there, it is first for political reasons. However, the major reason for French expansion outside the *hexagon* (France), the birth of *Francophonie* is cultural. “Senghor” in *Diagonales*, N° 28, 1993]

Unlike the French Academy which sets up rules on the use of French as far as spelling and pronunciation are concerned, there is no English Academy which regulates the use of English worldwide. There has not been any officially recognized institution to promote English. Probably the British Council has been doing this work but with not strict regulations on the spelling and the pronunciation of English. There is no such a thing as “Anglophonia”. The Commonwealth organization has no aim to promote the expansion of English culturally and politically among member countries. There is no English Academy to regulate the use of English as far as grammar, spelling, and pronunciation are concerned. However, today’s tendency is to write, especially where French and English cohabitate. Materials which are very often written in English include commercial advertisements (signs, posters, film strips, radio, and TV commercials), official reports, project proposals, academic transcripts, newspapers, catalogues, folders, and booklets.

***Accent or Form of English***

Varieties of languages very often result from the non-conformity to the standard language pronunciation. Although mistakes are part of learning process, they simply reveal a failure in language competence. Due to various forms of English worldwide in general, and nationwide in particular, the English spoken in Rwanda reflects interference from East African English, West African English, Nigerian English, Indian English, American English, South African English, French, Kinyarwanda. In addition to mistakes due to French and Kinyarwanda interference, varieties of English are also responsible for the mistakes which are very often made. Most mistakes occur in the area of phonology, orthography, syntax, and semantics. Because of the phonological perception and production, some mispronounced English words have become integrated loanwords in Kinyarwanda.

***English name changes from 1994 onward***

In Rwanda it is currently easier to count shops and commercial buildings with fewer names in French than in English because of the significance drop in French usage. From 1994 Rwandans find it more fashionable and prestigious to use a global language like English than French. The interest in this paradigm shift of name change triggered the motivation for researching on the rise and spread of English in Rwanda after the 1994 events. The sense of observation and curiosity of the use of the word ‘house’ on most names of shops, firms, and organizations challenges researchers in language contact and change. For example, a careful eye can read the following names with the word ‘house’ in them in the city of Kigali: Blue Star House, Centenary House, Prince House, City Plazza House, Ebenezer House, Mathias House, Rugigana House, Rubangura House, *La Bonne Adresse* House, Omega House, Promise House, Isaro House, Ituze House, Magnificat House, Nartzalus House, Soafa House, Iramiro House. In addition to names bearing the word ‘house’ in them, public and private establishments (schools, hotels, restaurants, pubs) have also adopted English identifications: Kigali Parents School, Green Hills Academy, Kicukiro College of Technology, Umutara Polytechnic, Foundation School, Sun City Hotel, Alfa Palace Hotel, Bloom Hotel, Kivu Sun Hotel, Peace Hotel, Greenland Hotel, and Luxury Hotel. Names of organizations and state-run authorities have completely shifted from French to English. For example, one may read: Rwanda Environment Management Authority (REMA), Rwanda Revenue Authority (RAA), Rwanda Bureau of Standard (RBS), Rwanda Development Board (RDB), Rwanda Governance Board (RGB), Rwanda Defence Force (RDF), and National Commission for Reconciliation (NCR). However, those organizations and state undertakings which existed before 1994 are still written in French: *Magasins Généraux du Rwanda (MAGERWA), Usine de Textile au Rwanda (UTEXRWA), Société Nationale d’Assurance au Rwanda (SONARWA), Brasserie et Limonaderie du Rwanda BRALIRWA), Ciment du Rwanda (CIMERWA)*

Everybody wants a change and something new. This phenomenon of name change is a paradigm shift. Not only names and styles of firms have changed after 1994 but also anthroponyms and names of persons. Today you will find that young people bear names such as Nice, Joy, Hope, Peace, Shalom, Bob, Jimmy, Jackson, Steve.

***Globalization as a major factor for the spread of English***

Most people see globalization as a major factor in the spread of English in Rwanda. Globalization creates free flow of information on the information highway which is dominated by English.

Crystal (1997:5) devotes a lot of space to a discussion of influence, power, and various types of power. He looks to history, to the past, in order to understand and help explain the present; he uses the language of Latin as an example of what he means by different types of “power”: Latin became an international language throughout the Roman Empire... not because the Romans were more numerous than the peoples they subjugated. They were simply more powerful… when Roman military power declined, Latin remained for a millennium as the international language of education, thanks to a different sort of power-the ecclesiastical power of Roman Catholicism. There is the closest of links between language dominance and cultural power. . . Without a strong power-base, whether political, military or economic, no language can make progress as an international medium of communication. Language has no independent existence, living in some sort of mystical space apart from the people who speak it. Language only exists in the brains and mouths and ears and hands and eyes of its users. When they succeed, on the international stage, their language succeeds. When they fail, their language fails.

The spread of English in the world in general is the result of the first migrations of mother-tongue English speakers from England, Scotland and Ireland predominantly to North America, Australia, New Zealand and the establishment of British colonies in Africa, Asia, and Central America (Jenkins, 2003:5).

Subsequently, the rise of English in Rwanda is linked to the position of English as a global language and it has been reinforced by the change of the regime whereby the repatriation of Rwandans who returned from exile in the neighbouring English speaking countries triggered the use of English in all the major domains of public and private sectors.

The increasing influence of English in Rwanda like in many other parts of the world makes people think that English is very likely to be a dominant language over other languages of the world for many years to come. With some reservations, Abdulla (2005:3, 10) supports this view when he points out that English is a global language:

While English has become the Latin of the contemporary world, such a position, one can say in the light of historical experience, has always been precarious. Whether English will be unanimously accepted as the one unifying international language of the globe, whether it will share this role with one or more other languages or whether an artificial language will be adopted for that purpose is the question that sooner or later we will all be facing […]. Still, one may well conclude, as a result of what has been discussed so far, and in spite of all the reservations expressed, that English is now *ipso facto* the uncontested international language. Without any prior agreement, or officially imposed policy, it has *practically* that status - in trade, science, tourism, and most importantly, in the educational system, through the world. The possibility of any other language, whether natural (Spanish) or Chinese or artificial (Esperanto) replacing it in the near future seems remote.

While in the above statement Abdulla is reserved as to whether English will remain the contemporary global language of the world as was Latin for more than seven centuries, Mufwene (2010:57) thinks that “although English has become a global language geographically, it is not becoming a universal one, a fear mitigated by its speciation into so many varieties, some of which have already been disfranchised as separate languages, viz. creoles and pidgins.”. In fact, Mufwene (2010:57) wonders whether English is becoming as universal as Crystal and others who marvel on the globalization of English put it. He rather attributes the spread of English to the prescription of English as a second or foreign language in the secondary schools in most countries of the world:

So much has been published over the past decade about the extent to which world-wide globalization (…) has spread English into a “global language,” i.e., one spoken all over the world. Much of this evolution can be attributed as much to the prescription of English as a second or foreign language in secondary schools of almost every country of the Outer and Expanding Circles today as to its usage as the primary lingua franca of business, navigation, science and technology, and academia (Mufwene, 2010:57)

In the University of Chicago Chronicle of 14 August 2008, Vol. 27, Mufwene quoted by Schonwald (2008) gives the example of the Democratic Republic of Congo, whereby French is not threatened by the global English but rather by Lingala:

## *English is far from functioning as the vernacular of many parts of the world,” he said. In Kinshasa, the capital of his native Congo, for instance, there is little economic incentive to learn English as a vernacular. There, the official language, French, is threatened not by English, but by Lingala, a contact-based Bantu language that has become increasingly popular. Many linguists focus on worldwide trends, which spread English as a lingua franca but don’t recognize the dynamics of the local ecology of a language. “Language evolution is driven primarily by the interplay of local ecological factors, which are largely socio-economic,” he said.*

Crystal (2003:67) supports the view that Rwanda has adopted the global English and attributes this move to the political decision. Rwanda is classified in the three concentric circles as developed by Kachru (1986). In pointing out the example of Rwanda which gave English official status in 1996 because of the new political decision, Crystal compares Rwanda to Burundi and apparently gives them the same status. He comments that “English is probably represented in Rwanda and Burundi in very comparable ways, but Rwanda is in the list (and Burundi is not) only because the former has (in 1996) made a political decision to give the language special status.”

The status of English in both countries is totally different. Therefore the classification should be very clear. Burundi uses English simply as a foreign language, which has great importance for communication, whereas Rwanda uses it as an official language alongside Kinyarwanda and French. The context is different in both countries. Burundi did not find any sound reason to adopt English as an official language. However, after the 1994 genocide and the war, Rwanda had no other option. It had to accommodate Rwandans speaking the two international languages: English and French. Thus, Rwanda marked a significant step in leaving the expanding circle or extending circle to join the outer circle or the extended circle when it institutionalised English.

In Rwanda the expansion circle period of English is marked by the use of English as a mere foreign language. Although this period starts before 1996, during which time English was officially recognized by the Rwandan government, the researcher could say that the expansion period is located between 1962 and 1994. During this period English gradually spread in various areas such as education, agriculture, commerce, technology, communication and the press, just to mention the most influential ones. In 2009 the position of English was reinforced by adopting it as a language of instruction.

Education is the most influential domain which determines whether a language will be predominant in a given country or not. This is because all linguistic and scientific knowledge is acquired at school. The use of a language cannot be efficient unless teaching the language has taken place. At primary school English was neither used as a subject nor an instructional language.

***English as a language of learning and teaching***

Today learning English is very important because it offers better opportunities in communication and employment. The rise of English in Rwanda is an asset rather than a threat to Kinyarwanda because it connects Rwanda to the external world. However, it may lead to diminishing use and role of French and Kinyarwanda.

Before 1994 English was taught from the first to the sixth year of secondary school. Of course, the number of class contact hours sometimes differed from one line to another. Language-based lines, commerce and accounting had more hours than other lines. At the National Office of Curricula Development there was a department in charge of English curriculum development. English curriculum developers were recruited among University graduates who had completed three to five years of university programme. However, some were not necessarily trained to teach English, nor develop curricula of English.

In addition to the formal education of English there were some organisations and embassies which offered English programmes to boost the level of English language proficiency for beginners, intermediate and advanced students. For example, in the early 1980s, the Information Service of the US Embassy in Kigali opened the English Language Teaching Centre to cater for civil servants and other people who did not have enough knowledge of English as working language. The centre also provided English language training to prepare individuals who wished to take some international tests like TOEFL or the Michigan Test to pursue their studies abroad.

At tertiary level, the National University of Rwanda and other institutions of higher learning offered English as a major in the department of English. Most teachers of English were trained in local universities and institutions of higher learning. Some others were trained in the neighbouring countries (DRC, Kenya, Uganda, Tanzania, and Burundi) where English programmes were offered at various levels. Exceptionally, some teachers of English were trained in the UK, the USA, and Canada.

Just after the war, with repatriated Rwandans from both French and English-speaking countries, there has been a great need for bilingual workers in post-war Rwanda. As a result, educational reforms have taken place. The 1996 Educational Reform adopted both French and English as medium languages for instruction and as subjects. Until 2008, from Primary One to Primary Three, where possible, French and English were taught as subjects, whereas from Primary Four to Primary Six, they were both subjects and languages of teaching other subjects, except Kinyarwanda. Today, English is a medium of instruction from Nursery to University. Besides this, short courses of English are offered by both public and private institutions to train French and Kinyarwanda speakers in English.

Of course, one may wonder which form of English Rwanda is very likely going to adopt. Everything will start from the class. Owing to the training in different countries, teachers are very likely to bring in various accents of English which will be passed onto students. Thus, among Rwandan English speakers or bilingual speakers of English and French it is very likely to hear Ugandan English accent, South African English, British English, American English, Nigerian English, just to name a few.

***English in the media***

“In the novel, the media are at the centre of everyone’s life – the press, radio, advertising, and especially television. Even the ‘hint of a nuance’ can make a difference…The English language has been an important medium of the press for nearly 400 years” (Crystal, 2003:91).

People listen to the news broadcast, watch TV programmes, and read newspapers in English because they want to improve their level of performance in it and because of their positive attitude towards English. Although English does not dominate the media now, this is a sign of motivation for people who are eager to improve their English performance.

The state runs the largest radio and television stations. On the national television, Rwanda Television (RTV), and radio broadcast, news broadcast programmes in English are given equal weight as in Kinyarwanda and French. After all, these are the three official languages recognized by the Rwandan constitution. English is not dominating in the media, though. Kinyarwanda is the most dominant language in the media. The media are taking the lead in today’s globalization, and in view of the pace English is making, a global language is very likely to dominate the media in the near future.

Most people do not have access to television because it is limited to urban areas. Kinyarwanda dominates on the national television broadcast. However, with private companies, such as Star Africa Media, branded Star Times, a Chinese digital television company operating a pay television service with 35000 registered users, English is the dominating language. Of the 44 channels, 5 broadcast entirely in French, 2 in Kinyarwanda, English and French. Obviously, this has a great impact on the role of other languages in media.

 As for the radio broadcast, there are more than 30 radio stations operating in Rwanda now and each of them has one or more English programmes. These include Radio Rwanda, Radio 10, Flash FM, Contact FM, City Radio, Radio Isango Star, Radio Maria, Radio Izuba, Radio Salus Populi, Umucyo Community Radio, Voice of Hope, VOA, DW, RFI, and BBC. Up to 70 local newspapers are written in Kinyarwanda, 5 in English (with the weekly leading, The New Times), and 3 in French. Of course, the national language, Kinyarwanda, occupies the first position, followed by English and then French.

***Impact of English: code-switching and borrowing***

In a bilingual context, code-switching is very common. This impacts on the structure of Kinyarwanda.

In Rwanda, it is very common to hear a bilingual speaker using French and English words without altering the grammatical structure, the morphological and phonological aspects of a foreign word, a phrase, or a sentence. Frequently used code-switches from French may include simple words such as *donc, ‘*so’; *vraiment, ‘*truly’; *responsable,* ‘responsible’; *sérieux, ‘*serious’; *grave ‘*serious’; *comment (ça va)*? ‘How are you (doing)?’; *ça va*? , ‘Is it okay?’*Ni* *Dix heures, ‘*It is 10 o’clock’.

The level of code-switching varies from one bilingual to another. One may switch codes at the level of:

(1) Words, for example, *Lundi uzanyoherereze* call: “Give me a call on Monday”.

(2) Tags, for example, He sings well, *n'est-ce pas*? : “He sings well, doesn't he?”.

(3) Clause or sentence (intersentential switching). For example, *je voudrais te parler* (I would like to talk to you), come quickly.

However, it may or not be intentional. For example, during some simultaneous translation activities, the researcher has experienced a situation whereby an interpreter, from time to time, could switch from English to French while he was translating from French into English. He would not be aware of his error until the public reacted to his unintentional switching. This would create a funny situation. In fact, Rwandan monolinguals think their language has been diluted.

Following the current sociolinguistic situation in Rwanda, whereby most people have various backgrounds because they lived in a multilingual community, one may hear, for example, the following code-switches:

*Tokomonana lobi, ariko uzibuke cya gitabo* (Lingala-Kinyarwanda):

‘We shall meet tomorrow, but remember to bring that book’.

*Lundi uzanyohereze* call (French-Kinyarwanda-English): ‘Call me on Monday’.

*Urebe ako gaka, mwanawafe* (Kinyarwanda-Kiganda): ‘Look after that cow, our child!’

*Ndagutegetse ngo Toka Shetani* (Kinyarwanda-Kiswahili): ‘I command you: Go way, Satan!’

*Bagiye, je le sais bien*! (Kinyaruanda-French): ‘They have gone, I know it well’.

Concerning code-switching, (Field, 1998:241) explains that it involves running syntactic analyses. In production, it involves the establishment of entry and exit points in the linear speech stream, so-called switch points at which the language in use is deactivated to an extent

In today’s bilingual context in Rwanda, a bilingual speaker of English and Kinyarwanda may frequently use code-switches such as: so, actually, anyway, Okay, now, sharp.

The phenomenon of code-mixing is very common when bilingual speakers are making speeches or conversing with the audience they think understands the languages they are using. The word which comes more easily than another is immediately uttered. Some bilinguals make efforts not to mix the codes. However, this will depend upon one’s language competence.

Since language is a vehicle of the culture of a given nation, English has bequeathed to Kinyarwanda words and elements of the western culture. The motivation for borrowing which must readily come to mind is need. If the speakers of a given language take over new cultural items, new technical, religious concepts, or references to foreign locations, fauna, flora, there obviously is a need for vocabulary to express these concepts or references. In addition to the need, the speaker of A may have a prestige motive, especially when speaker B is more powerful economically, politically, religiously, and technologically.

For example, the speaker of Kinyarwanda has borrowed many religious terminologies not because he did not have any religion and beliefs, but simply because he was persuaded by the western religious clergy that his religion was heathenish. That is why he quickly forsook ‘indigenous names’ and adopted ‘Christian names’, which were in fact from ‘Hebrew and western names’.

***English and the young generation and its impact on the future role of Kinyarwanda***

English is viewed by the young generation as a language of hope, empowerment, opportunities, openness and prestige. Young Rwandans are eager to use English at school, in various English language centres, sports, cinema, music and other daily activities which attract the youth.

Young generation users of English include young artists, musicians, football players, drivers, and civil servants. They want to use English in their entertainment because they hope English will help them become successful in their occupations. The media help the youth attain the goals of practicing English when they are present their talents on the radio or television. Crystal (2003:101) observes that “radio sets around the world hourly testify to the dominance of English in the popular music scene today.” He adds that “many people make their first contact with English in this way.”

Most people have expressed their enthusiasm in welcoming English as an asset to the existing benefits of French and Kinyarwanda. They do not consider English as a threat at all. On the contrary, they would like the country to develop into a bilingual system of English and French, in addition to their lingua franca, Kinyarwanda.

Youth find the rise and spread of English in Rwanda as an asset rather than being a threat to Kinyarwanda and French. Very few people think English may be a threat because English may be a contributing factor to forget existing official languages. The proponents of English maintain that it facilitates communication among people who speak it.

***Conveying moral and ethical values through teaching English as a second official language: use of proverbs and selected texts***

Language teaching materials constitute a tremendous source of information about people’s beliefs, culture, history, civilisation, and religion. Idioms, proverbs, stories, tales, plays, poems, if well exploited in language learning, can be an important tool to discuss and convey moral and ethical values. Thus, any language starts from school and spreads to community.

Teaching materials used in key English language syllabuses such as grammar, vocabulary, pronunciation, listening comprehension, reading comprehension, and composition, would be a good opportunity to share the motivate the students to practice moral and ethical values at any educational level. It is very important for a teacher to possess good communication skills in order to be able to convey ethical and moral values in his teaching. It is well known that communication is a two-edged sword. If communication is well managed, it will yield positive results, if mismanaged, it will result in misinterpretation of the truth and values one intends to convey. Thus, the teacher should know the environment of the class, the culture, the audience, and the right time to inject the message. A language class should be a real-life communication, with genuine exchanges of information and opinions.

In his comment on meaning-oriented practice in a language class, Krohn (1970: viii) explains that “Probably the best way to practice a foreign language is to use it in communicating with others. Thus, teachers should provide time for meaning-oriented practice. For example, teachers can ask the students to ask questions or initiate a class discussion that will force the students to use the grammar that has been presented that hour. Such question and discussion periods provide the members of the class with an occasion to use English structure to express their thoughts.”

In this project, the researcher will use two English language learning aspects. The researcher has selected the syllabus of grammar and reading for students whose English language is their second official language. He will show how proverbs can be used in grammar and reading to convey moral virtues. Proverbs can be analysed syntactically and semantically.

For example, a proverb or quotation from some famous African literature writers, such as Chinua Achebe and Wole Soyinka, would be included in the materials and be analysed grammatically:

* He has put a knife into things which hold us together and we have fallen apart (Chinua Achebe, Things Fall Apart).
* The tiger doesn’t proclaim its tigretude, it pounces (Wole Soyinka, The Lion and the Jewel).

Grammatical items which may exploited from the above quotations are abstract and concrete nouns, regular and irregular verbs, modals, articles, adjectives, prepositions, pronouns, etc. However, students may be asked to discuss the message conveyed by the quotations. These quotations show how Africans think about the contact and clash of cultures, what they believe in, and embody a moral lesson which should be conveyed to the society through future generations.

Moral and ethical values are overwhelming in text reading materials. The latter may be taken from one of the literary genres: story, a folktale, a poem, a novel, a short story, or a play.

As far as the benefit of literature is concerned, Sire (1990:163) comments that “the main benefit of reading the best sort of literature, however, is not just to know what someone else is saying and thus pick up information or perspective. It is not even to reinforce one’s own particular Christian understanding of God or his creation. The main benefit, rather, is to help us understand who we are as a human family in all our diverse and glorious yet fallen splendor.”

With regards to text reading materials, I would like to suggest the following extract from Achebe (1983:27-36):

Discipline does not invite supervision by an external force but is imposed by the individual from within. Indeed discipline is either self-discipline or it is nothing at all. What should and does concern all of us is the danger of indiscipline by imitation which I have already to ad nauseam but must return to one last time in the form of an actual incident […]

Early in 1983 I was traveling from Nsukka to Ogidi with my wife and daughter and driver. As we were driving through Awka we heard a siren and performed the appropriate motions of mild panic and pulled up. Three police vehicles- a jeep, a car and a lorry sped by in the opposite direction. From the side of the lorry a policeman was pissing on to the road and the halted traffic.

###### Discipline is a topic which should draw students’ attention. It is essential for all aspects of life: school, hospital, office, airport, traffic, etc. Students will realize that indiscipline brings chaos and that they should avoid it in their daily life. In a Christian institution like this, discipline should be viewed as a reflection of God’s order. God likes order. Everything he created is in perfect order as revealed in his Word, God’s truth.

Holmes (1975:7) says that "all truth is God’s truth, no matter where it is found, and we can thank him for it all." Further, while the same author discusses the academic freedom, he explains that “while Scripture is our final rule of faith and practice, not all the truth about everything is fully revealed therein. If that were so we would need no natural or social sciences, no humanities and no theology-just biblical exegesis. Rather the eternal Logos has left his imprint on nature and human beings and history, and the truth discovered therein is God’s truth too” (Holmes, 1975: 69).

Other selected reading materials would be taken from Wole Soyinka’s pieces of writing. They undoubtedly contain moral and ethical values such as mutual respect, dignity, stewardship, self-denial, service, love, etc.

**In *The Lion and the Jewel* (1963),** one of Soyinka's most popular plays, the playwright quotes Jesus: "A prophet has honour except in his own home." Jesus says this when his family and acquaintances in his home town of Nazareth reject his teachings (Mark 6:4).

**In *The Trials of Brother Je*ro (1974),** "Daughter of Eve" is an expression for "woman." There is a prophet named Jehu in the Bible (1 Kings 16:7), but Soyinka is probably slyly alluding to the more famous and flawed king of that name in 2 Kings 9.

**In *Madmen and Specialists* (1970),** "Casting pearls before swine" is an expression based on one of Jesus' parables (Matthew 7:6) which implies wasting something valuable on people incapable of appreciating it.

In part II of the play, the line "Arise, throw off thy crutches and follow me" is a combination of phrases from the Bible: Jesus saying to his would-be followers "Whosoever will come after me, let him deny himself, and take up his cross, and follow me" (Matthew 16:24) and Mark 2:9 where Jesus defends his right to heal a crippled man by stating "Who is my neighbor" is uttered in Luke 10:29 by a man responding to Jesus' teaching to love your neighbor as you love yourself. "Arise, and take up thy bed, and walk." "Lord, now let thou thy servant depart in peace, according to thy word," is the grateful speech of Simeon who has been preserved long enough to meet the infant Jesus, implying that he can now die content (Luke 2:29).

Wole Soyinka and Chinua Achebe pieces of writing are thought provoking. The teacher surely gets lively discussions about the moral and ethics. Their materials teach the students to question and find the moral value which is not different from that of its biblical texts.

Traditional sources can be used to supplement course books both for language purposes and for the deeper meaning behind them. Besides this, I am using a holistic approach to learning in order to challenge and empower students to be 'prepared for service in this life and the life to come'. This approach allows students to engage in dialogue with the language and the meaning. They can compare the different values and traditions in literature and the bible. This makes them stronger and more confident in the values they choose to live by.

# ***References***

Abdulla, A.D. (2005). Globalism and the Universal Language. *English Today* 82 *(*2): 3-10.

 Cambridge: Cambridge University Press.

Achebe, C. (1958). *Things Fall Apart*, London: Heinemann Educational Books Ltd.

-------------(1983). *The Trouble of Nigeria*, London: Heinemann Educational Books Ltd.

Carpenter, W. (2003). Carpenter, W. Global English: an Imperialist Agenda? *Asia University*, pp. 10-11

Crystal, D. (1997). *English as a Global Language*. Cambridge: Cambridge University Press.

------------ (2003). *English as a Global Language*. 2nd ed. Cambridge: Cambridge University Press

Field, F. (1998). *Borrowing and Borrowability*. PhD Thesis, University of South California: USA.

Holmes, A.F. (1975). *The Idea of a Christian College*, Michigan: W.B. Eerdmans Publishing Co.

Jenkins, J. (2003). *World Englishes.* London: Routledge.

Kachru, B.B. (1986). *The Alchemy of English: The Spread, Functions, and Models of Non-native Englishes*. New

 York: Pergamon Press.

Krohn, R. (1970). *English Sentence Structure*. Michigan: Ann Arbor, University of Michigan Press

Mufwene, S. (2001. *The Ecology of Language Evolution*. Cambridge: Cambridge University Press.

Ngugi, T. (2005). *Decolonising the Mind: The Politics of Language in African Literature*. Heinemann: New Hampshire.

Phillipson, R.H.L. (1992). Linguistic Imperialism. Oxford: Oxford University Press

Schonwald, J. (2008). Mufwene introduces novel approach to study of language, looking at linguistic evolution, The University of Chicago Chronicle 27 (20), 14 August 2008. Available: <http://www.uchicago.edu>. Accessed on 26 March 2023.

Sire, J.W. (1990). *The Discipleship of the Mind*, Illinois: Intervarsity Press

Soyinka, W. (1974). The Trials of Brother Jero in *Collected Plays* 2, [Oxford University](https://www.encyclopedia.com/social-sciences-and-law/education/colleges-international/oxford-university) Press, pp.143-71.

-------(1963).The Lion and the Jewel, Oxford : Oxford University Press.

**Note:**

Facts- Rwanda People-2023, CIA World Factbook. Available: http://www.theodora.com /wfbcurrent/ rwanda/ rwanda\_people.html. Accessed 16 May 2023.

**The Relationship between Remuneration and Employee Commitment in Telecommunication companies**

Ngajory Manzi Patrick\* & Assoc. Prof. Cyeze Munyamasoko Emmanuel, PhD

Department of Administration, Adventist University of Central Africa, Rwanda

cyezee@yahoo.ca

**Abstract**

This study investigated the contribution of remuneration on employee commitment in telecommunication companies in Rwanda with evidence from Broadband Systems Corporation. The study adopted descriptive analysis and questionnaire was used as instrument for data collection. Regression analysis was also adopted to statistically analyze the contribution of remuneration on employee commitment. The findings indicated that the Adjusted R2 =0.024 representing 2.4%; F-test= 1.273 and P-value is less than 5% all indicated that there is a positive and significant contribution of remuneration on employee commitment in telecommunication industry specifically Broadband Systems Corporation. The study concluded that remuneration should be increased to have employee commitment*.*

*Keywords*: companies, employee commitment, remuneration, telecommunication

**Introduction**

Organizations are realizing that there should be a balance created between employee’s participation to the organization targets and organization’s contribution to the employee’s needs or expectations. The main reason for the balance is to make employees more productive by rewarding them based on their performance. Organizations should leverage on human capital to have a competitive advantage that is through performance and the way to accomplish this is through setting appropriate remunerations (Azmi, 2010). Since organizations or companies are working in a competitive environment, they need to establish strategies that will retain and acquire competitive employees. The most considered important asset in any organization is the human asset and to get the based result out of it is to get remunerations that will motivate it (Fisher & Baird, 2016).

In USA, remuneration means compensation or pay, the meaning is bigger than pay as it can include salary, bonus and commissions which can be paid under employment contract as well. Remuneration goes hand in hand with motivation which makes employees work hard and perform better in organizations. Keeping good working relationships with employees in the organization is a mandatory need for organizational success. The good way to achieve this relationship with employees in an organization is to add profitable benefits to every right job and task performed by employees in the organization (Fisher & Baird, 2016).

In UK, competition is very aggressive, and organizations regardless of scale, market focus and technology, they are facing the challenge of keeping their employees motivated. To overcome these challenges or limitations, Good and positive connections must be established and maintained between employees and organizations. In strengthening these good and positive collaboration, employees must motivate to do their very best and give them remunerations, such as Salary payment, overtime payment, bonus payment, commission payment etc. Human resources or employees of organizations are at the core. So, they must be thought on and motivated to achieve their tasks. For these organizational goals to be achieved, organizations need to create various remuneration strategies to make employees motivated and making them add value and improving performance of organization. When employees are unsatisfied with their daily work, they don’t put much effort in their work or change to other organizations with better remuneration (Usman, 2016).

Robbins made a study in Canada on effect of employees’ remuneration on job satisfaction with main objective to determine how different remuneration packages affect employee job satisfaction in Canadian public institutions. The study applied descriptive cross sectional survey design and sampled a total of 3000 respondents where the findings indicated that remunerations improved the level of job satisfaction (Kunnari, Ilomäki, & Toom, 2018).

In China, (Guangjian, 2003) showed a connection between remuneration and employee job performance. He realized that employees under or overpaid, they may experience guilt or anger. This anger or guilt will impact their performance as they may try to regain their equity in altering inputs or outputs using different comparison or justification that are psychological. Achieving and sustaining competitive advantage, organizations must take advantage of the human capital to the right direction (Ojeleye Yinka Calvin, (2017).

In Turkey, public and private sectors have realized that they must establish real balance between employee’s performance and remunerations and their expectations. Having this balance is one of the main purposes to make them more motivated and productive. Salary wages paid by employers can have real influence on performance in administrations. Employees do not see salary as money amount, but employee sees it as value given by employer on his work (Shapiro, 2015).

Study made by (Zobla, 2008) on employee remuneration in Ghana, he identified that remuneration is very important factor contributing to employee job satisfaction which helps in retention and turnover. Remuneration is a major motivation for employees who are committed and is helpful in retention and turnover for employees.

Schermerhorn (2012) did research on effect of remuneration on employee job satisfaction in Nigeria Oil firms recommended that employee wages should be reviewed upward on annual. However, the study was undertaken in Oil companies which indicated that remuneration on wages should be increased manually.

In Rwanda a study conducted in Rwanda Housing Authority revealed that there is a correlation connecting components of reward system, recognition, career development opportunity, fringe benefits and employees’ performance in RHA (Gatsinzi, 2019).

**Statement of the Problem**

According to (Gungor, (2011) Anvari, Ismail and Hojjati (2011), Danish and Usman (2012), poor plans of compensation can land corporations into issues like higher employee turnover, less commitment, conflicts, and poor delivery of services and at times accidents.

Research has indicated that employees who are satisfied become more productive, improve competitiveness of an organization and success, and deliver high quality work. Job satisfaction plays a big role across the world as land scape is changing over the past 20 years in response to economic shifts, advances in technology and an increasing in world economy (Christensen, 2017). Due to these changes and unpredictability of the workforce, organizations have got a big challenge of motivating their employees through attractive working conditions and better remuneration. According to (Thomas 2009), the main challenge in workplaces is identifying what motivates employees considering individual differences. In other words, individual differences are indicated as major obstruction for management in engaging employee motivation in an effective manner.

Many employers recognize that human capital to be an important aspect in giving effective service delivery. The issue of low remuneration has led to high to too much turnover in organizations (Sanghi, 2016). This has led also to low production rate due to anger or guilt that comes because of low remuneration.

Due to employee turnover, low production, less commitment, and poor delivery of services has led to poor performance of telecommunication industries. The highlighted problem statement has led to perform a research study on impact of remuneration on employee job performance.

## Research Questions

What is the relationship between remuneration and employee commitment in telecommunication companies?

**Objectives of Study**

The objective of the study is to determining impact of remuneration on employee job performance in telecommunication companies

**Hypotheses**

There is no significant relationship between remuneration and employee commitment in telecommunication companies specifically BSC Rwanda.

# **Literature review**

*Conceptual Review*

*The impact of remuneration on employee job performance in telecommunication companies*

 This study established the demarcation and limits of the notion of compensation. Since pay does not have a single straightforward meaning, it must be shaped precisely to give a sound foundation for the activity. Exploring the impact of compensation on employee work performance which necessitated the establishment of observable attributes/traits against which the perfection of compensation was evaluated with clear bounds.

### *Renumeration*

 Remuneration is a reward or recognition given to employees by their employer in the form of a pay or wage, which may include bonuses, allowances, or incentives. This might be monetary or non-cash and is managed by the reward administration (Aguinis, Performance management for dummies. John Wiley & Sons., 2019). Also known as remuneration given to employees by a company for work performed or completed. Remuneration is the cash or recompense received for employment or work performed. This covers the employee's salary, bonuses, and other economic perks received while employment (Ajila, Ajila, H & Awonusi, O. (2014).

### *Employee Performance*

 Employee performance is the way an employee executes tasks or responsibilities with efficacy, efficiency, and quality to produce actual output. Employee performance entails empowering individuals to execute their jobs to the best of their abilities, even if it means surpassing their goals and expectations. For improved employee performance, a collective and individual responsibility for the continuous improvement of the business must be formed, as well as skills must be fostered. With concerned organizations, performance is always reflected in business reviews and evaluations as company performance Mullins, Mullins (2010). Armstrong, L. (2010) states that employee performance is an integrated strategic strategy that enhances the performance capabilities of individuals and teams. According to Lockett (1992), performance is the growth of employees with the competency, capacity, and commitment to accomplishing shared correct goals in an organization that fosters and supports their accomplishments. Wright et al. (2007) identify employee performance as an essential human resource management function. Manufacturing, marketing, production, finance, distribution, human resources, accounting, public relations, and support are the most common tasks performed by employees. All of these are interconnected and work together to achieve goals, and when done correctly, they have a significant impact on the organization's sales, overall production, market position, and profit. The worth of an employee's performance must be comprehended by management, and efforts must be directed accordingly. Wright, et al. (2007) concluded that a company can take the lead in the market if its people are dedicated and talented, giving it an advantage over its competitors. Employee participation on the work is the most important aspect for business growth and excellence, as employee performance on various roles contributes to the success of the entire firm.

## *Theoretical Review*

 The study employed expectancy theory which was found within Valency instrumentality expectancy (VIE). Valency is value and instrumentality means belief that if one thing is done then it leads to another and expectancy for any effort or action it will bring result or outcome. Expectation may strongly be on reinforcement or previous experiences. Even though people are mostly presented with current situations like payment system, working conditions or change of jobs imposed by management and in this experience is a factor guide to the changes and in these situations, motivation is reduced.

 The study also employed instrumentality theory which says that, when you belief in doing one thing it will lead to another. In ungainly form, this says that people work for money. It assumes that when penalties and rewards are related to the performance of an employee then he or she is motivated. Taylor (1911) said that it is not possible for any long period to have workers perform more than average mean around them unless assured permanent and appropriate increase in payment. This theory is still used for motivation and sometimes it is successful where it excludes external control works but fails to see other several needs of human. This theory does not accept formal systems can seriously be affected by the formal relationship existing among employees.

 The study also employed contes (needs) theory which says, unmet needs generate tension and a condition of disequilibrium. To restore equilibrium, a need-satisfying goal and a behavior path leading to the achievement of that goal are identified. Consequently, all behaviors are driven by unmet wants. Some wants are more effective motivators toward a goal than others, depending on the individual's history and the circumstances at hand. Since there is no straightforward connection between demands and objectives, complexity increases. One need might be satisfied by a variety of goals and when the intensity is greater the need, the longer it lasts and the wider the range of attainable goals. Needs theory was first created by (Maslow, (1954).

# **Methodology**

The study adopted descriptive survey research design. The study used primary data that were collected by using adopted structured questionnaire to get the perceptions of the respondents on effect of remuneration on employee commitment in telecommunication companies in Rwanda. The population of the study was 77 staff of Broadband Systems Corporation. 57 participated in the study and others did not due to different field assignments. A structured, valid, and reliable questionnaire was used to collect primary data. The following operationalization of variables was adopted:

X = Independent Variable: Employee remuneration

Y = Employee job performance

Y = f(X)

X = (x1, x2, x3, x4)

x1: Salary payment

x2: Overtime payment

x3: Bonus payment

x4: Commission payment

x5: Employee remuneration

Y= EC = Employee Commitment

EC = f(SP, OP, BP, CP, CA) functional relationship between variables. Based on this operationalization of variables, the following econometric model was developed:

EC = β0 + β1SP + β2OP + β3BP + β4CP + β5CA + ε ---------- Model 1

Where β0 is the intercept for model 1, β1 – β4 are coefficients of explanatory variables, using primary data and μ= error term

**Findings**

 The data gathered on employee remuneration and employee commitment were created by having responses of all items for each of the variables. The results of regression are presented as follows.

TABLE 1 Respondents’ perception on employee commitment

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Employee commitment** | **Mean** | **Comment** | **SD** | **Comments**  |
| I am happy with commitment from my colleagues  | 4.50 | Strong | .50 | HE |
| I perform my tasks without supervision  | 4.15 | Strong | .75 | HE |
| I work overtime without anyone pushing  | 4.31 | Strong | .84 | HE |
| The vision of my company drives my commitment  | 4.75 | Strong | .47 | HE |
| **Overall mean** | **4.42**  | Strong  |  |  |

Source: Primary Data (2022)

The finding in table 1 show that respondents agreed strongly agreed that are happy with commitment from colleagues with strong mean 0f 4.50 and standard deviation of 0.50 meaning respondents share the same understanding. The findings shows that respondents strongly agreed that they perform my tasks without supervision mean of 4.15 and SD of 0.75. The respondents strongly agreed with the same perceptions that work overtime without anyone pushing and it was perceived with a mean of 4.31 and SD 0.47. Generally, the finding implies that the respondents appreciate their employee commitment as scored with aggregate mean of 4.42.

**Test of hypothesis**

This part showsi thei resultsi fromi thei datai collectedi thati helpsi ini answeringi researchi questioni one,i achievementi ofi objectivei onei andi testingi nulli hypothesisi one. Therei isi noi significanti effecti ofi renumerationi (salary,i overtime,i bonus,i commissioni paymenti andi cari allowance)i oni employeei commitment.

TABLE 2 Model Summary Between Remuneration and employee commitment

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | R | R Square | Adjusted R Square | Std Error of the Estimate |
| 1 | .333a | .111 | .024 | 1.39138 |
| a. Predictors (Constant) car allowance, I Commission payment,i Salary payment,i bonus payment,i overtime payment |

Fromi thei resultsi ofi thei analysis in table 2,i thei findingsi showi thati renumerationi (salary,i overtime,i bonus,i commissioni paymenti andi cari allowance)i contributedi toi 2.4%i ofi thei variationi ini employeei commitmenti asi explainedi byi adjustedi R2i ofi 0.024i whichi showsi thati thei modeli asi ai goodi prediction,i whilei .976i representingi 97.6%i ofi employeei commitmenti ofi employeesi ofi BSCi comesi fromi otheri variablesi thati arei noti includedi ini thei modeli1.

TABLE 3 ANOVAa Between Employee remuneration and employee commitment

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model | Sum of Squares | Df | Mean Square | F | Sig. |
| 1 | Regression | 12.320 | 5 | 2.464 | 1.273 | .290b |
| Residual  | 98.732 | 51 | 1.936 |  |  |
| Total  | 111.053 | 56 |  |  |  |
| 1. Dependent Variable:i Employee\_Commitment
 |
| b. Predictors: (Constant) car allowance,i Commission payment,i Salary payment,i bonus payment,i overtime payment |

Thei resultsi ofi thei findingsi in table 3, revealedi thati thei leveli ofi significancei wasi .000(b)i thisi impliesi thati thei regressioni modeli isi significanti ini predictingi thei relationshipi betweeni renumerationi andi employeei commitment.i F-statisticsi isi 1.273i meaningi thati thei modeli wasi statisticallyi significant.i Therefore,i H01i sayingi thati therei isi noi significanti effecti ofi renumerationi (salary,i overtime,i bonus,i commissioni paymenti andi cari allowance)i oni employeei commitmenti isi noti rejectedi ati alli leveli ofi significance.

Table 4 Coefficientsa Between remuneration and employee commitment

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model  | Unstandardized Coefficients | Standardized Coefficients  | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 18.321 | 2.210 |  | 8.289 | .000 |
| Salary\_payment | .062 | .047 | .188 | 1.314 | .195 |
| overtime\_payment | -.068 | .051 | -.222 | -1.334 | .188 |
| bonus\_payment | .121 | .089 | .218 | 1.353 | .182 |
| Commission\_payment | -.173 | .112 | -.209 | -1.544 | .129 |
| car\_allowance | .040 | .098 | .065 | .405 | .687 |
| a.i Dependenti Variable:i Employee\_Commitment |

Table 3 indicates thati salaryi hasi noi positivei andi significanti effecti oni employeei commitmenti ati 5%i leveli ofi significancei (β1=.188;i t=i 1.314,i sig.i =i .195). Table 3 indicatesi thati bonusi hasi negativei andi significanti effecti oni employeei commitmenti ati 10%i leveli ofi significancei (β1=i -.222;i t=i -1.334,i sig.i =i .188).i Thei resultsi fromi tablei 25 indicate thati commissioni paymenti hasi negativei andi significanti effecti oni employeei commitmenti ini BSCi at5%i leveli ofi significancei (β3=i -.209;i t=i -1.544,i sig.i =i .129).i Thei resultsi indicatei thati recognitioni doesi noti statisticallyi affecti oni employeei commitmenti ati alli leveli ofi significancei (β4=i -.065;i t=-.405,i sig.i =i .687).i

**Summary of the findings**

The study entitled “Impact of Remuneration on Employee Job Performance, evidence from Telecommunication Company.

Findings show that renumeration contributed to 1.4% of the variation in employee job performance in telecommunication companies in Rwanda as explained by adjusted R2 of .014 which shows that the model as a good prediction while .986 representing 98.6% of employee job performance in telecommunication companies in Rwanda comes from other variables that are not included in the model.

**Conclusion**

The findings show that are committed to the company and also based on the findings; this study concludes that employee remuneration has a positive contribution to employee commitment in telecommunication companies in Rwanda especially Broadband Systems Corporation.

**Recommendation**

The study revealed that 97.6% of employee commitment of employees of BSC comes from other variables that are not included in this study. Therefore researchers should study those other variables that contribute to employment in telecommunication in Rwanda.

# **References**

Aguinis, H. (2019). *Performance management for dummies. John Wiley & Sons.*

Ajila, H. &. (Ajila, H & Awonusi, O. (2014). *Influence of Rewards on Workers Performance in an Organization. Journal of Social Science, 8(1): Pp.7-12.* Ajila, H & Awonusi, O.

Armstrong, L. (Armstrong, L. (2010). *A Handbook of Human Resources Management Practice. 10th edn. London: Kogan.* Armstrong, L.

Ayo, O. a. (Oluseyi and Ayo (2009). Influence of work motivation, leadership effectiveness and time management on employees' performance in some selected industries in Ibadan, Oyo State, Nigeria. *www.researchgate.net*, 46.

Azmi, I. A. (2010). Competency-based human resource practices in Malaysian public sector organizations. *African Journal of Business Management, 4(2), 235-241*.

Christensen, C. (2017). A Distinction Between Sustaining and Disruptive Innovations. *A Journal of Education*.

Fisher, M., & Baird, D. E. (2016). Making mLearning work: Utilizing mobile technology for active exploration, collaboration, assessment, and reflection in higher education. *Journal of Educational Technology Systems, 35(1), 3-30*.

Gatsinzi, E. (2019). Primary school teachers motivation in Rwanda.

Guangjian, H. (2003). CRITICAL ESSAY: COMPENSATION EQUITY IN CHINA. *International Public Management Review · electronic Journal at http://www.ipmr.net*.

Gungor. ((2011) Anvari, Ismail and Hojjati (2011), Danish and Usman (2012). COMPENSATION ADMINISTRATION AND PERFORMANCE OF LOCAL GOVERNMENT AREAS IN ANAMBRA STATE, NIGERIA: AN EXPLORATION OF ISSUES. *www.researchgate.net*, 230.

Kumasey, J. N. (, Justice Nyigmah, and Farhad Hossain (2016). Organizational commitment of public service employess in Ghana: do code of ethics matter? *www.researchgate.net*, 63.

Kunnari, I., Ilomäki, L., & Toom, A. (2018). Successful teacher teams in change: The role of collective efficacy and resilience. *International Journal of Teaching and Learning in Higher Education*.

Lockett. ((1992). Effective Performance Management. *Open Journal of Business and Management*.

Maslow, A. ((1954). *A Theory of Human motivation,. originally published in Psychological Review, 50.* Maslow, A.

Mullins. (Mullins. (2010). *Management & Organisational Behaviour. 9thed. Pearson Financial Times: Prentice Hall. Pp.749-751.* Mullins.

Ojeleye Yinka Calvin. ((2017). The Impact of Remuneration On Employees' Performance (A Study Of Abdul Gusau Polytechnic, Talata-Mafara And State College Of Education Maru, Zamfara State). *Arabian Journal of Business and Management*.

Sanghi, S. (2016). *The handbook of competency mapping: understanding, designing and implementing competency models in organizations.* SAGE publications India.

Schermerhorn. ((2012). *Organization behavior.* Schermerhorn.

Shapiro, C. a. (2015). Motivation and its Impact on Employee Loyalty and Commitment: A Qualitative Analysis. Spring: Trinity Washington University.

Taylor, F. W. ((1911). The Principles of Scientific Management . *wpscms.pearsoncmg.com*, 6.

Usman, Y. D. (2016). Educational Resources: An Integral Component for Effective School Administration in Nigeria. *Online Submission, 6(13), 27-37.*

Wright. (Cropanzano, Douglas (2007). The Moderating Role of Employee Positive Well Being on the Relation Between Job Satisfaction and Job Performance. *Journal of Occupational Health Psychology*.

Zobla. (2008). Effect of Remuneration on Employee Job Satisfaction. *www.iiste.org*.

Zobla. (2008). Effect of Remuneration on Employee Job Satisfaction at the. *www.iiste.org*, 60.

**Leadership Qualities and Resilience of Non-Governmental Organizations’ Beneficiaries in Rwanda**

Muhire Gilbert\* & Prof. Cyeze Munyamasoko Emmanuel, PhD

Department of Business Administration, Adventist University of Central Africa, Kigali Rwanda

cyezee@yahoo.ca

# **Abstract**

This research has been undertaken to find out the impact of leadership qualities on resilience of NGOs’ beneficiaries in Rwanda. The general objective of this research was to find out the impact of leadership qualities and resilience of NGOs’ beneficiaries in Rwanda. The specific objective was: (1) to determine the contribution of leadership qualities components on resilience of NGOs’ beneficiaries in Rwanda. The target population of the study comprised 234 people from NGOs and their beneficiaries in Rwanda. All participants answered the questionnaire which was a research instrument used to collect numerical data. The data were analyzed using Statistical Package of Social Science and treated using analytical tables. Based on the results tested, the hypothesis demonstrated that model summary one shows the adjusted R2 is 0.968 representing 96.8% indicating that leadership quality contributes to the resilience where ANOVA shows F-test of 1787.195 has a p-value = 0.000 which is less than the significance level of 0.05.As a conclusion, after the researcher analyses the findings, the results of multiple regression models showed that there is a positive and significance between Leadership qualities and resilience of non-government organizations’ beneficiaries. As a recommendation, selected NGOs should put more effort in encouraging beneficiaries to be eagerly finding solutions from what they have instead of waiting donations from elsewhere. They should also put emphasis on trainings to empower both staff and beneficiaries so that they can keep taking mature decisions mostly during tough situations.

*Keywords***:** leadership qualities, sustainable development, non-government organizations, beneficiaries

**Introduction**

In the USA, during the 1980s and early 1990s, non-governmental organizations (NGOs) proliferated throughout this country, and their role as planners and implementer of development projects grew dramatically. Political and institutional changes associated with major modifications of state policies have also opened new spaces for NGOs as alternatives to state agencies in efforts to alleviate poverty and promote development, which is no longer the case in the current century (Nega, 2014). Quadir, (2014) noted that during the period of military regimes, NGOs worked closely with grassroots organizations, providing socio-political support and organizational trainings.

 For many assembly meetings of the United Nations, Sustainable development has been a hot topic on the table. This has somehow involved organizational leadership if we are to find long-term solutions. If sustainable development means the insurance of the future generations on progress and evolution, the relationship between leadership and sustainable development is very important, because there is no development without leadership especially in social, human and cultural dimension (Koehn, 2015).

 The Europe Sustainable Development report (2020) comes at a critical time when a new US administration has committed to re-joining the Paris Agreement. China, Japan, South Korea, and other countries have joined the EU in pledging zero tolerance on gas emissions by around the middle of the century. This is the time for the EU to promote shared goals for sustainable development ahead of landmark 2021 climate and biodiversity summits in the United Kingdom and in China (Sachs, 2021).

 A child born in Africa today is still at risk of not receiving a full, high-quality education or decent health care. An African child in school today continues to struggle to read and write due to poor quality of education services. Too many Africans continue not to visit the hospital due to lack of money. In fact, 22 African countries have a [Human Capital Index](https://openknowledge.worldbank.org/handle/10986/30498) score of less than 0.4. In other words, a child born today in those countries was only 40 percent as productive at 18 years of age as one who completes their education and enjoys full health (Kraay, 2019).

 Globally, [financing for the SDGs](https://developmentfinance.un.org/fsdr2019) remains below the requisite investment needs. The same is true for Africa. Despite an annual total financing mix of $650 billion ($500 billion in domestic revenue, $50 billion from official development assistance, slightly less than $50 billion in foreign direct investment, and $60 billion in remittances), the estimated additional annual financing required is between $500 billion and $1.2 trillion. Already, one in five African countries does not raise enough in revenues to meet its basic state functions. Even worse, in sub-Saharan Africa, that number is one in three (Hutton, 2016).

 In Sub-Saharan Africa countries, the region has been growing strongly over the past decade, and has some success in increasing human development levels, but its poverty rates have remained stubbornly high. With its limited economic diversification, persisting inequalities, high unemployment, and environmental degradation, the continent has yet to embark on a sustainable development path, which can benefit all women and men over time (Tyson, 2021).

 Women’s access to paid employment is the most impressive progress in Sub-Saharan Africa and women continue to gain power in politics especially in Rwanda. There has been remarkable progress in bringing down the absolute rates of Maternal Mortality from a high of 990 per 100,000 in 1990 to 510 in 2013. Similarly, Child Mortality has seen huge declines from 179 per 1,000 in 1990 to 86 in 2013 (Santos, 2017). It is notable that some of these declines have occurred in low-income countries like Eritrea, Ethiopia, Guinea, Liberia, Madagascar, Malawi, Mozambique, Niger, Rwanda, Uganda and Tanzania. Challenges remain to bring down these rates further, but experts in the field are heartened by the fact that low income in these countries is not a barrier to saving the lives of mothers and children.

 In Rwanda, according to the vision 2050 officially published in December 2020, building on Rwanda’s extraordinary record of success and energized by the aspirations of a strong leadership and a middle class on the rise, Vision 2050 charts a bold and ambitious future for Rwanda. Rwanda’s ambitious economic objectives can be only achieved through structural transformation (Ansoms, 2012).

 Rwanda’s aspirations are emboldened by the window of opportunity over the medium term to increase employment in manufacturing and services, for greater regional and international integration, and to leverage the demographic dividend. The UN and its partners in Rwanda are working towards achieving the Sustainable Development Goals, The Sustainable Development Goals are a global call to action to end poverty, protect the earth’s environment and climate, and ensure that people everywhere can enjoy peace and prosperity. These are the goals the UN is working on in Rwanda (Gahamanyi, 2015).

**Statement of the problem**

The work of Non-Governmental Organizations is embraced as a vital tool for sustainable development while in some other areas, Non-Governmental Organizations are considered not relevant in Sustainable development, hence not embraced in the process of ensuring Sustainable development. This failure to appreciate the contribution of Non-Governmental Organizations in fostering Sustainable development is caused by limited knowledge and understanding their role in enhancing socio-economic development promotions. (Spadacini, 2019).Therefore, the focal problem of this study is to find out the impact of leadership qualities on Resilience of NGOs beneficiaries in Rwanda.

## Research Question

1. Does leadership qualities components (honesty, integrity, confidence and aggressiveness) contribute to resilience of NGOs in Rwanda?

**Research Objective**

* + - 1. The general objective of the study was to find out the impact of Leadership qualities and Resilience of NGOs beneficiaries in Rwanda.

**Research hypothesis**

For the research, the following hypothesis is stated;

H01: Null hypothesis

There is no significant contribution of leadership components (honesty, integrity, confidence and aggressiveness) on resilience of selected NGOs in Rwanda.

##### Literature Review

*Impact of resilience on sustainable development of NGOs beneficiaries*

 According to Kohlrieser (2012), resilience is the human capacity to meet adversity, setbacks and trauma, and then recover from them in order to live life fully. Professor Kohlrieser highlighted the importance of adopting the right mindset and coping mechanisms in order to restore leaders to their full potential and energy. Resilient leaders have the ability to sustain their energy level under pressure, to cope with disruptive changes and adapt. They bounce back from setbacks. They also overcome major difficulties without engaging in dysfunctional behavior or harming others. Resilience is a crucial characteristic of high- performing leaders. Leaders must cultivate it in themselves in order to advance and thrive. They also carry the responsibility for helping to protect the energy of the people in their teams. Leadership is sustainable only if individuals and teams are able to consistently recover high energy levels. Resilience is about the whole person.

 As Kohlrieser (2012) emphasized it “It is not enough to talk about the brain, we also need to talk about the heart. When people at work close their hearts and lose empathy, they lose an essential component of their leadership.” High engagement in teams requires passion. Kendra Cherry (2022) Resilience gives people the psychological strength to cope with stress and hardship. It is the mental reservoir of strength that people are able to call on in times of need to carry them through without falling apart. Psychologists believe that resilient individuals are better able to handle adversity and rebuild their lives after a struggle. Dealing with change or loss is an inevitable part of life. At some point, everyone experiences varying degrees of setbacks. Some of these challenges might be relatively minor (not getting into a class or being turned down for a promotion at work), while others are disastrous on a much larger scale (hurricanes and terrorist attacks). Those who lack resilience may become overwhelmed by such experiences. They may dwell on problems and use unhelpful coping mechanisms to deal with them. Disappointment or failure might drive them to unhealthy, destructive, or even dangerous behaviors. These individuals are slower to recover from setbacks and may experience more psychological distress as a result. How people deal with these problems can play a significant role in not only the immediate outcome but also the long-term psychological consequences.

 Resilience does not eliminate stress or erase life's difficulties. 10 People who possess this quality don't see life through rose-colored lenses. They understand that setbacks happen and that sometimes life is hard and painful. They still experience the negative emotions that come after a tragedy, but their mental outlook allows them to work through these feelings and recover. Resilience gives people the strength to tackle problems head-on, overcome adversity, and move on with their lives. In the wake of large-scale traumas such as terrorist attacks, natural disasters, and the COVID-19 pandemic, many individuals demonstrated the behaviors that typify resilience and they experienced fewer symptoms of depression as a result. Even in the face of events that seem utterly unimaginable, resilience allows people to marshal the strength to not just survive but to prosper.

 **Theoretical framework**

This research followed the Demand and supply side theory which brings into discussion the distinction between the demand and supply theories where demand theory refers to the NGOs which come into existence because of government failure whereas the supply theories advocate the formation of NGOs which come into existence by individual motivation driven by altruistic motives

**Methodology**

The study adopted descriptive survey research design. The study used primary data that were collected by using adopted structured questionnaire in order to get the perceptions of the respondents on leadership qualities and resilience of NGOs beneficiaries in Rwanda. The population of this research was 234 staff and beneficiaries of NGOs in Kigali which equals to the sample. A structured, valid and reliable questionnaire was used to collect primary data. The following operationalization of variables was adopted:

X = Leadership qualities (Independent Variable)

Y = Resilience (Dependent variable)

Y = f(x)

Where

X = (X1= Honesty (HO), X2= Integrity (IT), X3= Confidence (CF), X4= Aggressiveness (AG) while the Y= (y1= Resilience (RE), RE =f (HO, IT, CF, AG) f1

**H01**: There is no significant contribution of leadership qualities components (honesty, integrity, confidence and aggressiveness) on resilience of NGOs in Rwanda.

##### Findings

**Table 01.** *Model Summary on Resilience*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .984a | .969 | .968 | .62766 |
| a. Predictors: (Constant), AG, HO, IT, CO |

Table.1 shows that the results indicated that the adjusted R2 is 0.968 representing 96.8% indicating that leadership qualities contributed to the resilience, while 0.032 representing 3.2% came from other variables that were not included in the model one. A study should, therefore, be conducted to determine what influenced the other 3.2% of the leadership qualities.

**Table 02.** *ANOVAa on Resilience*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 2816.281 | 4 | 704.070 | 1787.195 | .000b |
| Residual | 90.215 | 229 | .394 |  |  |
| Total | 2906.496 | 233 |  |  |  |
| a. Dependent Variable: RE |
| b. Predictors: (Constant), AG, HO, IT, CO |

 From ANOVA Table, the F-test is 1787.195 has a p-value = 0.000. This imply that all the leadership qualities components variables jointly had positive and significant effect on resilience. Therefore, H01 which stated that there was no significant contribution of leadership qualities components (honesty, integrity, confidence and aggressiveness) on resilience of NGOs in Rwanda was rejected at all levels of significant, therefore Ho1 cannot be accepted.

**Table 03.** *Coefficientsa on Resilience*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 16.365 | .748 |  | 21.879 | .000 |
| HO | 1.174 | .049 | .339 | 24.014 | .000 |
| IT | .663 | .071 | .169 | 9.274 | .000 |
| CO | 1.032 | .104 | .282 | 9.919 | .000 |
| AG | .916 | .050 | .422 | 18.358 | .000 |
| a. Dependent Variable: RE |

 From coefficient for model one, it indicates that leadership qualities had significant effect on resilience (β1= 0.339, t= 24.014, sig. =0.000). This showed that 1-unit increased in honesty led 0.339-unit changed in resilience. Integrity had significant effect on resilience (β2= 0.169, t= 9.274, sig. =0.000). This indicated that 1-unit increased in integrity leaded to 0.169-unit changed in resilience.

 Confidence had significant effect on resilience (β3= .282, t=9.919, sig. =0.000). This indicated that 1-unit confidence were lead to 0.169-unit changed in resilience. Aggressiveness had significant effect on resilience (β4=0 .422, t=18.358, sig. =0.000). This indicated that 1-unit increased in aggressiveness led to 0 .422-unit change in resilience.

**Conclusion**

The study reveals that the objective one, leadership qualities components influenced positively resilience of the members of non-government organizations shown by 96.8% of resilience is influenced by leadership qualities.

**Recommendations**

The organizations should continue to train and empower both staff and beneficiaries so as to be confidently resilient in what they have to accomplish in the organizations. The organization should put effort in encouraging beneficiaries to be eagerly to fight against any child abuse that may harm their communities. The organizations should request beneficiaries to solve the problems basing on assets based community development.

**References**

Ansoms, A. (2012). Rwanda's Vision 2020 halfway through: what the eye does not see. *Review of African Political Economy*, 39(133), 427-450.

Kirkland, J. C. (2019). *The Effect of Honest and Humble Leadership on Sales Outcome.* Stillwater: Oklahoma State University).

Kohlrieser, G. G. (2012). *Care to dare: Unleashing astonishing potential through secure base leadership.* Hoboken, New Jersey: John Wiley & Sons.

Nega, B. (2014). NGOs, the state, and development in Africa. *Review of Social Economy*, 72(4), 485-503.

Quadir, F. (2014). Exploring the role of Western NGOs in creating and strengthening local NGOs in Albania. *The European Journal of Development Research*, 26(5), 557-573.

Sachs, J. (2021). *Sustainable Development Report 2021.* Cambridge : Cambridge University Press.

Santos. R., D. (2017). Urban growth and water access in sub-Saharan Africa: Progress, challenges, and emerging research directions.". *Science of the Total Environment,* 607 (22), 497-508.

Spadacini, V. (2019). Dissemination and implementation program in hypertension in Rwanda: report on initial training and evaluation. *Global heart*, 14(2), 135-141.

Tyson, J. (2021). *Financial-sector development and inclusive and sustainable economic growth in sub-Saharan Africa.* Nairobi: University of Nairobi.

Tyson, J. (2021). *Financial-sector development and inclusive and sustainable economic growth in sub-Saharan Africa.* Nairobi: University of Nairobi.

**Contemporary Issues in Accounting: Financial Reporting Quality and Forecasting Errors Minimizing- Theoretical Consideration**

Assoc. Prof. Niyonzima Théogène, PhD

Adventist University of Central Africa (AUCA), P.O.Box 2461, Kigali, Rwanda

theogene.niyonzima@auca.ac.rw

# **Abstract**

Accounting reporting quality is very crucial in provision of financial information to different users, where investors are mostly concerned with the status of the future earnings of their companies so that they can allocate their investments properly and need relevant information in terms of earnings forecasts. The main objective of this study was to evaluate the minimization of the forecasts errors in improving accounting reporting quality. The exploratory and secondary data review techniques were adopted. Literature constituted the major source of information about the components of earnings forecasts errors, models and methods which are commonly used and their relationship with accounting reporting quality. Minimizing the forecasts errors in financial information provided by the agents is not easy task for the financial analysts, because there are some factors to consider which when are not effectively managed the quality of reporting will be biased therefore, investors will lose their expected earnings. The study concluded that accounting reporting quality should provide relevant, fair and true picture of the figures of the companies which are publicly quoted since the ownership is spread and forecasts analysts as intermediaries need to be expert and professional in assessing the quality of reporting of companies.

Keywords: accounting reporting quality, earnings forecasts, forecasts errors, accruals, conservatism and earning management

# **Introduction**

Today's business environment, economic integration and interdependence and globalization of business have created need for accounting reporting quality or financial reporting quality. This is shown by the fact that capital market or stock exchange considered as source of financial resources in providing primary and secondary finances, require good and effective accounting reporting quality which provides qualitative characteristics of financial information. Such information is analyzed by the financial analysts who proceed for the forecasts analysis in helping the investors to make informed decision in capital allocation.

The reporting quality is assumed to generate and demonstrate transparency and accountability on the side of management of the companies as weapon to attract finances. This is based on the fact that stakeholders cannot provide their sources or finances without relying on qualities of financial information and having clear information about strategic management tools and advantage that help in fluctuation of investments or capital into returns or earnings to investors (Martínez-Ferrero, 2014).

Investors and other stakeholders provide their resources to companies in order to acquire returns on those investments, thus, accounting reporting quality is used as value added tool in enhancement of companies performance, it helps in the entire process of collecting evidence, recording, classifying, summarizing, reporting, interpreting and communicating financial information to different and diverge group of decision makers, especially investors who expect to get returns from such companies (Rajgopal & Venkatachalam, 2011). Those returns are analyzed and predictable from the forecasts made by the analysts who are intermediaries between quoted companies and owners of the capital.

Accounting reporting quality involves the concept of earning quality, accounting conservatism, accrual quality and accounting systems and standards. All of these elements have a objective of helping a company to provide qualitative financial information (fundamental qualities and enhancing qualities) in terms of relevance, reliability, transparency, faithfulness, understandability which also have to be verified and certified by audit services that aimed at providing confidence, credibility and reliability of management reporting systems which has to be based on internal control systems emanated from board of directors or other level of high organizational structure of companies (Costello & Wittenberg-Moerman, 201; Nyor, 2013).

The quality of financial reporting depends heavily on the minimization of forecasting errors, that is to say that once financial information contains errors it can lead to erroneous decision making on the side of decision makers or users of financial statements. This paper has main purpose of discussing the models that were used in the literature about the quality of financial reporting through minimization of forecasting errors in accounting.

# Statement of the Problem

The reason of making investment is justified by theory of value that one single amount invested is assumed to accumulate returns. It is in this perspective that management of companies are required to fluctuate the amount of capital or investments collected or assembled by investors in order to generate financial performance or returns on invested capital that will satisfy the investor’s needs.

Thus, accounting reporting quality is one of the most elements that are used by management to achieve the eminent goal of achievement of financial performance in terms of earnings and provision of dividends and positively report to the stakeholders who will base their decision on the qualitative reporting framework. Unfortunately earning management and income smoothing dominate management discretional behavior and self-interests sometimes come first and management manipulates financial information in changing values or figures contained in the financial statements in order to impress users (Chen, Tang, Jiang & Lin, 2010). Thus, this may lead to the erroneous financial forecasting and investors who proceed to investment decision making will find their money invested in unsafe environment. It is the forecasts that determine the quality of the information that helps stakeholders to know about what will be the earnings. Thus, once the forecasts are biased there will not be true and fair to reveal the future earnings that a business will generate.

The main objective of this study was to provide a solid foundation of the understanding of financial reporting quality through minimization of forecasting errors. This will be achieved by demonstrating the models used in literature.

# **Methodology**

This study adopted exploratory design where secondary data and concept analysis designs were adopted (McMillan & Schumacher, 2006). The researcher reviewed the data from books and journals' articles in order to make clear the understanding of accounting reporting quality and forecasts errors that mostly are committed by financial analysts when the basis of their analysis is based on the biased financial information. Through the critical review, the researcher collected and analyzed the critical thinking about the variables of this study.

# **Literature**

## Accounting forecasts errors

Hutira (2016) considers accounting forecasts as the estimation of the annual earnings per share (EPS) that is calculated or provided by financial analysts towards the use of investors. The literature further demonstrates that the earning forecast is measured by (1) accuracy (2) biasness level and (3) dispersion is forecasts. All of these elements of forecasting are related to the difference that may exist between the actual realized value of EPS and forecasted EPS value and the level of optimism in forecasting and the deviation error in estimates. This study used the following variables in measuring the accuracy of the accounting forecast in terms of earnings: (a) the industry or sector of activity (b) forecast horizon (c) firm size and operations (d) analysts capacity or competence (e) earnings types. These variables have a significant influence on financial forecasts and if they are complicated it becomes difficult for the analysts to make an unbiased prediction and it will be easier to present wrong information to the investors (Salerno, 2014 ).

The financial analysts play a key role in the provision of financial information to the participants of capital market or stock exchange. They sell service security services to the investors who need to invest in safe companies by certifying the earnings quality of quoted companies (Lobo, Song & Stanford, 2012).

Shane and Mehrotra (2009) confirms that forecasting errors have a negative impact on the capital markets participants in searching of financial information relating firms' performance. This study reveals that when prediction is based on biased forecasts there will be overestimation of the company's performance measured by earnings and therefore, the long term predicted profitability and general accrued performance will not show the true and fair view of the business since they are based on the biased information.

### Forecasts models and methods used by financial analysts

From the developed economies, the study of Moraru (2016) discussed the role of reporting frequency on financial analysts’ information environment and investors’ attachment to more or less weight of accrual cash as an element of earnings where the analysis is from the statement of cash-flows. Ionaşcu (2012), used the fair value measurements in predicting the earnings accuracy in Romanian and found that there less forecasts errors in companies that were still using GAAP as financial reporting system than those that use IFRS because of the consistence reason.

The forecasts model that were mostly used are classified into two categories (Ionaşcu & Onaşcu, 2012): (1) cash based models which include ;(a) DCF- Discounted Cash Flows Model; (b) DY-(dividend yield); (c) DDM-(dividend discount model); (d) P/CF-(price to cash flow multiple); and (e) CFROI -(gross cash flow minus economic depreciation divided by gross investment). While the in the second category (2) accrual based models which include:(a) P/E-(price to earnings ratio); (b) P/E-(price to earnings ratio); (c) P/B-(price to book value multiple); (d) P/S-(price to sales multiple); (e) PEG-(price to earnings divided by growth rate); (f) EV/BV-(enterprise value to book value multiple); (g) EV/S-(enterprise value to sales multiple) and (h) EVA-(economic value added).

There are also forecasting methods used in analysis of the financial information towards the prediction of the future earnings or profitability and economic growth of the firms. These methods are (1) extrapolating past trends; (2) anticipating future performance; and (3) Both methods to the same extent (Salerno, 2014; Ionaşcu & Onaşcu, 2012).

The papers that have been reviewed permitted the researcher to find the main factors that determine the financial analysts’ forecasts accuracy in their financial work that helps investors to get quality of financial information about the good performers in capital markets. These determinants are: (a) Disclosure related factors in which reporting firm's transparency is measured to be relevant indicator of qualitative disclosure, quality of financial reporting rules and regulations or standards on which financial reports are made based on and quality of financial information that comes from firms' reports regardless of the standards followed in the whole process; and (b) Macroeconomic factors which is measured in terms of volatility of the exchange rate, secondly the risks that the reporting country faces and thirdly the lack of stability of the business industry also play a key role in forecasts (Cheng, Zishang & Thomas, 2012; Dowdell, 2010).

### Forecasts errors measurements

There are different errors measurements that all aim at providing the accuracy in forecasts. All of the measurements are used to indicate the quality of forecasts methods and how analysts arrive at best forecasts of earning. These forecasts errors measures are (1) Absolute Forecasting Error; (2) Measures Based on Percentage Errors; (3) Symmetric Errors; (4) Measures Based on Relative Errors; (5) Scaled Error; (6) Relative Measures; (7) Other Error Measures (Shcherbakov, et al., 2013; Theodosiou, 2011).

## Financial Reporting quality

Financial reporting quality consists of the aptitude of accounting process and measurements to replicate the company's financial position and performance. The analysis of this definition shows that the core value of accounting process is to provide relevance and reliability of financial information which is useful for decision making. The main objective of accounting reporting quality is to minimize the manipulating effects and intention of managers towards misleading investors and other stakeholders (Francis, Olsson & Schipper, 2006; Paktinat & Darush, 2015; Kyle, Roy & Wilks, 2015).

There is emphasis that management of companies especially those that are quoted on capital market should provide relevant information willingly and have to provide more qualitative financial information accompanied by complete disclosures in order to evaluate and examine the future cash flows activities of the business in order to attract investors and procure more financial resources because financial reporting quality has a direct or indirect powerful effects and influence of cost and procurement of capital (Lambert, Leuz, & Verrecchia, 2007; Nyor, 2010).

 It requires provision of financial information to capital market and stock exchange participants so that they may get basis for their investments and loans decision in financing the reliable companies and profitable businesses. Thus, financial reporting quality is considered as a tool for solving the problem of agency theory that posits that managers have their own interests in mind first before serving others stakeholders' needs (Chechet, 2010).

The concept of financial reporting quality many be conceptualized into two branches. Firstly, accounting based reporting quality which emphasizes on the qualitative characteristics of financial information that measure accounting numbers such as fundamental qualities and enhancing qualities. Thus, as far as financial statements mainly statement of financial position and statement of comprehensive income have such qualities, accounting reporting quality-based characteristics will mean that accounting figures or numbers are mostly quality-based and are foundation of effective and robust decision making because financial reports are not manipulated by management of company, thus, stakeholders interests are protected. Accounting based is a function of predictability of earnings, accrual quality, earning persistency or continuity, smoothness of earnings and all assume that allocation of company cash-flows on different accounting period (Chen, Tang, Jiang & Lin, 2010).

Secondly, accounting reporting quality market-based is the accounting that is reflecting the economic earnings measured in terms of market returns reflected by accounting system that search to evaluate returns and higher prices; in this accounting reporting quality segment, accounting is meant to evaluate the value that is to be presented on timely basis, relevant and use of conservatism. This will require additional information presented in a form of disclosure to help users of financial statements to satisfy their needs and perceptions about the reporting system (Watts & Zuo, 2011).

### **Earning Quality and Forecasts Errors**

Theearning quality is the ability of the company to provide potential framework of growth of earnings and its perpetual realization. It is clear that based on theory of value that amount invested in one share is supposed to earn and generate return which is earning per share as per today and show the prosperous expectations of future earning generation capacity (Roghayeh, Mohammadreza & Homayoon, 2013 ). The value of a share bought by investors or value of debentures purchased by bondholders is assumed to provide earnings per share or per bond and is dependent on company's earning capacity to continually provide and secure future dependable earnings (Namazi & Rezaei, 2012). Thus, it is earning quality of entity that determines its financial position and performance, now and tomorrow, that is secured if the company has a vision and mission of generating earnings currently and determining if there is a clear possibility of continually generating earnings in the future periods of time.

Givoly, Hayn and Katz (2009) consider earnings quality as reported earnings which is a basis for future capacity of a firm to generate earnings because for them earning of current period is a clear indicator that there may be a way of getting higher quality earnings sustainability. This means that earnings quality is a kind of degree of continuity of earnings in a company. Thus, major components of earning quality (Kyle, Roy & Wilks, 2015) are considered to be earnings persistency, accrual quality, absolute discretionary accrual and predictability capacity.

Perotti and Wagenhofer (2014)mention that earnings quality is key measure for investors that needs to make decision about resources or financial allocation of the money in especially investing in corporations. Thus, the minimization of the forecasts error is paramount to the financial resources allocations.

### **Accounting Conservatism and Forecasting Errors**

Accounting conservatism refers to the maximum degree of approving and verifying the legitimacy of any financial information to be included in financial statements and is used for the transactions that require the recognition of probability in terms of profits or in terms of loss at the reporting period. Its aim is to provide relevant alternative between many options. Thus, it helps to get fair and objective financial statements and avoids to present financial information that can mislead users (Ahmed & Duellman, 2011).

Thus, accounting conservatism is one of the means that helps to reduce the agency problems in such a way that it leads to better firms' performance especially in capital markets. It is this perspective that Bill, Iftekhar and Qiang (2013) investigated the effects of conservative accounting in respect with the theory of value and mentioned that accounting conservatism affect shareholders values and debt-holders.

Accounting conservatism is considered as tool for addressing the issues of agency costs and provides more clear and effective information to decision makers who needs to get evidence about the future events that will affect company's performance and financial performance (Zhang, 2008; Watts & Zuo, 2011).

Since there is a clear separation between shareholders and managers of companies, there is automatic perception on the issue of agency problems where managers will cheat other party by selecting accounting practices that are beneficial to them and disfavor stockholders and managers will not report fairly to stakeholders, thus, the use of accounting conservatism will mitigate the existence of such issues and will not allow managers to overstate financial position and earnings of the company because accounting conservatism teaches and recommends the use of formal accounting-based contracts to mitigate managers overstatements of self-interests (Khan & Watts, 2009; Kim & Zhang, 2010; Louis, Sun & Urcan, 2012).

 In times of financial crisis accounting conservatism provides qualitative information to investors and accounting numbers are clear analyzed by investors and other stakeholders in different types of decisions that they may take, thus accounting conservatism adds efficiency component to investments and minimizes almost debt costs*.* It helps in reducing the companies' risks associated with business such as bankruptcy, reduces risk related to cash flows, value of stock and increases opportunities for investments(Francis & Martin, 2010; Garcia, Garcia & Penalva, 2011;Ahmed, & Duellman, 2011).

The scholars that posit the opposing ideas with less value mention that accounting conservatism is somehow biased in financial statements reporting, brings high level of information asymmetry and leads stakeholders to make decisions which are also biased and incorrect in their generalization of figures and numbers provided in financial statements and finally, this system of accounting will lead to inefficient resource allocations and company's value will decrease (Gigler, Kanodia, Sapra & Venugopalan, 2009; FASB, 2010).

Another area of measuring conservatism accounting is that managers use it in reducing earnings by creating more investments by using internally generated earnings, this reduces earnings that was to be reported and constitutes reserves for management purposes, this may be trick and requires owners of the company such as board of directors to supervise managers and analyze the reason of too much reserves and few reported earnings otherwise there will be earnings' distortions where management will use this kind of accounting for his/her own purpose(Amor & Tascón, 2011).

### **Accruals Quality and Forecasting Errors**

Accrual accounting quality refers to the capacity of a company to communicate financial information about the future cash flows and earning capacity in the future periods of accounting. Accruals are used in measuring a company's cash flows. It is in this perspective that Lev, Li and Sougiannis (2010) mention that accrual accounting quality explains the accounting reporting quality in a such a way that based on current earning capacity, managers and other decision makers are able to compute and measure future cash flows and performance with more clear emphasis on working capital capacity are more evidence of future operating capacity.

Orpurt and Zang (2009) *posit* that accrual accounting quality helps to make a kind of forecast which is an action of management discretion in planning the future cash flows and earnings. It is recognized as a tool for getting reliability of future plans that is based on the current business environment.

Lev, Li and Sougiannis (2010) posit that accrual accounting quality leads to the planning of value of future cash flows in persistent manner and investors rely on it as they anticipate the future cash flows and earnings of the company in which need to invest their capital. Generally investors and other capital markets based their ideas and investment decision based on this method of accrual accounting quality. They also go beyond the numbers and figures included in financial statements and look on current and future tendencies of the business environment, political status of the country where they want to invest their resources, and factors of production's costs (Schleicher, Hussainey & Walker, 2007).

The forecast process and procedures require the use of discounted cash flows where decision makers and analysts use them in planning the future performance and incentives to potentials investors who will need to use capital markets and stock exchange data in selecting firms that have potentials for the future earnings generations. In perspective, accrual accounting quality provides useful results in terms of values of past and current cash flows that are basis for future estimates measurements that are useful by analysts and capital markets participants. Accrual accounting quality is recognized to provide most useful results on value of the future cash flows and earnings plans that are useful for potential investors and bondholders (Amor & Tascón, 2011)*.*

Accrual accounting quality is the ability of the financial analysts in prediction of the company's earnings and probability of the future situation of the cash flows that will be generated by the companies under prediction. It is based on such information that potential investors will make an informed decision about their investments. The financial forecasts provided by the analysts constitute the information needed by investors in measuring the potential risks towards their capital. Accrual accounting information is as usual developed from the accounting data that are provided by the management that may have a certain level of manipulation of the financial figures or accounting numbers in order to increase their interests as contractual. The common error is that accounting earning quality is influence by the smoothness of cash flows (Glaum, Baetge, Grothe & Oberdörster, 2010).

The main types of accrual-based earnings are (1) even if there may be absence of management manipulation of financial figures in the financial statements, always the estimated accruals are with a certain level of biasness or error. This is explained by the fact that there are many future events that will affect the business which are uncertain to predict. The proponents of this idea mention that if the accrual earning forecast is very high, the greater the probability of getting more estimates errors the negatively will affect the earnings. (2) There is probability of earning management where there is agency problem between the contractors where the amount or benefits in terms of incentives is very prominent and privileged than general interests on the side of managers. In this case the accounting numbers are manipulated to demonstrate a high level of performance and financial position that the usual and current reality. Thus, if the financial analysts base their prediction on such information which biased there will be estimates error and the level of predicted will be biased and will be greater than the reality therefore, the investors will not get what they expected to get from their capital invested based on the erroneous forecasts. The major problem here is that when there is overestimation of the earnings there will be a big difference in terms of the real cash flows and the earnings estimates(Dechow & Dichev, 2002)*.*

### **Absence of Earnings Management**

Earning management explains that managers of companies have a power to manipulate values and figures to be included in financial statements in order to cheat and mislead others parties of the company such as investors, customers, creditors, bankers or loans providers, government's agencies, employees and potentials users of financial reports. This refers to the agency problems discussed by agency theory that posits that there may be information asymmetry especially in terms of hidden actions in order for dishonesty to prevail in management services for self-interests, thus earnings management hide information to decision makers especially investors who highly require timely information and qualitative data for their investment decisions (Umobong & Akani, 2015; Ames, 2013; Chen, Tang, Jiang & Lin, 2010).

Forecasts errors are associated with the presence of earning managements, once analysts do not clearly analyze the reporting system of reporting entities, their forecasts become erroneous. Forecasts errors are easier to be made and reduces the earnings quality. Once there is absence of earning quality in financial information provided by the management of firms to the analysts there will be bias forecasts about the earnings or profitability capacity of the entity, thus, investors will be misled in their decision towards investments done and other potential investors will put their capital in unproductive projects (Cheng, Man &Yi 2013; Peress, 2010; Paktinat & Darush, 2015; Ogneva (2012).

Earnings management may be demonstrated in one of the five ways (a) loss maximization which is accounting practice called (Big Bath Accounting) (b) loss minimization (c) profit maximization in order to show a big but wrong reputation to outsiders (d) profit minimization applied for taxes and other government duties manipulation so that companies pay less cost and finally (e) income smoothing (Hoogendoorn, 2004; Hirshleifer, Lim, & Teoh, 2011).

Discretional managers use income smoothing as a weapon to manipulate firms profitability level on a continuous basis so as to keep their reputation and status, thus, minimization of profit is done when currently a company is profitable and that there is no future assurance of the going concern of that profit level, therefore, to minimize it, will help to keep the same level of profitability growth (Perotti & Wagenhofer, 2014).

Again income smoothing is used by managers who want to keep high level of share price of their firm where that enhances in positive way of managing and keeping business reputation. The minimization of the manipulation of accounting numbers by the management who has a certain level of incentives in the firms is the only where of avoiding the misleading of the investors who need to invest where their capital will generate earnings and get dividends from profitable entities (Zhang, Cai & Keasey, 2013). These are the cases that analysts should analyze before using the data provided by managers.

### Accounting IFRS Adoption and Forecasts Errors

Accounting reporting quality in many places requires the use and adoption of IFRS which are modified according to the activities and size of companies. Today, the adoption and use of IFRS are considered to be an international indicators of viable and trustable framework of accounting reporting systems and it helps to provide qualitative reports to users and potential investors especially when the firms are quoted to capital markets (Chen, Tang, Jiang & Lin, 2010).

It is in this perspective that Brown (2011)says that adoption of IFRS brought new way of valuation of capital markets operations and based on it companies have improved their accounting reporting quality. IFRS brought new consistent characteristics of accounting framework and measurements and recognition have been improved and are clear and helpful to accounting profession in treatment of specific and complex transactions that they were facing and get confused, and from adoption of IFRS different users of financial statements believe and trust more accounting numbers or values presented to them.

The adoption of IFRS facilitated the improvement of quality of financial information reporting in a global perspective. Many studies that are conducted demonstrated that capital market operations require the use of IFRS in preparation and presentation of financial statements because they help the preparers to provide transparent, objective, fair, true, reliable, relevant, understandable and comparable financial information that is useful for decision making that requires accounting forecasts without biasness (Lin, Ricardi & Wang 2012; Brad, Dobre, Turlea & Brasoveanu, 2014)*.*

There is another type of scholars who have found that the adoption of IFRS especially in the use of fair value or revaluation model provides misleading results in earnings quality and their position is that the use of cost model and consistency GAAP lead to accurate level of earnings forecasts and reality in the market than IFRS fair value. The study of Liang & Riedl (2014) reveals that financial reporting system and quality has an effect on analysts forecasting accuracy and there is a direct relationship between them. Once there is a problem in the financial reporting automatically the forecasting process will be biased (Ionaşcu, 2012).

## Theoretical Framework

The theories that provide foundation to this study are capital need theory and agency theory. Agency theory posits that there is a difference between separation between ownership and management of companies. Thus, agents or managers may proceed to the manipulation of figures in terms of earnings quality by showing that there is a greater level of earning quality while there is a loss and they may overestimate the earnings in order to create a good public image which is based on biased financial information (Maharshi, 2004). This kind of manipulation of data will lead to biased forecasts and as a result investors and potential providers of capital will be misled.

The capital need theory supports that earnings forecasts is a key element that the owners of the capital need to know and measure before they avail their finances to any promising entity in need of capital. On the side of management that needs such capital from other parties, the capital need theory posits that there may be manipulate the earnings and will apply earnings management which both are unethical behaviors that shows that there is a problem in quality of earnings and forecasts errors will be too much as a result the investors' decision will be biased and lose their investments because there was lack or poor quality of reporting. Thus, with a true and fair reporting and clear forecasted figures, the companies get relevant capital and are admired by the capital market (Core, 2001; Maharshi, 2004; Moradzadehfard, & Nazari, 2013; Akintoye, et al., 2016).

## Empirical Review

Thus, the concluded study of Akintoye, Jayoba, Ajibade, Olayinka and Kwarbai (2016) found that there is a negative effects between accrual quality and EPS forecast errors. They further mention that if the earnings quality would be based on relevant qualified information there would be better analysts' forecasts again they confirmed that the size of a company determines the level of forecasts errors that may be committed.

The study of Moradzadehfard and Nazari (2013) found that earnings management forecasts error and accrual discretional are related. This means that accruals estimates positively affects earnings forecasts errors.

The study of Glaum, Baetge, Grothe and Oberdörster (2010) examined the introduction of IFRS and accuracy of forecasts by analysts and effects of disclosure on forecasting errors. This study found that IFRS adoption and disclosure have significant effects of accuracy of analysts' forecasts.

Previously, the study of Bradshaw (2001) found that the behaviors and characteristics of auditors and financial analysts also play a big role in provision of financial information and forecasts errors and recommended to investors to first of all analyze and know the quality and qualification of financial analysts before placing their investments.

# **Conclusion and Recommendations**

The main objective of this study was to examine improvement of accounting reporting quality through minimization of the forecasts errors. This was achieved through the use of literature investigation about the relevant variables which are forecasts errors meaning, models and forecasts errors measurements in order to increase the forecasts accuracy. The literature review provided a solid relationship between forecasts errors and accounting reporting quality. The aim of financial analysts to proceed to the forecasts is to help investors and creditors to get relevant financial information that will guide them for their investments decisions towards the companies that provide the future earnings and returns to such investments.

Analysts play a key role in serving as intermediaries between the companies in search or need of capital and finances and the owners of the capital. Thus, the study reveals that the forecasts errors should be minimized in order to allow true and fair forecasts that will not be biased. The literature suggested that there is no single forecasts model or method that can give a greater level of accuracy than others, therefore, the forecasts analysts need to combine and measure the level of errors before publishing their forecasts in order to avoid misleading of the users of such forecasts. Accounting reporting quality should provide relevant, fair and true picture of the figures of the companies which are publicly quoted since the ownership is spread and forecasts analysts as intermediaries need to be expert and professional in assessing the quality of reporting of companies.

# **References**

# Akintoye, I.R., Jayoba,O.O, Ajibade,A.T., Olayinka,I.M. & Kwarbai, J. (2016). Value of accounting numbers and analysts' forecasts errors. *Inter.J.Res.Methodol.Sco.Sci, 2(3)*, 17-33.

Argandona, A. (2011). Stakeholder theory and value creation. *Working Paper, WP 922 University of Navarra*, 1-15.

Bradshaw, M. S. (2001). Do analysts and auditors use information in accruals. *Journal of accounting research, 39(1)*, 45-73.

Chechet, I. I. (2010). Stakeholders perception of compliance practice with accounting standard in the downstream sector of the oil and gass industry in Nigeria. *Journal of Finance and Accounting Research, 2(1)*, 89-100.

Cheng, A. C. S., Zishang L. C., & Thomas, W. (2012). Abnormal accrual estimates and evidence of mispricing. *Journal of Business Finance & Accounting, 39(1/2),* 1-34.

Core, J. (2001). A review of the empirical disclosure literature: Discussion. *Journal f accounting and economics, 31(1)*, 441-456.

Dechow, P.& Dichev, I. (2002). The quality of accruals and earnings: The role of accrual estimation errors. *The Accounting Review 77(1)*, 35-59.

Dowdell, J. T. (2010). Analyst forecasts and company life-cycle stages, an exploratory analysis. *Journal of Theoretical Accounting Research, 5(2)*, 37-58.

FASB. (2010). *Financial Accounting Standards Board: Statement of Financial Accounting Concept No. 8. Conceptual framework for financial reporting.* NY: FASB.

Glaum,M., Baetge,J. Grothe, A. & Oberdörster, T. (2010). International Accounting Standards, Disclosure quality and accuracy of analysts' earnings forecasts. *Accounting review*, 3(1), 79-116.

Hutira, S. (2016). Determinants of Analyst Forecasting Accuracy. *Joseph Wharton Research Scholars*, 1-45.

Ionaşcu, M. & Onaşcu, I.(2012). The use of accounting information by financial analysts in emergent markets: the case of Romania. *Accounting and Management Information Systems, 11(2)*,174–186.

Ionaşcu, M. (2012). Fair value measurements and earnings forecasts accuracy: evidence for romanian listed companies *Accounting and Management Information Systems*, *11(4)*, 532–544.

Liang, L. & Riedl, E.J. (2014). The effect of fair value versus historical cost reporting model on analyst forecast accuracy. *The accounting review American Accounting Association, 89(3)*, 1151-1177.

Lobo, G. J., Song, M., & Stanford, M. . (2012). Accruals quality and analyst coverage. *Journal of Banking & Finance, 36(2)*, 497-508.

Maharshi, D. (2004). *Accounting theory.* New Delhi: Excel Books PVT Ltd.

Martínez-Ferrero, J. (2014). Consequences of financial reporting quality on corporate performance. Evidence at the international level. *Estedios de economica, 41 (1)*, 49-88.

Moradzadehfard, M.& Nazari, H. (2013). Evaluation of Management Earnings Forecast Error and Information Content of Accruals: Listed Companies in Tehran Stock Exchange. *Journal of Education and Vocational Research, 4(4)*, 119-129.

Ogneva, M. (2012). ‘Accrual Quality, Realized Returns, and Expected Returns: The Importance of Controlling for Cash Flow Shocks’. *The Accounting Review, 87(4)*,1415–44.

Peress, J. (2010). Product market competition, Insider trading, and stock market efficiency. *The Journal of Finance,LXV(1)*,1-43.

Salerno, D. (2014 ). The Role Of Earnings Quality In Financial Analyst Forecast Accuracy. *The Journal of Applied Business Research, 30(1)*, 255-276.

Steckley, S.G., Shane G. H. & Mehrotra, V. (2009). Forecast errors in service systems. *Probability in the Engineering and Informational Sciences, 23(1)*, 305–332.

Theodosiou, M. (2011). Forecasting monthly and quarterly time series using STL decomposition. *International Journal of Forecasting 27(4)*, 1178-1195.

**Financial Management Practices and Small, Medium and Micro Enterprises in the Kampala Metropolis, Uganda a Covid19 Post Study**

Mulindwa K. Daniel, PhD

Department of Postgraduate Studies, Adventist University of Central Africa, P.O. Box 2461, Kigali, Rwanda

daniel.mulindwa@auca.ac.rw

**Abstract**

The study aimed at investigating the cash management practices of small, medium and micro enterprises (SMMEs) in the Kampala Metropolis, in central Uganda. Data was collected from a sample of 200 SMMEs by means of a closed-ended questionnaire survey relying on a survey research design in seeking for the perceptions of the respondents. The findings revealed that most of the sampled SMMEs using a regression analysis, it was revealed by the hypothesis test in the results that 68% of respondents manage their cash effectively. However, only a minority of these entities hold cash for speculative purposes or even invest their surplus cash gainfully, thus, they fail to optimize on their scarce cash resources. Likewise, only a minority of the SMMEs employ computers for managing their cash, which is rather surprising given the proliferation of computers at a low cost in Uganda. Based on the findings, results of the multiple regression models suggested that there is a positive association between Budget management components and organization performance in Rwanda. Regression analysis was performed to verify the hypotheses, and the results demonstrated that. The results of model summary one show that the adjusted R2 is 0.048, or 4.8%, which indicates that the budget management components contributed to the increase in sales by 4.8%. However, model summary one also shows that 0.952, or 95.2%, of the increase in sales, comes from other variables that are not included in model one.The results of model summary two show that the adusted R2 is 0.170, which indicates that the budget management components contribute to the ROA by 17.0%, whereas 0.830, which indicates that other variables not included in model two account for 83.0% of the rise in sales. The results of model summary number three show that the adjusted R2 is 0.336, which indicates that the budget management components contributed to the increase in profits by 33.6%, while 0.664 indicates that the remaining 33.6% of the increase in profits was caused by other variables not included in model three.The selected SMEs were recommended to create budget plans that detail the allowances and variances that should be made to the different parameters, and it was suggested that they make use of computers to help with the coordination of budgeting management.

*Keywords:*cash management, SMMES, decision-makers, business practices

**Introduction**

Every business, large and small, depends on cash flow (Awaaz, 2020). Even if a business is lucrative, it will have to shut down if it lacks the funds to pay its debts as they become due (Enow 2015). In contrast, a business that is losing money could nonetheless carry on provided it has capital. Since investors first consider a company's cash flow when evaluating it, which in turn reflects its cash management practices, effective cash management not only increases a business's chances of survival but also helps it draw investors who can fund its expansion (Merchant Factors, 2020).Additionally, efficient cash management boosts a company's ability to respond quickly to opportunities that present itself or cope with emergencies as they occur (Gyebi & Quain, 2020). Additionally, it allows a company to raise money without using expensive forms of financing and to benefit from cash discounts (Mukasa, Okello, & Okello, 2020). Small and medium-sized enterprises (SMMEs) operating in Uganda, unlike large corporations, have less access to financing since they lack the collateral that banks seek in addition to a successful track record (Biljon, 2015).

Following the global financial crisis of 2007–2008, the majority of banks, on whom SMMEs rely heavily for cash borrowing, imposed tighter lending standards, which significantly limited SMMEs' access to cash. Uganda's banks have continued to adopt a credit-restrictive mentality despite the country's recovery from the global financial crisis (Merchant Factors, 2020). Therefore, Ugandan SMMEs must manage their cash effectively if only to survive, unlike their larger competitors who have access to a range of financial sources. Despite the value of cash and the restricted access that SMMEs in Uganda have, evidence from individuals indicates that these businesses do not appear to handle their cash well (Biljon, 2015). In particular, the majority of these organizations don't create cash budgets or forecasts, perform bank reconciliations, or keep an eye on their cash flows in real time (Bruwer, 2015). Even worse, some don't have bank accounts and seem to have poor liquidity (Small Business Connect, 2015).

Many SMMEs also adopt a passive strategy for managing their cash and rely on manual procedures or basic accounting software even as their firms expand (Enow, 2015). These companies eventually experience cash issues, which force them to close. According to Ngary, Smith, Bruwer, and Ukpere (2014), 70% to 80% of SMMEs fail within the first three years of operation, making Uganda's failure rate for such businesses among the highest in the world. Although earlier studies in other nations have somewhat linked poor financial management techniques to SMME failure rates (Sunday, Burani & Eliabu, 2020; Sunday, 2010; Mukasa et al., 2020), only a small amount of research has been done in Uganda to look into how SMMEs there manage their finances. As a result, there is a study gap about the methods used by SMMEs in Uganda. Given the significance of SMMEs in generating urgently needed employment opportunities in Uganda, and it is crucial that their cash management techniques be looked into given the high failure rate of these organizations in the nation. By looking into the cash management methods of SMMEs in the Kampala Metropolis, in Uganda, Kampala Africa, this research aims to close a gap in the preceding literature. The article then continues as follows: Section 1 reviews the prior research in this area. The approach used is presented in Section 2, and the findings and comments are presented in Section 3. The article's summary and conclusion are presented in the final section.

**Literature review**

Despite the fact that access to cash is limited and that it is important to SMMEs, previous research from several nations suggests that these businesses do not handle their cash well (Pietersen, 2012; Kirui, Patrick, Odondo & Simeyo, 2012). In Ghana, Pietersen (2012) conducted a study of 199 SMEs and discovered that 51.3% of businesses had neither a cash target nor a forecast for their operations. Additionally, just 32.7% of the businesses created monthly cash budgets, despite the fact that 65.3% of them deposited sales earnings every day. Furthermore, only 13.6% of businesses reinvested their cash surpluses, while 56.3% regularly spent within their allocated spending limitations. According to Pietersen (2012), the majority of SMMEs lacked the financial know-how necessary to create cash budgets and invest extra funds. Although informative, the earlier study was carried out in Ghana (West Africa), hence its conclusions might not apply to SMMEs in Uganda.

In a related study, Kirui, Patrick, Odondo, and Simeyo (2012) evaluated the cash management procedures used by 159 Kenyan Small Scale Enterprises (SSEs) and discovered that just 23.6% of the SSEs frequently prepared cash budgets, while 60.9% of these organizations rarely did so. Unsurprisingly, the majority of SSEs (67.3%) did not decide on a target cash balance beforehand. 56.4% of the studied SSEs experienced recurring cash surpluses, however they did not use the surpluses to make short-term investments. According to Kirui et al. (2012), the majority of Kenyan SSEs faced issues with cash management. Since the Kirui et al. (2012) study was carried out in Kenya, it's possible that its conclusions cannot be applied to SMMEs in Uganda. In a parallel questionnaire study by Masoud and Mbega (2012) on the methods used by 16 small enterprises in Tanzania to handle their cash, it was discovered that 68.8% of these organizations did not create cash budgets. A goal cash balance was only predetermined in 6.3% of small enterprises. Similar to the study of Kirui et al. (2012), 50% of small enterprises always had cash flow problems, and 56.2% of them did not put their cash surpluses into short-term investments. Additionally, just 31.3% of the companies put their cash surpluses in bank accounts.

Masoud and Mbega (2012) came to the conclusion that poor cash management in small firms in Tanzania was largely due to a lack of financial expertise. Masoud and Mbega's (2012) study may not be generalizable to all Tanzanian small enterprises, let alone the Ugandan SMMEs, due to the study's tiny sample size. Sunday et al. (2020) evaluated the financial management procedures of 386 Small and Medium Entities (SMEs) in western Uganda, another country in Kampala Africa. According to Sunday et al. (2020), most Ugandan SMEs had poor financial management procedures and frequently ran out of funds as a result of neglecting to create monthly cash budgets. A small number of SMEs also had a cash surplus, and those that did, did not invest it in interest-bearing accounts. In a different Ugandan study by Mukasa et al. (2020) on the management of 120 SMEs' cash flow, it was discovered that 41.8% of these organizations did not create cash budgets and that another 20.33% did not even monitor their cash flow. Only 59% of respondents kept their monetary budgets intact, but 33% ignored financial limits. Additionally, just 53.3% of SMEs created a bank reconciliation statement. The two studies that came before it were carried out in Uganda, thus their conclusions might not apply to SMMEs there. There was no research on Ugandan SMMEs' cash management procedures.

 Mukasa et al. (2020) conducted a study in Uganda on the cash-flow management of 120 SMEs and discovered that 41.8% of these organizations did not create cash budgets and another 20.33% did not even monitor their cash flow. While just 59% of businesses kept to their cash budgets, 33% ignored budgetary limits. In addition, a bank reconciliation statement was not prepared by 53.3% of SMEs. The two studies that came before it were carried out in Uganda, so it's possible that their results can't be applied to SMMEs there. On Ugandan SMMEs' cash management procedures, no research could be located. This, alongside the above-mentioned gaps in the prior literature, suggests a need for a recent study to investigate the cash management practices of Ugandan SMMEs. This study aimed to fill in the gap in the literature by investigating the cash management practices of SMMEs in the Kampala Metropolis, in Uganda.

**Methodology**

*Questionnaire design*

A questionnaire survey was used to obtain the opinions of the decision-makers of SMMEs, which included owners, managers, and accountants, regarding the cash management of their businesses. A closed-ended questionnaire was structured with fourteen items divided into sections A and B. The questionnaire, which consisted of multiple-choice or yes/no questions, was made easy to complete as part of a strategy to increase response rates by reducing the amount of time needed to complete it—which, in theory, should have taken 15 minutes. The information on a respondent's personal and professional profiles was gathered in Section A of the questionnaire.

Five questions made up this portion, which elicited data on the respondent's position within the business, gender, accounting education, number of years the SMME has been in operation, and number of employees. By providing this information, it was intended to confirm that the respondents who were chosen for the study were owners, managers, or accountants of SMMEs. Information on a respondent's business’s cash management procedures was gathered in Section B. Nine questions in this section might either receive a "yes" or "no" response. The respondents were required to indicate whether their businesses had a bank account, carried out bank reconciliation, prepared cash budgets, anticipated their cash shortages or surpluses, invested their surplus cash, held cash for speculation, routinely monitored their cash flows, used computers to manage their day-to-day cash management, and spent their cash as planned. The questions were filled out and critically reviewed by ten academics with extensive experience in questionnaire design before being distributed as part of a pilot test. The questionnaires were then modified in accordance with the academics' suggestions, and when they were resubmitted to them, they were discovered to be clear, concise, and understandable.

*Population and sample selection*

Owners, managers, and accountants of SMMEs engaged in the Fast Moving Consumer Goods (FMCG) Sector in the Kampala Metropolitan made up the demographic since they were thought to be the SMMEs' decision-makers and as such, should be knowledgeable of the processes of the entities' cash management. Given the lack of a comprehensive list of all SMMEs operating in the Kampala metropolitan, a target sample of 320 FMCG SMMEs was established. A total of 320 respondents were contacted in order to meet this goal. Given that it encourages selecting a sample from the population segment that is easily accessible to the researcher, an accidental-sampling strategy was used to choose the sample (Collis & Hussey, 2003).

*Questionnaire distribution*

The procedure of gathering data started with the selection of potential respondents after the pilot test was over. The researcher and seven additional trained researchers or research assistants visited the premises of potential respondents and discussed the study's purpose, the methodology used for the research, and ethical issues like the anonymity of respondents, the confidentiality of the information shared, and the low risk involved in participating in the study. After that, the potential respondents were asked to indicate if they would be willing to take part in the study. When potential respondents agreed to participate, the researcher read the questionnaire to them and documented their answers by crossing out each response with an "X" in the corresponding box on the questionnaire.

*Response rate and test for non-response bias*

As seen, 152 of the 320 potential respondents who were contacted and asked to take part in the study gave their consent. As a result, 152 questionnaires were distributed, 168 of which were subsequently removed from the sample after being discovered to be incomplete as well as those that were not retrieved back for one reason or the other. As a result, only 152 of the 320 prospective respondents who were initially contacted completed usable surveys, yielding a response rate of 52.5%. Male and female owners, managers, and accountants from a variety of industries were approached and persuaded to take the survey in order to reduce the impact of a non-response bias. Additionally, the profiles of the respondents and those of their companies were examined, and it was discovered that respondents of various ideologies had responded to the questionnaire (De Villiers & Van Staden, 2010). Additionally, even those who showed little interest in cash management methods were persuaded to participate in the survey using the face-to-face method (De Villiers & Van Staden, 2010). The danger of non-response bias was reduced due to the large sample size of 320 respondents, a high response rate, and diverse respondents.

**Results and discussions**

*3.1. Respondents’ Personal and their Business’s Profile*

|  |  |  |
| --- | --- | --- |
|  | Number of respondents  | Percentage  |
| Position in the Business  |  |
| Owner | 114 | 75.0 |
| Manager | 27 | 17.8 |
| Accountant | 2 | 1.3 |
| Supervisor  | 9 | 5.9 |
| **Total**  | **152** | **100** |
| Gender  |  |  |
| Male | 104 | 68.4 |
| Female | 48 | 31.6 |
| **Total**  | **152** | **100** |
| Accounting background |  |
| Seminars | 9 | 5.9 |
| Short course | 17 | 11.2 |
| Diploma | 15 | 9.9 |
| Masters | 5 | 3.3 |
| Degree | 15 | 9.9 |
| None | 91 | 59.9 |
| **Total**  | **152** | **100** |
| Years of the Business |  |
| Less than 2 years | 8 | 5.2632 |
| 2-5 years | 102 | 67.105 |
| 6-10 years | 42 | 27.632 |
| **Total**  | **152** | **100** |
| Number of employees  |  |  |
| 1 to 5 employees; | 121 | 79.6 |
| 6 to 50 employees | 31 | 20.4 |
| **Total**  | **152** | **100** |

Table 1 (cont.). Respondents’ personal and their business’s profile

The respondents were requested to provide details on their personal profiles, including their position in the business, gender, and background in accounting education. In order to reduce non-response bias, this information was used to make sure the right respondents had been chosen for the survey as well as to ensure that respondents of various qualities and persuasions participated. The respondents were divided into 68% owners, 22% managers, 1% accountants, and 9% supervisors (see Table 1).

The right respondents were chosen to participate in the study, as evidenced by the fact that 91% of the respondents were either owners or managers. In terms of gender, there were 68.5% men and 31.5% women among the respondents. In terms of the respondents' accounting education backgrounds, 48% lacked any accounting education at all (see Table 1). 21% of the respondents had taken a quick accounting course, and 11% had gone to accounting seminars.A similar percentage (11%) possessed an accounting diploma, compared to 7% who held a bachelor's degree. Only 2% of people have accounting master's degrees. In brief, decision-makers with little to no formal accounting training handled the majority of the administration of working capital. Regarding the age of the respondents' businesses, 52.5% of respondents said their SMMEs were between two and five years old, 26% said they were between six and ten years old, 14.5% said they were older than ten years, and only 7% said they were younger than two years old (see Table 1).

The SMMEs of the respondents should have developed effective cash management practices since 93% of them were at Kampala two years old, which is the minimum age at which SMMEs are anticipated to have done so. In terms of staff count, the findings show that 23.5% of the respondent's SMMEs had six to 50 employees, while 76.5% had one to five. The former can be categorized as micro enterprises in the Ugandan setting, whilst the latter was categorized as a small business. The practices of small and micro firms' cash management were the sole subject of this study.

*Cash management practices**of SMMEs*

By answering a yes or no question, respondents indicated whether their SMMEs had a bank account, performed bank reconciliation, prepared cash budgets, anticipated their cash shortage or surplus, invested surplus cash, held cash for speculation, regularly monitored cash flows, used computers to manage cash in their day-to-day operations, and spent cash as planned.

*Perception of respondents on whether businesses have a business bank account*

62% of respondents said their businesses had a bank account, while 38% said they didn't, as shown in Table 2, which summarizes the results. A 2-tailed binomial test showed a significant difference between the percentage of respondents with businesses that had bank accounts (62%), and the percentage of respondents with businesses that did not have bank accounts (*38%; p < 0.05*). The findings of Sunday, Mukasa et al. (2020), and Yiadom and Agyei (2006), which also found that the majority of small-scale enterprises in Uganda and Ghana had business bank accounts, are consistent with the results presented above. In contrast, Nguyen's (2001) findings, which discovered that only 19% of SMEs in Vietnam had a cash surplus deposited in a bank account, are consistent with the results presented above. The fact that Nguyen's (2001) study was carried out in 2001, when SMEs were still unaware of the advantages of business bank accounts, could be one explanation for the discrepancy.

*Perception of respondents on whether businesses conducted bank reconciliation*

As shown in Table 2, 53% of the respondents whose business had business bank accounts said their business performed bank reconciliations, while 47% said they did not. According to the results of the Binomial Test (2-tailed), there is a significant difference between the percentage of respondents whose companies perform bank reconciliations (53%) and those whose companies do not (47%) *(p<0.05*). It is somewhat distressing that over half of the respondents' businesses did not perform bank reconciliations, which are essential for spotting abnormalities like unlawful withdrawals and making sure that a company's transactions have been accurately recorded. The study's earlier findings are in line with those of Sunday et al. (2020), who discovered that the majority of SMEs in central Uganda did not conduct bank reconciliations

*Table 2. Cash Management Practices of SMMEs*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Yes** | **No**  | **N** | ***P-value***  |
| Have a bank account | 62% | 38% | 152 | 0.001\* |
| Conduct bank reconciliation | 53% | 47% | 152 | 0.00\* |
| Prepare a cash budget | 60.50% | 39.50% | 152 | 0.004\* |
| Have a way to pre-determine cash shortage/surplus | 68.50% | 31.40% | 152 | 0.00\* |
| Invest cash surplus | 40.50% | 59.50% | 152 | 0.009\* |
| Hold cash to take advantage of investment opportunities | 41% | 59% | 152 | 0.013\* |
| Monitor cash outflow on regular basis | 73.50% | 26.50% | 152 | 0.00\* |
| Use computers to manage cash | 35% | 65% | 152 | 0.00\* |
| Spend cash as planned  | 62.50% | 37.50% | 152 | 0.00\* |

 Note: \* statistically significant differences *(P< 0.05)* at 95% confidence level

*Perceptions of respondents on whether businesses prepare cash budgets*

As seen in Table 2, 60.5% of respondents indicated that businesses prepare cash budgets, whereas 39.5% said they didn't. It is rather disappointing that a sizable portion (39.5%) of SMMEs did not prepare these budgets, given the significance of cash budgets in enabling business entities to determine their future cash needs and in decisions like the credit terms to extend to debtors without facing liquidity issues. The percentage of respondents whose businesses prepare cash budgets (60.5%) and those whose businesses did not (39.5%) differed significantly (p< 0.05) according to the Binomial Test (2-tailed). The study's earlier findings are in agreement with those made by Nguyen (2001) and MensahAgyei (2012), who found that most SMEs prepared budgets on a monthly basis. The current study's findings, however, differ from those of Yiadom and Agyei (2006), Pietersen (2012), and Masoud and Mbega (2012) who discovered that the majority of SMEs did not develop cash budgets. Because of government intervention, it's probable that Ugandan SMMEs had the financial know-how necessary to create cash budgets, which may not have been the case in other African nations.

*Perceptions of respondents on whether businesses have a way to predetermine cash shortages/surplus*

According to Table 2, which summarizes the responses, 68.5% of the respondents said they had a mechanism to predict cash shortages/surpluses, whereas 31.5% said they did not. According to a Binomial Test (2-tailed), there was a significant difference between the percentage of respondents whose businesses claimed they had a mechanism to anticipate cash shortages/surpluses (68.5%) and those whose businesses did not (31.5%) (p <0.05). It is interesting to note that 8% of the businesses had an alternative way of pre-determining their cash shortage or surplus other than by using cash budgets. According to the results of Pietersen (2012) and Kirui et al. (2012), who discovered that the majority of small businesses did not forecast their business or have a financial objective, are in contradiction to the findings of the current study. The fact that the majority of the Ugandan SMMEs in the current study had created cash budgets and used them to identify cash shortages/surpluses, in contrast to the SMEs in the two preceding studies, may account for the differences between it and Pietersen (2012) and Kirui et al. (2012).

*Perceptions of respondents on whether businesses invest their cash surplus*

As seen in Table 2, 40.5% of the respondents said their businesses invested cash surpluses, while 59.5% said they did not. The proportion of respondents whose businesses invested cash surpluses (40.5%) and those whose businesses did not (59.5%) differed significantly (p 0.05) according to a Binomial Test. The aforementioned findings are consistent with those of Nguyen (2001), Pietersen (2012), Mensah-Agyei (2012), and Kirui et al. (2012) who found that the majority of SMEs did not invest their cash surpluses. They also suggest that the majority of the sampled SMMEs did not maximize the utilization of their resources.

*Perceptions of respondents on whether businesses hold cash to take advantage of investment opportunities*

Only 41% of respondents, as shown in Table 2, indicated that their businesses kept cash on hand to take advantage of investment possibilities, while 59% said they did not. The percentage of respondents whose firms maintained cash to take advantage of investment possibilities (41%) compared to those whose businesses did not (59) was significantly different (p< 0.05) according to a Binomial Test. The data presented earlier show that SMMEs may have been passing up a low cost source of financing in favor of more expensive sources when pursuing business prospects due to the relative difficulty SMMEs encounter when borrowing money for investment reasons.

*Perceptions of respondents on whether businesses monitor their cash flow on regular basis*

According to Table 2, which summarizes the responses, 73.5% of respondents said their businesses routinely monitored their cash flows, while 26.5% said they didn't. The results of the Binomial Test (2-tailed) showed a significant difference (p 0.05) between the percentages of respondents whose companies regularly monitored their cash flow (73.5%) and those whose businesses did not (26.5%). Given the improvements in Kampala Uganda information technology that have allowed banks to offer businesses an update of their bank account balances after each transaction, the outcomes that have come before are not shocking.

The aforementioned findings are in line with those of Sunday et al. (2020), who discovered that the majority of SMMEs maintain the safety of cash and have effective internal control mechanisms in place to monitor their cash. The current study's findings, however, are in contrast to those of Sunday et al. (2020), who discovered that the majority of SMMEs lack internal control systems for keeping track of their funds. The fact that Sunday et al. (2020) did their research in a remote area of Uganda, where access to cutting-edge information technology is likely to be limited, could be one explanation for the discrepancy between the two studies.

*Perception of respondents on computers usage to manage their cash*

65% of respondents said their businesses did not use computers to manage cash, compared to 35% who said they did (see Table 2). The percentage of respondents whose businesses used computers to manage cash (35%) compared to those whose businesses did not (65%) was significantly different *(p 0.05)* according to the Binomial Test (2-tailed) that was done. Given the widespread availability of inexpensive computers that can help businesses handle their funds more efficiently, the aforementioned results are very depressing. These results are in line with those of Pietersen (2012) and Sunday et al. (2020), who discovered that the majority of SMMEs lacked computerized cash management.

*Perceptions of respondents on whether businesses spend cash as planned*

In accordance with Table 2, which summarizes the results, 62.5% of the respondents indicated that their businesses spent cash as they had planned, whereas 37.5% said the opposite. The statistics above indicate that 2% of the selected businesses may have used some form of cash budgets, even though they did not refer to the budgets as cash budgets, given that only 60.5% had prepared cash budgets. The aforementioned findings also imply that the majority of the sampled businesses managed their spending, which is crucial for SMMEs survival given their limited access to capital.

According to the results of the Binomial Test (2-tailed), there was a significant difference between the percentage of respondents who said their businesses spent money as planned (62.5%) and those who said they didn't (37.5%) (p 0.05). The findings of Mukasa et al. (2020), who found that most SMMEs stick to budgets by making sure that expenditure is justified and explained, are consistent with the findings of this study.

**Summary and conclusion**

The purpose of this article was to ascertain how SMMEs in Kampala Metropolitan businesses handled their cash. According to the article's findings, 62% of the SMMEs in the sample have a bank account. Only 53% of them perform bank reconciliation. The findings also reveal that while 68.5% of the studied SMMEs have a method to anticipate a cash deficit or surplus, only 60.5% of them prepare cash budgets. This, along with the finding that 62.5% of SMMEs spend money as planned, shows that some of these businesses may be able to predict their cash shortages or surpluses and even spend money as planned without having to create a cash budget.

Furthermore, the findings also indicate that 73.5% of the sampled SMMEs regularly monitor cash outflows. Only 41% of SMMEs, in contrast, have cash on hand to take advantage of investment opportunities. Only 40.5% of the entities actually invest their excess funds. Even worse, only 35% of the sampled SMMEs employ computerized cash management. Even while the aforementioned findings imply that the majority of SMMEs handle their cash efficiently, the fact that only a small percentage of SMMEs hold cash for speculation or even invest excess cash implies that they are not making the best use of this limited resource. This may suggest that SMME decision-makers are unaware of the potential for short-term investments or that they aren't generating surplus cash that can be allocated for investment.

Given the affordability and widespread use of computers, it is somewhat surprising that so few people utilize them to manage their cash. This may be explained by the fact that most SMME decision-makers, especially those in microbusinesses, are computer illiterate. SMMEs should use their excess cash into successful investments in order to improve their cash management and increase the worth of their companies.

The conclusions of this article have consequences for SMMEs decision-makers because they will be made aware of the advantages of managing their cash effectively, particularly with regard to the need to use computers to manage cash, the need to hold cash for speculative purposes, and the need to invest cash surplus in the various short term investment opportunities available.They could need to attend regular training sessions and workshops on the aforementioned components of good cash management practice because at the moment they don't seem to have them. The results of this study may also be used by the Ugandan government to inform initiatives designed to boost the survival rate of SMMEs by arranging training sessions for decision-makers in SMMEs through the Small Enterprise Development Agency.

**References**

Awaaz, M. (2020). The impact of cash management on the performance of manufacturing companies in Nigeria, Uncertain Supply Chain Management, 1 (3), pp. 177-192.

Biljon, V. (2015). SA SMEs struggle with cash flow as a result of delayed payment. Available at: http://www.businesspartners.co.za/media-room/press-releases/posts [Accessed 14 October 2022].

Bruwer, J.P. (2010). Sustainability of Ugandan FMCG SMME retail businesses in the Kampala Peninsula. Unpublished Master of Technology Thesis. Kampala Town. Kampala Peninsula University of Technology.

Bruwer, J.P. (2015). The Usefulness of Cash Budgets in Micro, Very Small and Small Retail Enterprises Operating in the Kampala Metropolis, Expert Journal of Business and Management, 3 (1), pp. 1-12.

Collis, J. & Hussey, R. (2003). Business Research: A practical guide for undergraduate and postgraduate students. Palgrave: Macmillan.

De Villiers, C.J. & Van Staden, C.J. (2010). Shareholders’ corporate environmental disclosure needs, Ugandan Journal of Economic and Management Sciences, 13 (4), pp. 436-445.

Enow, S. (2015). The working capital management practices of small medium and micro enterprises in the Kampala Metropolis. Unpublished Master of Technology Thesis. Kampala Town. Kampala Peninsula University of Technology.

Enow, S. and Brijlal, P. (2014). The effect of working capital management on profitability: the case of Small, Medium and Micro enterprises in Uganda, Journal of Accounting and Management, 4 (2), pp. 7-15.

Gyebi, F., Quain, S. (2020). Internal Control on cash collection.A case of the electricity company of Ghana ltd, Accra Kampala region, International Journal of Business and Social Science, 4 (9), pp. 217-233.

Masoud, S.M. and Mbega, M. (2012). An exploratory study of SMES’ Working-capital Management practices in Dar es Salaam. Proceedings of 13th International Conference on African Entrepreneurship & Small Business Development, 20-21st June, Dar es Salaam.

Mensah-Agyei, B.K. (2012). Working Capital Management practices of small firms in the Ashanti region of Ghana, International journal of academic research in business and social science, 2 (1), pp. 3781-3789. Merchant Factors. (2020). Finance beyond the numbers. Available at: http://www.mfactors.co.za/articles .php#2 [Accessed 14 October 2015].

Ngary, C., Smith, Y., Bruwer, J.P. and Ukpere, W.I. (2014). Financial performance measures and business objective attainment in Fast Food SMMEs in Kampala Metropolis: A preliminary liability and suitability analysis, Mediterranean journal of social science, 5 (20), pp. 909-919.

Nguyen, K.M. (2001). Financial management and profitability of small and medium enterprises. Publish dissertation submitted for Doctor of Business Administration. Southern Cross University.

Kirui, N.R., Patrick, O., Martin, L., Odondoand Simeyo, O.A.J. (2012). Effect of working capital management practices on financial performance: A study of Small scale enterprises in Kisii Kampala District, Kenya, African Journal of Business Management, 6 (18), pp. 5807-5817.

Mukasa, G., Okello, N., Okello, N.G. (2020). Cash flow management utilization by Small Medium Enterprises (SMEs)in Northern Uganda, Merit Research Journal of Accounting, Auditing, Economics and Finance,1 (5), pp.67-80.

Pietersen, A. (2012). Working Capital Management practices of Small and Medium Enterprises in the Western Region: A survey of selected Smes in the Sekondi-Takoradi Metropolis. Published Dissertation submitted for Masters of Business administration. Kwame Nkrumah University of Science and Technology.

Small Business Connect. (2015). Help on the way for township entrepreneurs. Available at: http://www.small businessconnect.co.za/news. [Accessed 14 October 2015].

Sunday, A., Burani, A. and Eliabu, B. (2020). Financial Management practices in small and medium Enterprises in selected Districts in western Uganda, Research Journal of Finance and Accounting, 1 (2), pp. 29-42.

Sunday, K.J. (2010). Effective working capital management in small and medium scale Enterprises, International Journal of Business and management, 6 (9), pp. 271-279.

Yiadom, E.M. and Agyei, S.K. (2006). Working Capital Management practices of Small scale Enterprises in the central region of Ghana, Asian Journal of Business and Management Science, 1 (4), pp29-4

**Master's Student Satisfaction Levels Survey at the Adventist University of Central Africa (AUCA)** Assoc. Prof. Munyamasoko Cyeze Emmanuel, PhD\*, Dr. Casamayor Santiago, PhD, Dr. Padilla Rosa, PhD & Mr Manirakiza Jean Baptiste

cyezee@yahoo.ca

**Abstract**

The objective of this study is to know the needs, expectations and satisfaction in certain areas of the students, which enables the university to provide a better service, adapt and help students create a satisfactory intellectual, physical, spiritual and emotional experience; Therefore, measuring and understanding student satisfaction can play a critical role in improving service delivery and providing a better educational experience.

With the measurement of students’ satisfaction, the researchers were able to understand the areas exceeding expectations and can be used to move the institution forward, and the areas are lagging behind and need improvement.

The satisfaction score can be used to understand AUCA's ability to achieve student well-being and keep them motivated and engaged during and after their studies.

Last but not least, a measure of student satisfaction is also relevant to potential future students looking to make the best decision about where to study for a graduate degree. This measure is expected to play a role in facilitating study options as understanding students' Perceptions enables AUCA to improve the provision of services to students and align the strategy with its mission, vision and objectives.

A convenience sample (n=141), who agreed to participate in the study, was administered a questionnaire with the intent to assess their satisfaction in the study areas. The study findings showed that study participants expressed overall satisfaction in all investigated areas, but also identified some areas that may require further examination/consideration. The researchers recommended that these findings be used to guide the university's efforts in continuous Programme improvement.

*Keywords:* customer satisfaction, academic programme, higher education and learning environment

**Introduction**

Academic institutions like any other institutions selling services to earn some income, need to understand what pleases and displeases their customers so as to achieve their goals. The Adventist University of Central Africa (AUCA) is not an island when it comes to customer satisfaction. AUCA relies heavily on students’ fees to cater for its needs and meet its goals. In other words, without students, the achievement of goals will remain uncertain. Aware of this, the researchers designed a questionnaire to collect data on how satisfied the student is with their university experience in the three Master’s Programmes offered by AUCA. To effectively investigate the level of satisfaction among Master’s students, a number of areas were centered on. These include, TEACHING-LEARNING PROCESS (6 items), FACILITIES (3 items), SERVICE DELIVERY (7 items), ORGANIZATIONAL CULTURE (3 items), INSTITUTIONAL IMAGE (2 items), MANAGEMENT AND ADMINISTRATION (2 items), and INFRASTRUCTURE (2 items). The graduate Programme has a student population of 249, of which a total of 141 completed the study.

This study shows the results of the anonymous study on the satisfaction of the students at AUCA’s Graduate Programme. The study included 25 statements which had to be rated using a 5-point Likert scale by respondents.

**Objectives of the study**

The study mainly wanted to measure the levels of satisfaction among master’s students at AUCA

**Specific objectives**

Specifically, the study sought to achieve the following objectives:

* To find out whether gender has anything to do with students’ satisfaction
* To find out whether the choice of the faculty influences students’ satisfaction
* To find out whether belonging to a given semester leads to students’ satisfaction
* To find out whether study areas contribute to students’ satisfaction

**Research questions**

The researchers asked the following questions to be able to achieve the above objectives:

* Does gender influence the satisfaction of masters’ students at AUCA?
* Does the chosen faculty contribute to students’ satisfaction at AUCA?
* Do semesters influence students’ satisfaction at AUCA?
* Do areas of study influence students’ satisfaction?

**Problem statement**

The quality of service is at the heart of success in any organization. AUCA’s services are mainly academic oriented. The University receives students from all walks of life who wish to pursue their educational dreams. As an academic institution that aspires to make register success in what it does, AUCA has to make sure that services offered to students are very satisfying as without this, the future of the institution may be doubtful. Master’s students are some of the students admitted at AUCA. As human beings, they sometimes face challenges during their learning. To learn more about what these students face as challenges, AUCA managers have to conduct studies to find out what the students are going through on a daily basis. This is because one cannot sit and believe that all is well. There is no room for complacency as the latter may lead to disastrous results. The problem however is that studies aiming at finding out what hinders students’ effective learning are very limited and are almost never carried out. This is why a study on master’s students’ level of satisfaction comes in to bridge this gap.

**Literature review**

Higher Learning Institutions (HLIs) is a tertiary level of education recognized as one of the most critical tools in fostering a nation’s economic growth and development (Mukhtar, Anwar, Ahmed, & Baloch, 2015). Higher education is increasingly viewed as a service sector, emphasizing the significance of meeting clients’ needs and expectations in order to attain the intended position and share of the student market (Sarsale & Caday, 2020).

Ensuring excellent service delivery to increase efficiency, loyalty, students’ retention, and a conducive learning environment is a challenge to achieve a competitive advantage over other institutions (Schertzer & Schertzer, 2004). The situation in higher education is evolving because of globalization resulting in increased commercial importance (Butt & Rehman, 2010; Khosravi, Poushaneh, Roozegar, & Sohrabifard, 2013).

Factors that make it possible for education institutions to attract and keep learners should be taken carefully in today’s competitive educational setting when learners have many options.

Customers of HEIs include employees, the public sector, industry, the community, employers, and students (Guilbault 2018; Kanji, Malek, and Tambi 1999; Pereira and Silva 2003). With diversity of clients among HEIs, the quest for proper service delivery to satisfy customers, draws attention among institutions, and no one is exempted. Among HEIs, students are the main customers and have more control and knowledge in the selection and knowing the standard of services as users making them more responsive and selective.

This implies that students are the ones who define what the quality and satisfaction in

HEIs is (Onditi & Wechuli, 2017). Thus, HEIs must consider and meet students’ demands and needs (Temizer & Turkyilmaz, 2012).

For the institution to thrive, it is dependent on the students’ satisfaction, HLIs must discover their areas of strength and areas to be improved. Hameed and Amjad (2011) explicitly suggest that student satisfaction is not only a matter of evaluation, but a detailed evaluation should be carried to find out all the variables that lead to student satisfaction.

Students’ satisfaction is a big concern for HLIs (Al-Sheeb, Hamouda, & Abdella, 2018; Temizer & Turkyilmaz, 2012), as it is the major indicator of school and student’s performance (Bryant & Bodfish, 2014), and effective and innovative strategies for attracting, retaining, and strengthening connections with students. HEI’s need to examine their services for future improvements on a regular basis, as they acknowledge the importance of service quality in higher education (Kontic, 2014).

Mukhtar et al. [2015](https://innovation-entrepreneurship.springeropen.com/articles/10.1186/s13731-022-00196-6#ref-CR8), as cited in (Kanwar& Sanjeeva, 2022), defines higher education as education received at a college or university level and is regarded as one of the most essential instruments for a nation's individual, social and economic development.

Higher education institutions are facing greater competition to adopt market-oriented methods to separate themselves from their competitors and attract as many students as possible while still meeting the requirements and expectations of present students. As a result, several research studies have been carried out to determine the elements that influence student happiness in higher education. Elliot and Healy ([2001](https://innovation-entrepreneurship.springeropen.com/articles/10.1186/s13731-022-00196-6#ref-CR5)) explains that Students’ satisfaction as a short term attitude, resulting from an evaluation of a students’ educational experiences. It is a multidimensional process that is influenced by a variety of factors. GPA is the most influential factor on student satisfaction, according to Walker-Marshall and Hudson ([1999](https://innovation-entrepreneurship.springeropen.com/articles/10.1186/s13731-022-00196-6#ref-CR15)).

In higher Learning Institutions (HLIs), student satisfaction is vital both for the success of institutions and for that of individual students, particularly in our current global climate. Rapid technological advancements, in particular, have intensified competition in the HLIs sector in recent years ( [Wong](https://link.springer.com/article/10.1007/s10734-022-00874-0#auth-Wan_Hoong-Wong) & [Chapman](https://link.springer.com/article/10.1007/s10734-022-00874-0#auth-Elaine-Chapman), 2023).

Aldemir and Gulcan (2004) examined the Turkish students’ satisfaction in higher education. The results of study showed that for some Turkish university students, the quality of instructors, education, textbooks and being female and informed before attending university considered to important factors of satisfaction. For instance, Navarro et al (2005) surveyed the Spanish university students for their satisfaction with educational offers made by the universities. The results of the study expressed that the teaching staff, the teaching methods and course administration were key elements to achieving student satisfaction and their subsequent loyalty. Mai (2005) studied the student satisfaction in higher education and its influential factors. It was found that the overall impression of the school, overall impression of the quality of the education, teachers’ expertise and their interest in their subject, the quality and accessibility of IT facilities and the prospects of the degree furthering students’ careers were the most influential predictors of the students’ satisfaction. Similarly, Deshields et al. (2005) used a satisfaction model and Herzberg’s two factor theory to examine the determinants of student satisfaction with education. They found that faculty performance and classes were the key factors which determined the quality of college experience of students which in turn led to satisfaction.

**Methodology**

* 1. **Methodology of the research**

There are several ways to evaluate educational quality in higher education, and also if it is complying with the philosophy, vision, mission and objectives as an institution of Christian education. The study used a descriptive research method to discover the level of students’ satisfaction towards the quality services. Besides, in this research, the quantitative method was used, through questionnaires with closed ended questions.

* 1. **Population and sampling**

The target population was selected from all faculties. The sample frame was for convenience, made up of students enrolled in the semester of study. The data were collected during the first quarter of 2023. A total of 249 students, of which 141 completed the study. The participants were graduate students from the Adventist University of Central Africa. The students were studying Business Administration, Information Technology, and Education, (Table 1), of these participants, the most representative group was Business (n=141, 68.1%).

In measuring the responses of students, Five-Points Likert Scale was used. The scoring procedures were based on constructing successive interval, and equal interval scales (Braunsberger

& Gates, 2009) for each scale points for meaningful statistical analyses and interpretation. It was utilized to interpret the level of satisfaction on the service delivery.

|  |
| --- |
| **Table 1****Participants by faculty, AUCA, June, 2023** |
| Faculty | Total population | Sample | Percent |
| Business Administration | 152 | 96 | 68.1% |
| Education | 29 | 19 | 13.5% |
| IT | 68 | 26 | 18.4% |
| Total | 249 | 141 | 100.0% |

* 1. **Study instruments and data collection procedures**

The questionnaire was composed of closed-ended questions on the perceptions of the interested parties regarding the fulfillment of 7 areas of study. The construction of the questionnaire was a result of the hands of different individuals who are conversant with doing research.

The questionnaire was given to each student in their respective classrooms, it contained an introduction page and an informed consent page that preceded the questions. Participation was voluntary and the confidentiality of the respondents was assured. The time to complete the questionnaire was approximativily 5 -10 minutes. They were also informed about the objectives, purpose; the potential risks and benefits of participation; voluntary participation; guarantee of anonymity; and details about the study procedure.

The items were measured using the ***ﬁve-point Likert scale,*** where *1 = strongly disagree (SD/Very poor); 2 = Disagree (D)/Poor; 3 = Neutral (N)/Adequate; 4 = Agree (A)/Good; and 5 = Strongly agree (SA / excellent). See the questionnaire in Appendices*

* 1. **Validity and Reliability of the study instrument**

Validity refers to the degree to which a question measures what it was intended to measure (and not something else). In the present study, content validity was used; experts in research, were asked to agree that the statements are related to what they are supposed to measure.

Cronbach's alpha (Cronbach, 1951) is the current standard statistic for evaluating the reliability of a multi-item scale, and alpha measures internal consistency by looking at intercorrelation between items on a scale. Cronbach's alpha values greater than 0.7 are considered sufficient to conclude that a scale exhibits internal consistency reliability (Nunnally & Bernstein, 1994).

The reliability test was carried out to verify whether the respondents' scores on any item statement tend to be related to the scores of the others. Cronbach's Alpha for each dimension was calculated using SPSS 25.0; the results are shown in Table 2.

The Cronbach’s alpha measures the internal consistency of the questionnaire, if the coefficients of Cronbach is greater than 0.70, then the questionnaire is reliable. Below are the findings:

For the overall questionnaire was Alpha = 0.944 which confirm that the questionnaire is reliable as whole because it is greater than 0.70, where the area of ‘Service delivery’ (0.877); ‘Infrastructure’ (0.859), ‘Teaching-learning process’ (0.806), are the most reliable areas. On the contrary, the area of ‘Facilities’ and ‘Organizational culture’ are the least reliable (0.401, and 0.683 respectively).

**Table 2**

**Cronbach's alpha for each Area of the study in graduate Programme at AUCA**

|  |  |  |  |
| --- | --- | --- | --- |
| Nr | **Areas under study** | **Number of Items** | **Cronbach's Alpha** |
| 1 | Teaching-learning process | 6 | 0.806 |
| 2 | Facilities | 3 | 0.401 |
| 3 | Service delivery | 7 | 0.877 |
| 4 | Organizational culture | 3 | 0.683 |
| 5 | Institutional image | 2 | 0.737 |
| 6 | Management and administration | 2 | 0.612 |
| 7 | Infrastructure | 2 | 0.859 |
|   | Overall reliability | 25 | 0.944 |

**Descriptive Statistical Findings**

The following descriptive statistics are based on study participants' responses to study questions. Table 3 shows the demographic profile of the study sample. The results show that 52.1% of the sample were women and that 21.4% of the sample studied Management. At the time of the study, most of the participants (57.6%) were in the first semester. In addition, 40.9% of the sample belongs to the Adventist religion followed by Protestant.

**Table 3**

**Demographic profile of participants**

|  |  |  |
| --- | --- | --- |
|   | Count | Table N % |
| Gender | Male | 67 | 47.9% |
| Female | 73 | 52.1% |
| Area of Specialization | Management | 30 | 21.4% |
| Finance | 29 | 20.7% |
| Project Management | 18 | 12.9% |
| HRM | 11 | 7.9% |
| Accounting | 7 | 5.0% |
| Educational Administration | 13 | 9.3% |
| Curriculum and Supervision | 8 | 5.7% |
| Big Data Analytics | 24 | 17.1% |
| In which semester are you now? | One | 80 | 57.6% |
| Two | 34 | 24.5% |
| Three | 3 | 2.2% |
| Four | 22 | 15.8% |
| Religion | Adventist | 54 | 40.9% |
| Protestant | 42 | 31.8% |
| Catholic | 24 | 18.2% |
| Others | 12 | 9.1% |

Graduate Students are satisfied with their overall study experience

3.94, and SD = 0.63

**Average student satisfaction score** (on a scale of 1 – 5)

Students are satisfied with their overall study experience 3.94 average student satisfaction score.

On average, regardless of the faculty they belong to, students are satisfied with their study experience. The Faculty of IT report the highest satisfaction score with 3.99 (n=26), followed by Business students with 3.98 (n=96), and finally Education students with 3.62 (n=19). The mean score is 3.94 (n=141), and a standard deviation of 0.63.

Figure 1. Differences in satisfaction by faculty



**Percentage of student responses to questions by area of study**

**Teaching-learning process**

Tables 4 to 10 present the frequency percentages of the students' responses to the Likert-type concordance scale.

The results provided in Table 4 show that, on average, 85.1% of the participants agreed (good) or strongly agreed (excellent) with the statements of the Teaching-learning process. The highest rated question being 'Most teachers are committed to their work/Homework' (95.7%), on the contrary, the lowest rated question is 'Students see their academic progress frequently/on time' (Poor = 7.9%).

**Table 4**

**Percentage of student responses: Teaching-learning process**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Teaching-learning process** |  | Very poor | Poor | Adequate | Good | Excellent |
|  | % | % | % | % | % |
| Most lecturers are committed to their jobs/Duties |  | 0.0% | 0.0% | 4.3% | 25.7% | 70.0% |
| Lecturers are well prepared before starting teaching (Notes are well prepared) |  | 0.0% | 1.4% | 10.1% | 30.9% | 57.6% |
| Lecturers have the required knowledge, skills and abilities to teach at the Master’s level |  | 0.0% | 2.9% | 18.7% | 33.1% | 45.3% |
| Students get their marks on due time |  | 0.0% | 3.6% | 10.0% | 35.7% | 50.7% |
| Students view their academic progress frequently/ on due time |  | 0.0% | 7.9% | 17.9% | 31.4% | 42.9% |
| Feedback related to marks is available on due time |  | 0.0% | .7% | 12.2% | 36.7% | 50.4% |
| Average Percentage: |  | 0.0% | 2.7% | 12.2% | 32.3% | 52.8% |

**Facilities**

The results provided in Table 5 show that, on average, 83.6% of the participants agreed (good) or strongly agreed (excellent) of Facilities that the postgraduate Programme offers. The best rated question is 'The Internet is enough for students' (93.6%), on the contrary, the question with the lowest rating is 'AUCA website is updated and functional’ (Very poor and Poor = 12.1%).

Table 5. Percentage of student responses: Facilities

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Facilities** | Very poor | Poor | Adequate | Good | Excellent |
| % | % | % | % | % |
| Available facilities are useful for teaching and learning | 0.0% | 1.4% | 9.2% | 44.0% | 45.4% |
| AUCA website is updated and functional | 5.7% | 6.4% | 20.0% | 41.4% | 26.4% |
| The Internet is enough for students | 0.0% | 2.1% | 4.3% | 19.9% | 73.8% |
| Average Percentage: | 1.9% | 3.3% | 11.2% | 35.1% | 48.5% |

**Service delivery**

The results provided in Table 6 show that, on average, 58.0% of the participants agreed or strongly agreed with the statements of the Provision of Services offered by the postgraduate Programme. The best rated question is "Sunday is very favorable to the majority of employees who want to study for a Master’s degree" (82.3%), on the contrary, the question with the lowest rating is "We appreciate the provision of the service from the registry office' (Very poor and Poor = 39.4%), followed by the question 'The service provided by AUCA is useful' (Very poor and Poor = 31.9%).

**Table 6**

**Percentage of student responses: Service Delivery**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Service delivery | Very poor | Poor | Adequate | Good | Excellent |
| % | % | % | % | % |
| The Quality of education at AUCA is a priority of priorities | 5.0% | 8.6% | 16.4% | 37.1% | 32.9% |
| Programmes at AUCA are relevant | 1.4% | 2.8% | 14.9% | 41.8% | 39.0% |
| Sunday is very favorable to most employees who want to do Master’s studies | 1.4% | 5.0% | 11.3% | 41.8% | 40.4% |
| Academic transcripts appear in students accounts on the website on due time | 5.0% | 10.8% | 30.2% | 33.1% | 20.9% |
| Service delivery from the registrar’s office is appreciated | 21.2% | 18.2% | 23.5% | 25.0% | 12.1% |
| Service Delivery form lecturers is of high quality | 13.1% | 13.8% | 27.7% | 24.6% | 20.8% |
| The service delivered by AUCA is useful | 18.5% | 13.4% | 31.9% | 21.8% | 14.3% |
| Average Percentage: | 9.4% | 10.4% | 22.3% | 32.2% | 25.8% |

**Organizational Culture**

Regarding the Organizational Culture, on average, 60.8% of the participants agreed or strongly agreed with these statements. The factor that contributes the most to their satisfaction is that ‘Students’ suggestions and rights are considered’ (78.7%) following by ‘AUCA has a favorable environment for Teaching-learning’ (78.1%). On the other hand, the factor that least contributes to their satisfaction is that ‘AUCA maintains good discipline for students and lecturers’ (50.4%). The detailed results are presented in Table 7.

**Table 7**

**Percentage of student responses: Organizational Culture**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  Organizational Culture | Very poor | Poor | Adequate | Good | Excellent |
| % | % | % | % | % |
| AUCA maintains good discipline for students and lecturers | 19.0% | 31.4% | 24.1% | 18.2% | 7.3% |
| AUCA has a favorable environment for Teaching-learning | 1.5% | 3.6% | 16.8% | 37.2% | 40.9% |
| Students’ suggestions and rights are considered | 1.4% | 0.7% | 19.1% | 41.1% | 37.6% |
| Average Percentage: | 7.3% | 11.9% | 20.0% | 32.2% | 28.6% |

**Institutional Image**

Regarding the Institutional image on average, 65.1% of the participants agreed or strongly agreed with the statements of these statements. The factor that contributes the most to their satisfaction is that ‘At which level are you satisfied with your experience at AUCA’ (68.3%). On the other hand, the factor that least contributes to their satisfaction is that ‘At which level would you like to recommend other students to join AUCA’ (13.4%). The detailed results are presented in Table 8.

**Table 8**

 **Percentage of student responses: Institutional Image**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Institutional image | Very poor | Poor | Adequate | Good | Excellent |
| % | % | % | % | % |
| At which level are you satisfied with your experience at AUCA | 2.4% | 4.8% | 24.6% | 41.3% | 27.0% |
| At which level would you like to recommend other students to join AUCA | 3.0% | 10.4% | 24.6% | 37.3% | 24.6% |
| Average Percentage: | 2.7% | 7.6% | 24.6% | 39.3% | 25.8% |

**Management and Administration**

The results provided in Table 9 show that, on average, 67.5% of the participants agreed or strongly agreed with these statements. The best rated question is ‘Masters’ students are treated with due respect’ (82.7%), on the contrary, the question with the lowest rating is ‘Marking at AUCA is fair’ (Very poor and Poor = 21.5%).

**Table 9**

 **Percentage of student responses: Management and Administration**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  Management and Administration | Very poor | Poor | Adequate | Good | Excellent |
| % | % | % | % | % |
| Masters’ students are treated with due respect | 1.4% | 2.9% | 12.9% | 36.7% | 46.0% |
| Marking at AUCA is fair | 8.5% | 13.1% | 26.2% | 36.2% | 16.2% |
| Average Percentage: | 5.0% | 8.0% | 19.6% | 36.4% | 31.1% |

**Infrastructure**

The results provided in Table 10 show that, on average, 75.0% of the participants agreed (good) or strongly agreed (excellent) with the statements about the Infrastructure that the postgraduate Programme offers. The highest rated question being ‘Infrastructure and hygienic conditions are commendable’ (75.2%), followed by ‘Safety and health of students are cared about with provision of clean water and canteen which is useful for students during lunchtime’ (74.8%).

**Table 10**

**Percentage of student responses: Infrastructure**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  Infrastructure | Very poor | Poor | Adequate | Good | Excellent |
| % | % | % | % | % |
| Infrastructure and hygienic conditions are commendable | 1.5% | 2.3% | 21.1% | 47.4% | 27.8% |
| Safety and health of students are cared about with provision of clean water and canteen which is useful for students during lunchtime | 0.8% | 3.4% | 21.0% | 37.8% | 37.0% |
| Average Percentage: | 1.2% | 2.8% | 21.0% | 42.6% | 32.4% |

**Summary**

These findings suggest that study participants were generally satisfied with the AUCA Graduate Programme. In particular, the highest degree of student satisfaction was recorded in the 'Teaching-learning process' area (85.1%). The highest rated question being 'Most teachers are committed to their work/Homework' (95.7%). The results also indicate that, on average, the highest percentage of disapproval is in the questions that contain the 'Service Delivery' area.

**Dimensions of student satisfaction (Mean, SD)**

The descriptive statistics of the areas studied to measure satisfaction with the Master’s Programme that AUCA offers are shown in Table 11. Given that the responses ranged from 1=Very poor to 5=Excellent, the results show that most of the responses average tend to agree with the corresponding statements in the study instrument. While the measures themselves have no intrinsic value, they do allow for comparison and statistical analysis. Across the sample, higher agreement was reported for 'Teaching-learning process' (Mean=4.35) and lower agreement for 'Service Delivery' (Mean=3.59)

**Table 11**

**Descriptive statistics for the Graduate Programme student satisfaction sample. Means (n=141)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Areas of Satisfaction | Minimum | Maximum | Mean | Standard Deviation |
| Teaching-learning process | 2.67 | 5.00 | 4.35 | .56 |
| Facilities | 2.67 | 5.00 | 4.25 | .57 |
| Service delivery | 1.43 | 5.00 | 3.59 | .85 |
| Organizational culture | 1.00 | 5.00 | 3.65 | .80 |
| Institutional image | 1.00 | 5.00 | 3.80 | .89 |
| Management and administration | 1.00 | 5.00 | 3.85 | .88 |
| Infrastructure | 1.00 | 5.00 | 4.06 | .81 |

Figure 2. Differences in satisfaction by faculty: Teaching Learning Process



Figure 3. Differences in satisfaction by Faculty: Facilities



Figure 4. Differences in satisfaction by Faculty: Service Delivery



Figure 5. Differences in satisfaction by Faculty: Organization Culture



Figure 6. Differences in satisfaction by Faculty: Institutional Image



Figure 7. Differences in satisfaction by Faculty: Management and Administration



Figure 8. Differences in satisfaction by Faculty: Infrastructure



**Hypothesis**

Research hypothesis findings to test four hypotheses that examined whether the overall level of student satisfaction was affected by gender, Faculty, area of specialization, semester of study, religion, and the areas of study. In an effort to analyze these differences, the researchers performed an independent t-test (gender), one-way analysis of variance (ANOVA) using demographic factor as the categorical independent variable and overall satisfaction score as the dependent variable.

**Null hypothesis 1**. There is no difference in the overall level of satisfaction with the AUCA Master’s Programme based on the gender of the participant.

The results of the t test showed that there were no significant differences in the levels of satisfaction between the male and female participants in the seven areas (t (138) = 0.867; Sig. =.387). Further analysis of bivariate tests also showed no significant differences (see Table 12) between male and female satisfaction levels for each of the domain components.

**Table 12**

**Test Results for differences in levels of satisfaction between the genders**

|  |  |  |  |
| --- | --- | --- | --- |
| AREAS (dependent variables) | T-Statistic | *df* | P\_value (Sig.) |
| TEACHING LEARNING PROCESS | -.242 | 137 | .809 |
| FACILITIES  | .505 | 138 | .615 |
| SERVICE DELIVERY | 1.350 | 138 | .179 |
| ORGANIZATIONAL CULTURE | .852 | 138 | .396 |
| INSTITUTIONAL IMAGE | 1.111 | 134 | .268 |
| MANAGEMENT AND ADMINISTRATION | 1.161 | 137 | .248 |
| INFRASTRUCTURE | .964 | 133 | .337 |

**Null hypothesis 2.** There is no difference in the level of general satisfaction with the AUCA Master’s Programme depending on the Faculty to which the participant belongs.

The results of the ANOVA and Kruskal Wallis test showed that there were no significant differences in the levels of satisfaction between the study participants, who belonged to the different faculties, in the seven components of the study (F(2; 138)=2.470; p =.088).

However, further analysis of bivariate tests indicated a significant difference (see Table 13) in Service Delivery scores between the faculties. Participants in the Faculty IT reported higher levels of satisfaction.

**Table 13**

**Test Results for differences in levels of satisfaction between faculties**

|  |  |  |  |
| --- | --- | --- | --- |
| AREAS | F-Statistic | *df* | P\_value (Sig.) |
| TEACHING LEARNING PROCESS | F=0.193 | 2;137 | .825 |
| FACILITIES  | F=0.394 | 2;138 | .675 |
| SERVICE DELIVERY | F=6.405 | 2;138 | .002 |
| ORGANIZATIONAL CULTURE | F= 1.298 | 2;138 | .276 |
| INSTITUTIONAL IMAGE | Kruskal Wallis=4.356 | 2 | .113 |
| MANAGEMENT AND ADMINISTRATION |  Kruskal Wallis=6.000 | 2 | .050 |
| INFRASTRUCTURE |  Kruskal Wallis=3.642 | 2 | .162 |

**Null hypothesis 3.** There is no difference in the level of general satisfaction with the AUCA Master’s Programme depending on the Semester to which the participant belongs.

The results of the ANOVA test showed significant differences in the levels of satisfaction among the study participants, belonging to the different semesters, in the seven components of the study (F(3; 135)=5.519; Sig. .001).

A more detailed analysis of the bivariate tests showed that there are no significant differences (See Table 14) between the semester to which the participants belong for 'Teaching-learning process and Facilities'; however, it did indicate a significant difference (See Table 14) in the areas of: Service Delivery, Organizational Culture, Institutional Image, Management and Administration, and Infrastructure, scores between the different semesters; in particular, the participants belonging to semester one reported higher levels of satisfaction within the other semesters.

**Table 14**

**Test Results for differences in levels of satisfaction between the semesters**

|  |  |  |  |
| --- | --- | --- | --- |
| AREAS | F-Statistic | *df* | P\_value (Sig.) |
| TEACHING LEARNING PROCESS | F=1.337 | 3;135 | .265 |
| FACILITIES  | F=1.923 | 3;135 | .129 |
| SERVICE DELIVERY | F=8.360 | 3;135 | .000 |
| ORGANIZATIONAL CULTURE | F= 3.877 | 3;135 | .011 |
| INSTITUTIONAL IMAGE | F= 2.920 | 3;131 | .037 |
| MANAGEMENT AND ADMINISTRATION | F= 4.774 | 3;135 | .003 |
| INFRASTRUCTURE | F= 2.768 | 3;131 | .044 |

**Null hypothesis 4.** There is no difference in the general level of satisfaction with the seven study areas of the Master’s Programme of the Adventist University of Central Africa.

The results of the ANOVA and Kruskal Wallis tests - because the homogeneity of variances was not assumed, a requirement to use the F statistic - indicated that there is a significant difference in the levels of satisfaction between the study participants (see Table 15), with regarding the seven areas studied. In particular, participants in the area of Facilities reported the highest levels of satisfaction (very satisfied 'VS', and extremely satisfied 'ES' = 61%), followed by Infrastructure (VS, ES = 57.4%), and Organizational culture (VS, ES = 56.7%) within this component of the Master’s Programme than those who reported Neutral, and Slightly Satisfied.

Table 15. Test results for differences in satisfaction levels

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| AREAS | Mean+/- SD | n | Statistics (%) | Mean Scale Score | Statistic | P\_value (Sig.) |
| TEACHING LEARNING PROCESS | Slightly Satisfied | 20 | 14.3% | 76.95 | F = 47.504 | 0.000 |
| Neutral | 55 | 39.3% | 89.07 |
| Very Satisfied | 37 | 26.4% | 101.19 |
| Extremely Satisfied | 28 | 20.0% | 111.04 |
| FACILITIES  | Slightly Satisfied | 20 | 14.2% | 77.75 | F = 22,139 | 0.000 |
| Neutral | 35 | 24.8% | 88.40 |
| Very Satisfied | 64 | 45.4% | 98.45 |
| Extremely Satisfied | 22 | 15.6% | 108.09 |
| SERVICE DELIVERY | Slightly Satisfied | 24 | 17.0% | 71.88 | Kruskal Wallis = 104.481 | 0.000 |
| Neutral | 44 | 31.2% | 88.52 |
| Very Satisfied | 45 | 31.9% | 99.87 |
| Extremely Satisfied | 28 | 19.9% | 114.79 |
| ORGANIZATIONAL CULTURE | Slightly Satisfied | 22 | 15.6% | 73.32 | F= 52.839 | 0.000 |
| Neutral | 39 | 27.7% | 88.97 |
| Slightly Satisfied | 62 | 44.0% | 99.90 |
| Extremely Satisfied | 18 | 12.8% | 113.94 |
| INSTITUTIONAL IMAGE | Slightly Satisfied | 30 | 22.1% | 80.07 | Kruskal Wallis = 72.400 | 0.000 |
| Neutral | 35 | 25.7% | 90.20 |
| Very Satisfied | 51 | 37.5% | 100.24 |
| Extremely Satisfied | 20 | 14.7% | 115.40 |
| MANAGEMENT AND ADMINISTRATION | Slightly Satisfied | 29 | 20.7% | 78.10 | Kruskal Wallis = 76.615 | 0.000 |
| Neutral | 38 | 27.1% | 89.42 |
| Very Satisfied | 53 | 37.9% | 100.89 |
| Extremely Satisfied | 20 | 14.3% | 114.05 |
| INFRASTRUCTURE | Slightly Satisfied | 27 | 19.9% | 85.00 | Kruskal Wallis = 46.429 | 0.000 |
| Neutral | 31 | 22.8% | 90.30 |
| Very Satisfied | 53 | 39.0% | 96.77 |
| Extremely Satisfied | 25 | 18.4% | 111.00 |

**Conclusion**

The current study provided clear evidence on the type of services in which the students were highly satisfied and dissatisfied. A high percentage of students were satisfied with the services offered by AUCA. The findings indicated that the average score of satisfaction is in a good index, since in all areas the average is exceeded by 3.94 (70.7%), this value is on the satisfactory scale. The area that obtains the highest score corresponds to 'Teaching learning process' 4.35 (85.1%); the area that contributes the least is 'Service delivery' 3.59 with (58.0%). It is important to note that the Faculty of IT (Big data) 3.99 reaches the highest approval score, followed by the Faculty of Business 3.98, occupying the last place in the evaluation of satisfaction of its students is the Faculty of Education 3.62. The findings also revealed that the Accounting major reached the highest score (mean=4.22, Sd = 0.46), followed by the HRM (mean=4.11, Sd = 0.62), and Big Data (mean=3.97, Sd=0.53). The ones that reached the lowest score in the satisfaction score were Educational Administration (mean=3.52, Sd = 0.72), Project Management (mean=3.68, Sd = 0.54), and the Management major (mean=3.69, Sd = 0.51).

The percentage of discontent among students is very low, with the highest percentage of discontent observed being in the area of 'Organizational culture., in the following statement: 'AUCA maintains good discipline for students and lecturers ' (50.4%), followed by ‘Service delivery’ in the following statement: 'Service delivery from the registrar's office is appreciated' (39.4%), likewise, the statement 'The service delivered by AUCA is useful' (36.1%).

The present study could not establish that the demographic factors of gender, and the faculty to which the student belongs had a significant impact on the levels of satisfaction with the study areas. However, the participants that belong to a certain semester reported greater satisfaction, with Semester One being the most satisfied.

When we analyze the overall satisfaction score according to the study areas, there is a significant difference; however, in certain areas, the difference between those who are highly satisfied and those who are not is minimal. These minimal differences occur in the areas of: Teaching-learning process, Service delivery, Management and administration, and Institutional image.

**Recommendations:**

Based on the above findings the following are the recommendations to be addressed by AUCA decision -makers.

* It is recommended to carry out a focus group study with expert professionals in this type of study, where it will be possible to learn more about the biggest problems that affect student dissatisfaction.
* Since the students in the Master of education are the ones with the lowest level of satisfaction, the University should conduct a deep analysis to find out what their major concern is.
* The University should improve its services in all service units to serve as a marketing strategy for more students in the future.

**References**

Al-Sheeb, B., Hamouda, A. M., & Abdella, G.M. (2018). Investigating Determinants of Student Satisfaction in the First Year of College in a Public University in the State of Qatar. Education Research International.

Bryant, J., & Bodfish, S. (2014). The Relationship of Student Satisfaction to Key Indicators for Colleges and Universities. Coralville, IA: Noel- Levitz

Braunsberger, K., & Gates, R. (2009). Developing inventories for satisfaction and Likert scales in a service environment. *Journal of Services Marketing*, 23(4), 219–225.

Butt, B. Z., & Rehman, K. U. (2010). A study examining the student’s satisfaction in higher education. In Procedia - Social and Behavioral Sciences (Vol. 2, pp. 5446–5450). Elsevier Ltd.

# Butt, R. (2010). A study examining the students’ satisfaction in higher education. [Procedia - Social and Behavioral Sciences](https://www.sciencedirect.com/journal/procedia-social-and-behavioral-sciences). Elsevier.

Guilbault, M. (2018). Students as customers in higher education: The (controversial) debate needs to end. *Journal of Retailing and Consumer Services*, 40 (April 2017), 295–298

Hameed, A., & Amjad, S. (2011). Students’ Satisfaction in Higher Learning Institutions: A Case Study of COMSATS Abbottabad, Pakistan. *Iranian Journal of Management Studies*, 4(1), 63–77

Kanji, G.K.,Malek, A., & Tambi, B. A. (1999). Total Quality Management in Teacher Education Institutions. Total Quality Management, 10(1), 129–153.

# Kanwar&Sanjeeva (2022). Student satisfaction survey: a key for quality improvement in the higher education institution. [*Journal of Innovation and Entrepreneurship*](https://innovation-entrepreneurship.springeropen.com/)*.*

# Kontic, L. (2014). Measuring service quality in higher education: The Case of Serbia. International Conference MakeLearn 2014: Human Capital Without Borders: Knowledge and Learning for Quality of Life, 645–65

Mukhtar, U., Anwar, S., Ahmed, U., & Baloch. M. A. (2015). Factors Effecting the Service Quality of Public and Private Sector Universities Comparatively: An Empirical Investigation. Journal of Arts, 6(3), 132–145

Onditi, E. O., & Wechuli, T. W. (2017). Service Quality and Student Satisfaction in

Higher Education Institutions: A Review of Literature. International Journal of Scientific and Research and Publications 7(7), 328–335

Sarsale, M. S.& Caday, S. G. (2020). Exploring quality of student services of a Philippine state university satellite campus using serviqual and service improvement matrix. Malaysian Online Journal of Educational Management 8(2), 59–71.

Schertzer, C. B., & Schertzer, S. M. B. (2004). Student satisfaction and retention: A conceptual model. *Journal of Marketing for Higher Education*, 14(1), 79–9

Temizer, L., & Turkyilmaz, A. (2012). Implementation of Student Satisfaction Index Model in Higher Education Institutions. Procedia - Social and Behavioral Sciences, 46, 3802 3806

# [Wong](https://link.springer.com/article/10.1007/s10734-022-00874-0#auth-Wan_Hoong-Wong), W.H & [Chapman](https://link.springer.com/article/10.1007/s10734-022-00874-0#auth-Elaine-Chapman), E. (2023). Student satisfaction and interaction in higher education. Springer Nature Switzerland AG.

**Guidelines and Instructions to Authors:**

 Paper title and author’s details:

* Full title of the paper
* Title, full surname and first name
* Institutional affiliation
* E-mail address (if paper has multiple authors, please state name of corresponding author)
* Telephone (cell/mobile or office)

Abastract: An APA abstract is a comprehensive summary of your paper in which you briefly address the [research problem](https://www.scribbr.com/research-process/research-problem/), [hypotheses](https://www.scribbr.nl/methodology/hypotheses/), [methods](https://www.scribbr.com/dissertation/methodology/), [results](https://www.scribbr.com/apa-style/results-section/), and [implications](https://www.scribbr.com/dissertation/discussion/) of your research. It’s placed on a separate page, the word “Abstract” centred, right after the [title page](https://www.scribbr.com/apa-style/apa-title-page/) and is usually no longer than 250 words. Most professional papers that are submitted for publication require an abstract. Student papers typically don’t need an abstract, unless instructed otherwise.

Length of the abstract should be between 250 and 300 words including keywords (in italics) or phrases, lowercase, and words separated with commas.

Paper articles must be written in English

No references, tables or graphics should be included in the abstract

When using abbreviations within the body of the paper, please spell out the name in full at first mention and follow with the abbreviation in parenthesis.

It is the responsibility of the author to ensure that the paper text does not contain any typos or grammatical errors.

 Use MS-Word, Times New Roman 12, paragraph single spacing, left justification, and margins left and right 25mm, top and bottom 20 mm. The title should be in bold and italic Arial or Times New Romans pt.12 and the name(s) of the author(s), department(s), institution(s) and e-mail address (es) in regular Arial 11. If there is more than one author, the main author must be indicated by an asterisk.

**Enquiries:**

**Editorial Board**

**Prof. Kayigema Jacques**

**Tel. +250788866769**

**jacques.kayigema@auca.ac.rw**