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EDITORIAL

With the idea of human and humanity comes all and every concept related health and happiness and thus comes the concepts like monopoly, black marketing, corruption, bribery, unemployment, inflation, castesim, racism, nationalism etc. This perception of the humanity remains purely upon the positioning and priorities of these concepts of the individual based upon his level of satisfaction with himself/herself, society, state and nation. The falling currency, increasing poverty, declining happiness index, depriving humanity etc. connotes that our dreams are far from reality. In this situation, our cultural systems sometimes seem to be crashing down, social engineering turning chaotic... Maintaining communal harmony is facing huge challenge and so on... With this background, it becomes very important to answer the questions that has remained unanswered - What are we? Where are we going? Are we really developing?

Though the situation is not good but yet Voice of Research has the privilege of the strong support of the researchers. The current issue with the papers related to leadership styles and commitment of teachers; ICT and learning behaviour; mental health and gender; e-procurement and tendering process; start-up ecosystem and innovations; effect of community engagement; management practices and performance of agricultural cooperatives; project management practices and effectiveness of private radio station's projects; musical forms of Pena; and yoga culture and the traditional ecological concept presents the society with potential researchers as the strong backbone.

To add to the science of knowledge in education, philosophy and psychology Stella and Sperial studies effect of head teachers' leadership styles on commitment of teachers; Cyprien & Pascal presents effects of information and communication technology on learning behaviour; Lilani correlates mental health and gender; Uwamahoro & Dushimimana reviews effect of e-procurement system on the performance of tendering process; Mehta comes up with the impact of start-up ecosystem on innovations; Amani & Sikubwabo focusses on effect of community engagement on learners' academic performance; Silas & Dushimimana relates management practices and agricultural cooperatives; Patrick & Dushimimana represents relationship between practices and effectiveness; Singh studies musical forms of Pena whereas Qianyuan connects yoga culture and the traditional ecological concept of ethnic minorities.

I am sure this issue will enlighten the potential researchers and the society as well it will help us all assess our societal development.

With the hope of best for mankind,

Avdhesh Jha
Chief Editor
Voice of Research

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**EFFECT OF HEAD TEACHERS' LEADERSHIP
STYLES ON COMMITMENT OF TEACHERS AMONG
SECONDARY SCHOOLS IN UGANDA**

Stella and Sperial

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Abstract

This study aimed at investigating the effect of head teachers' leadership styles on the commitment of teachers among secondary schools in Uganda. The study employed correlational research design and data was collected on a sample of 212 using a questionnaire and an interview guide. Quantitative data were analysed using descriptive statistics, correlation and regression. The findings revealed that democratic, autocratic and laissez-faire had a positive and significant influence on commitment of teachers. Therefore, it was concluded that the democratic leadership style is imperative for commitment of teachers, and autocratic leadership style is a pre-requisite for commitment of teachers but laissez-faire is not a substantially leadership style for commitment of teachers. Thus, it was recommended that head teachers should make effort to employ the democratic leadership style to promote for commitment of teachers, head teachers should also use autocratic leadership style to promote commitment of teachers, and head teachers should give limited emphasis to use of laissez-faire leadership style to promote commitment of teachers.

Keywords: Head teachers, Leadership styles, commitment, Teachers, secondary schools

The degree to which teachers commit themselves to their schools, students, teaching activities, profession, colleagues and the society are very crucial. Therefore, teacher commitment is an important variable of teacher quality in schools (Peretomode & Bello, 2018).

The concept of commitment first received formal from analysis in 1960. Becker (1960) indicated that previously that there had been little formal analysis of the concept of commitment. Becker described commitment as an attitude of consistent behaviour that persists over time. He explained that commitment came into being because of side bets resulting from participation in social organisations. Side bets referred to gains made by an individual because of staying with an organisation for a time that constrained the individual from leaving for fear of losing the gains such as accumulated pension, seniority, connections, ease of doing work resulting from experience and stability of household among others (Mugizi, Bakkabulindi & Ssempebwa, 2016). In their analysis of the concept, Porter, Steers, Mowday and Boulian (1974) indicated that commitment comprised three factors that were namely the desire to remain in an organization, willingness to exert considerable efforts on its behalf and belief in and acceptance of its goals and values (Mete, Sökmen & Biyik, 2016). Nevertheless, Meyer and Allen (1991) basing on observations from several findings and types of organizations in 1990 they developed the multidimensional model of commitment comprising three components namely affective, continuance and normative (Peretomode & Bello, 2018). Continuance commitment describes those costs incurred when one leaves

an organisation while and normative commitment looks at ones' commitment to support and remain as a member of an organisation (Mugizi, Bakkabulindi & Bisaso, 2015). According to Al-Jabari and Ghazzawi (2019), the conceptualisation by Allen and Meyer (1990) that identifies commitment as referring to affective, continuance and normative commitment is the popular description of the concept.

Globally, the commitment of teachers remains an outstanding challenge education practitioners and policymakers. Taking the example of USA, continuous commitment was low with a high share of public-school teachers are leaving their posts (13.8 percent) either leaving their school or leaving teaching altogether. Schools are having a harder time filling the vacancies that turnover, attrition, and other factors (like increasing student enrolment or broadened curriculums) create. The share of schools that were trying to fill a vacancy but could not tripled from the 2011–2012 to 2015–2016 school years (increasing from 3.1 to 9.4 percent), and in the same period the share of schools that found it very difficult to fill a vacancy nearly doubled (from 19.7 to 36.2 percent). Schools are also having a harder time retaining credentialed teachers (García & Weiss, 2019). Still, many teachers have low affective commitment by being unsupportive to students and not being dedicated to their work (Banerjee, 2016).

In Africa, specifically in sub-Saharan Africa, teachers' commitment of teachers' is also a big quandary. In a country like Kenya, many teachers show low affective commitment to their jobs because of high laxity they exhibit (Karue & Amukowa, 2013). A study by Kimosop (2015) involving teachers from several public secondary schools in Kenya revealed that 48.6 percent of teachers never accomplished the learning objectives, 66.6% prepared schemes of work but majority of them 55.5% never referred to them often, and the majority percent (86.7%) never prepared lesson plans. In the schools, teachers are nearly acted as preachers because they did not give adequate preparation that it deserves for orderly teaching. The laxity of teachers seriously hampered teaching and learning in the schools. Therefore, the commitment of teachers in the sub-Saharan countries was low.

Since the introduction of formal education in Uganda first by Arab Muslim traders in 1844 who taught Islam and Arabic language, and later by the Church Missionary Society from 1877 and Roman Catholic White fathers from 1879 commitment of teachers has been a matter of concern for different stakeholders. Missionaries thus offered teachers incentives such as medical care, Christian medals and paid them salaries. In 1963 the government took over schools from missionaries after independence in 1962. During the 1970s and 80s, the political turbulence in the country deteriorated the working conditions in the education sector very much leading to a decline in teachers' commitment because of declining working conditions (Kjaer & Muwanga, 2016). To provide teachers comfort and enhance teacher's commitment, the government of Uganda built many teachers' houses in government schools and provided them satisfactory pay

and led to high commitment among teachers (Tumusiime & Kasujja, 2020). While in the last two decades the government of Uganda has worked to improve the commitment of teachers through improved welfare by increasing salaries and supporting them with soft loans through Teachers' SACCOs, commitment of teachers in terms of affective, continuous and normative commitments remained low (Tumusiime & Kasujja, 2020). A report compiled by UNESCO IN 2014 revealed that only 16% of the teachers aspired to stay implying that 84% of wanted to quit, 47% of teachers were dissatisfied with their jobs, 59% wished not to stay in the profession if they were to start their career anew and 37% the teachers wished to resign within a year (Mugizi, Tumuhaise, Samanya & Dafiewhare, 2019). Therefore, commitment of teachers in schools in Uganda remained a big challenge.

Owing to the importance of commitment of teachers, a number of scholars (e.g. Abasilim, Gberevbie, Osibanjo, 2019; Aydin, Sarier, & Uysal, 2013; Lukeera, 2016; Mugizi, 2019; Muwagga & Genza, 2011; Obbo, Olema & Atibuni, 2018; Oboko & Wasswa, 2020; Yahaya & Ebrahim, 2016) have investigated factors relating to organisational commitment. However, those who have studied leadership styles and commitment of teachers such as Abasilim et al. (2019), Aydin et al. (2013), Obbo et al. (2018), and Yahaya and Ebrahim (2016) have studied the modern leadership styles of transformational, transactional and laissez-faire yet according to Bwiruka (2009) head teachers practice the traditional leadership styles that include democratic, autocratic and laissez-faire. Since this study is an earlier study done 12 years ago, it necessary to further examine the extent of this leadership in schools in Uganda and how it relates to commitment of teachers.

The Situational Leadership Theory (SLT) by Hersey and Blanchard (1969) informed this study. The Situational leadership stresses that leadership is composed of both a directive and supportive dimension, and each has to be applied appropriately in a given situation (Kaifi, Noor, Nguyen, Aslami & Khanfar, 2014). Khanfar, Harrington, Alkhateeb and Kaif (2013) consider task behaviour as the degree to which leaders define duties and responsibilities of individuals or groups of workers through directing and setting goals. On the other hand, relationship behaviour looks at the ability of a leader to involve followers in a two-way or multi-way form of communication, and how they are able to listen, encourage and coach others (Khanfar, Harrington, Alkhateeb & Kaif, 2013).

In the situational model, combinations of task and relationship behaviours are divided into four quadrants: *quadrant 1 - high task and low relationship*. In this category, the "telling" style is very directive since the leader is the overall commander who puts in a lot of energy though with minimum amount of relationship behaviour. The example in this case is an autocratic leader. *quadrant 2 - high task and high relationship*: Although the "telling" in this

style is also very directive, it is somehow persuasive and guiding in manner. The leader gives considerable amount of input about the task to be accomplishment and also considers human relations. This style combines all the three leadership styles. *Quadrant 3 - high relationship and low task.* The leadership under this style gives less direction but provides more collaboration between the leader and the group members. Examples of this style include consultative and consensus subtypes of democratic leadership. *quadrant 4—Low relationship and low task.* The leader in this style delegates responsibilities for tasks to group(s) members and is simply monitors progress. If carried to an extreme, this style would be classified as free-rein or as laissez-faire (Kolzow, 2014).

The theory of situational leadership proposes that that there is no single way of influencing members of a group. It says that effective leadership depends on how ready group members are to perform a given task (Isolka, 2018). Readiness is divided into two: ability and willingness. *Ability* refers to the knowledge, experience, and skill possessed by individuals or group members in relation to the task at hand. On the other hand, *willingness* deals with the confidence, commitment, and motivation an individual or has in accomplishing a specific task. Situational leadership theory points out that as readiness among increases, the leader at this point should focus more on relationship behaviour and less on task behaviour (Kolzow, 2014). Under this theory, the leader at times can employ either democratic, autocratic and/ or laissez-faire styles. Therefore, Situational Leadership Theory was appropriate in this study since the study sought to examine how adopting those different leadership styles related to commitment of teachers.

Statement of the Problem

The level of commitment of teachers commit to their schools, students, teaching activities, profession, colleagues and the society is very paramount. Owing to the significance of commitment of teachers, the government of Uganda and management of schools devised mechanisms to enhance it. Besides, the government aided schools paid PTA allowances to teachers to supplement their salaries as a motivation for propping up their commitment. Nonetheless, commitment of the teachers remained low. The teachers in the schools have poor attitude to work, devote less time on performance of their job such as managing of extra-curricular activities, teaching preparation, and marking. There was deterioration in teachers' professional standard of conduct with teachers exhibiting misconduct at and outside of work.

Further, there was high absenteeism among teachers, late submission of evaluation of reports, low morale to perform, failure to finish the syllabus and failure to make students to fully interpret texts in textbooks (Kirungi, 2015). A large number of teachers report late and not execute their entire professional such as performing weekly duty (Bushenyi District Education Officer Report [DEO], 2018). Studies (e.g. Abasilim, Gbervbie, Osibanjo,

2019; Aydin, Sarier, & Uysal, 2013; Lukeera, 2016; Mugizi, 2019; Muwagga & Genza, 2011; Obbo, Olema & Atibuni, 2018; Oboko & Wasswa, 2020; Yahaya & Ebrahim, 2016) have investigated factors relating to organisational commitment. However, those who have studied leadership styles and commitment of teachers such as Abasilim et al. (2019), Aydin et al. (2013), Obbo et al. (2018) and Yahaya and Ebrahim (2016) studied the modern leadership styles of transformational, transactional and laissez-faire yet according to Bwiruka (2009) head teachers practice the traditional leadership styles that include democratic, autocratic and laissez-faire. Therefore, it was imperative for this study to investigate the association between head teachers' leadership styles and commitment of teachers.

Purpose of the Study

This study investigated the relationship between head teachers' leadership styles and commitment of teachers among secondary schools in Uganda. It was guided by the following questions: What is the relationship between head teachers' democratic leadership style and commitment of teachers? What is the relationship between head teachers' autocratic leadership style and commitment of teachers? What is the relationship between head teachers' laissez-faire leadership style and commitment of teachers? It was hypothesised that: There is no significant relationship between head teachers' democratic leadership style and commitment of teachers; There is no significant relationship between head teachers' autocratic leadership style and commitment of teachers; There is no significant relationship between head teachers' laissez-faire leadership style and commitment of teachers.

Significance of the Study

This study is likely to make significant contribution for policy makers, organisations, management of schools and to the scientific community in a number of ways. To the policy makers that include bodies such as the executive and parliament, the findings of this study might provide a reference point for the developing of appropriate leadership policies that can enhance leadership skills of those involved in the management of organisations such as schools. This might help in promoting commitment of employees such as secondary school teachers. To organisations such as schools, the findings are likely to help head teachers and other school administrators to improve their leadership skills such that they are able to enhance commitment of the teachers. To school administrators and directors, they might use the findings of this study to establish mechanisms for enhancing commitment of among teachers. This will be based on the models developed suggesting how to enhance commitment of teachers using leadership styles. To scientific community, this study will hopefully provide researchers and scholars with new information on leadership styles and commitment of teachers. This might be useful in furthering research on the same to obtain more knowledge on the variables.

Literature Review

LEADERSHIP STYLES AND COMMITMENT OF TEACHERS

Democratic Leadership Style and Commitment of Teachers: Democratic leadership, also known as participative leadership is a leadership style by which the leader offers guidance to group members participating in the group and encouraging member involvement in decision making (Kilicoglu, 2018). Although a democratic leader will make the final decision, he or she allows other members of the team to contribute to the decision-making process. This not only increases job satisfaction by involving employees or team members in what's going on, but it also helps to develop people's skills. Employees and team members feel in control of their own destiny, such as the promotion they deserve and so are motivated to become committed to their job (Bhatti, Maitlo, Shaikh, Hashmi & Shaikh, 2012). Democratic leadership is able to influence people in a consistent manner and conducive to basic democratic principles and processes, such as self-determination, inclusiveness, and participation and serious thought (Amini et al., 2019).

A number of scholars have examined the relationship between democratic leadership and commitment of employees. Amini et al. (2019) examined the impact of autocratic, democratic and laissez-faire leadership style on employee motivation and commitment using employees of the Afghan Wireless Communication Company. Their descriptive analysis revealed that democratic leadership style increased commitment of the workers with autocratic and laissez-faire leadership for having a very least increase on commitment of the workers. On their part, Angelis, Conti, Cooper and Gill (2010) in a study in the UK examined the role of specific work practices that influenced employee commitment of employees in assembling industries. Their regression analysis established that employee democratic had a significant positive relationship with employee commitment.

Further, Appelbaum et al. (2013) studied the influence of participation in decision making and employee commitment among production and administrative staff in the industrial and commercial training in a manufacturing company in a Quebec, Canada. Their results indicated that insufficient employee participation in decision making led to low level of employee commitment. Relatedly, Banjarnahor, Hutabarat, Sibuea and Situmorang (2018) studied the influence of participative leadership styles on organisational commitment of elementary school principal organizational commitments in Medan in Indonesia. The study used junior high school principals as units of analysis. Structural modelling results revealed that participatory leadership style had a significant positive effect on and organization commitment. Relatedly, Bhatti et al. (2019) tested the mediating role of affective and cognitive trust, and the moderating role of continuous commitment on participative leadership and organizational citizenship behaviour relationships using employees in the hotel industry in Pakistan. Their results indicated existence of a positive significant relationship between democratic leadership and continuance commitment.

LEADERSHIP STYLES AND COMMITMENT OF TEACHERS

Investigating, the effects of participative leadership on organisational commitment among bank clerks in Alice and King William's Town in South Africa, Bell and Mjoli (2014) reported that democratic leadership positively and significantly affected total organisational commitment of employees. Also, Elele and Fields (2010) examined the relationship between the democratic leadership style aspect of participation in decision making and the organisational commitment of Nigerian and American employees working in the public sector which sought establish the extent to which cultural differences or similarities between Nigeria and the US impacted this relationship. Their results of correlation analysis revealed that with Nigerian employees, both actual levels of participation and desired participation influenced the affective and normative commitment. Nonetheless, neither measure of participation was related to continuance commitment. For Americans, only actual against desired levels of participation were positively related with affective and normative organisational commitment. For both Nigerian and American employees, actual levels of participation or democratic leadership style were negatively related to continuance commitment.

Using urban teachers in middle schools in one US state, Henkin and Holliman (2008) explored the association between the democratic leadership style in terms of participation on teachers and organisational commitment. Regression analysis the democratic leadership style marginally related to commitment. Lyndon and Rawat (2015) examined the relationship between leadership and organisational commitment in the Indian context using employees working in banking, higher education, Information Technology and manufacturing sectors. Leadership was conceptualised in terms of transformational (democratic) and transactional (autocratic). The research found a positive linkage between leadership styles and organisational commitment. Rai, Budhathoki and Rai (2020) investigated the effect of perceived democratic leadership style of the managers on the organisational commitment of the employees working in the private banks in Nepal. The study's findings revealed that the democratic leadership style of managers had a significant positive impact on organisational commitment.

The literature above shows that scholars had made significant effort to examine the relationship between the democratic leadership style and commitment of employees. Nonetheless, contextual and empirical gaps emerged. At contextual level, other than the studies by Banjarnahor et al. (2018) and Henkin and Holliman (2008), none of the other studies involved teachers. At empirical level, some studies producing controversial results. For example, while Henkin and Holliman (2008) found that the democratic leadership style of participation was marginally related to commitment. On the other hand, Elele and Fields (2010) reported that the democratic leadership style of participation related to affective and normative

LEADERSHIP STYLES AND COMMITMENT OF TEACHERS

commitment but not continuance commitment of Nigerian workers. For Americans, participation was positively related with affective and normative organisational commitment and both Nigerian and American employees' participation was negatively related to continuance commitment. These controversies made it imperative for this study to further examine the relationship between the democratic leadership style and commitment of teachers to establish whether there was consistency in the relationship between the variables in the context of teachers in secondary schools in Uganda.

2.2 Autocratic Leadership Style and Commitment of Teachers: Autocratic leadership or authoritarian leadership refers to leader behaviour that exerts absolute authority and control over subordinates and demands for unconditional obedience. The leader expects subordinates to obey job demands without disagreement and to be socialised to accept and respect a strict and centralised hierarchy (Wang et al., 2019). Autocratic leadership style emphasises performance more than emphasis on people. The leader unilaterally exercises all decision-making authority by determining policies, procedures for achieving goals, work task, relationships, control of reward, and punishment. The basic assumption underlying autocratic leadership is that naturally, people are lazy, are not responsible, are untrustworthy meaning that putting the roles of planning, organizing, and controlling in the hands of subordinate would yield no tangible results and thus such roles should be performed by the leader without the involvement of people (Fiaz et al., 2017). Autocratic leaders highlight structure to their subordinates in accordance with the vision, make them aware of performance expectations, tell them what to do and how to accomplish task thus provide complete guidance in all aspects of work. This kind of leadership behaviour strengthens those employee behaviours which help in compliance to rules and formal processes and conduct decision making without much input from subordinates. Such leaders focus less on participation of subordinates (Rabbani, Imran & Shamoon, 2015).

There scholars that have attempted to examine the relationship between autocratic leadership and commitment of employees. For example, Amini et al. (2019) in a study on the impact of autocratic, democratic and laissez-fair leadership style on employee motivation and commitment found out that autocratic leadership led to a very least increase on commitment of the workers. Abasilim et al. (2019) in a study on the relationship between leadership styles transactional (autocratic) and employees' commitment, used employees in Lagos State Civil Service Commission of Nigeria as the study sample. Their results revealed that autocratic leadership had a negative and insignificant relationship with commitment of employees. Relatedly, Banjarnahor et al. (2018) examined the influence of the autocratic leadership in terms of directive leadership on organisational commitment using junior high school principals in Medan in Indonesia. The study found

out that the autocratic leadership style had a significant positive effect on organisational commitment of the principals.

Further, Çokluk and Yılmaz (2010) analysed the relationship between teachers' organisational commitment and school administrators' leadership behaviour using teachers in Turkish primary schools. Their findings showed that autocratic leadership of school administrators had a moderate negative association with organisational commitment. Garg and Ramjee (2013) examined the influence of leadership style on employee commitment in the Parastatal companies in South Africa. The results indicated that transactional (autocratic) leadership behaviours had a positive relationship with normative commitment. This implies there is need to clarify goals and objectives and also provide recognition once goals are achieved. There should be specification of standards for compliance and also what constitutes ineffective performance, and those followers who don't comply with those standards be punished in addition to closely monitoring for deviances, mistakes, and errors and then taking corrective action as quickly as possible encouraged how employees felt about needing to stay with the organisation.

Mahdi, Mohd and Almsafir (2014) assessed the impact employees' perceptions of their immediate supervisors' directive (autocratic) leadership behaviour on their organizational commitment using employees working in plantation companies in Malaysia. The study findings indicated that directive leadership behaviours had a positive significant effect on organisational commitment. Öztekin, İşçi and Karadağ (2015) in a meta-analysis examined the effect of leadership on organizational commitment of employees. The findings showed that paternalistic (autocratic) leadership had a positive significant relationship with organisational commitment. Silva, Nunes and Andrade (2019) investigated how managers' leadership styles interfered with the commitment of their team members using professionals in different locations in Brazil. The results revealed a positive relationship between the autocratic leadership (task-oriented style) and the normative commitment and not the other aspects. This was because since the with the task-oriented style the leader places emphasis on structuring tasks and accomplishing goals, the normative commitment of the team member is warranted as this component of commitment takes into account the existence of a sense of obligation to accomplish the tasks, to show good job performance, and to attempt to achieve the best results.

The related literature above reveals that scholars had made significant effort relate autocratic leadership and commitment of teachers. However, the literature reveals contextual and empirical gaps. At contextual level, except for the study by Banjarnahor et al. (2018) done on junior high school principals, all the authors studies were outside the contexts of schools. Still, none of the studies was done in the context of Uganda. At empirical level, while Abasilim et al. (2019), Çokluk and Yılmaz (2010), and Rabbani et al.

(2015) indicated that autocratic leadership had a negative influence on organisational commitment, others such as Banjarnahor et al. (2018) Mahdi et al. (2014), Öztekin et al. (2015) indicated that it had a positive one. These contextual and empirical gaps thus made it imperative to further carry out a study to further examine the relationship between autocratic leadership and commitment of teachers.

2.3 Laissez Faire Leadership and Commitment of Teachers: Laissez faire leadership is a leadership style characterised by the leader often being absent and less involved in the organisation's activities when needed to take critical decisions (Abasilim, Gbervbie & Osibanjo, 2019). Laissez faire leadership is also known as passive management-by-exception or hands-off style that describes a state involving a leader that does not get involved in his or her work, provides little or no direction and gives employees much freedom except when problems are very serious that his or her involvement is inevitable (Mugizi et al., 2019). The laissez-faire leadership style involves non-interference policy, allows complete freedom to all workers and has no particular way of attaining goals (Bhatti et al., 2012). A laissez-faire leader lacks direct supervision of employees and fails to provide regular feedback to those under his supervision. This leadership style is effective when an organisation has highly experienced and trained employees requiring little supervision (Amini et al., 2019).

There are a number of scholars that have examined the relationship between laissez-faire leadership and commitment of employees. Abasilim et al. (2019) studied the relationship between leadership styles and employees' commitment using employees in the Lagos State Civil Service Commission of Nigeria. The study findings indicated that laissez-faire leadership style had a positive but insignificant relationship with employees' commitment. Al-Daibat (2017) examined the impact of leadership styles on organisational commitment at Jordanian banks with employees as the units of analysis. Regression findings indicated that the laissez-fair leadership style had a negative and insignificant effect on organisational commitment. Amini et al. (2019) studied the impact of autocratic, democratic and laissez-fair leadership style on employee motivation and commitment using employees of the Afghan Wireless Communication Company. Using descriptive analysis, the study found out that laissez-faire leadership contributed very least increase on commitment of the workers.

Biza and Irbo (2020) examined the impact of leadership styles on commitment of academic staff in Madda Walabu University (MWU). The study revealed existence of a significant and positive correlation between laissez-faire leadership style and continuance commitment but insignificant and negative relationship between laissez-faire leadership style and affective commitment while but the relationship with normative commitment was not statistically significant. Bučiūnienė and Škudienė (2008) investigated the relationship between employees' organizational commitment dimensions

and leadership styles in Lithuanian manufacturing companies. The study established that laissez-faire leadership style was negatively associated with employees' affective commitment. In a study done in South Africa, Garg and Ramjee (2013) examined the influence of leadership style on employee commitment in the Parastatal companies. Their analysis showed that laissez-faire had a negative weak correlation with all the commitment aspects of affective commitment, continuance and normative. This meant that some leaders tend not be involved when important issues arise and are not available when needed, do not want to make decisions and also delay to respond are absent when needed, avoid making decisions and who delay responding to urgent questions, negatively affect an employee's emotional attachment to the organisation, as well as their decision to remain with the organisation.

Silva and Mendis (2017) examined the relationship between transformational, transaction and laissez-faire leadership styles with employee commitment in the insurance sector of Sri Lanka. Their analysis showed that laissez-faire leadership had a negative and weak significant correlation with organizational commitment. The literature above showed that scholars had expended significant effort to examination the association between laissez-faire leadership and commitment of employees. However, contextual and empirical gaps emerged. At contextual level, none of the studies was carried out in the context of secondary schools in Uganda with peculiarities different from those of the countries where the studies were carried out. At empirical level, some studies also produced controversial results. For example, while all the other studies reported negative results of insignificant results with all the aspects of commitment, Biza and Irbo (2020) reported that the relationship was significant and positive correlation between laissez-faire leadership style and continuance commitment. These gaps made it necessary for this study to further test the relationship between laissez-faire leadership style and commitment using teachers this time in the context of Uganda.

Methodology

Research Design: The study employed correlational research design which collects data necessary for testing the relationships in the same population or between or among variables of interest (Asamoah, 2014). The basic focus of correlational research design is to determine the presence and degree of a relationship between two factors namely the independent and dependent variable. The purpose of correlational studies is to determine if a predictive relationship exists (Ellis & Levy, 2009). The correlational research design helped in establishing whether a relationship exists between leadership styles and job commitment of teachers. The study used both the quantitative and qualitative approaches. The quantitative approach involved collecting of data seeking to establish how the independent variables influence the dependent variables between the variables using regression

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analysis. This suggests that the study involved making of statistical inferences. For the qualitative data, this was collected using interviews for in-depth analysis of qualitative data. Therefore, the study carried out both inferential and in-depth analyses.

Scope of the Study

The study was carried out among secondary schools in Bushenyi-Ishaka Municipality. Specifically, the study was carried out in both government-aided and privately-owned schools and investigated the relationship between head teachers' leadership styles and commitment of teachers.

Population of the Study

The population for this study was 486 including 473 teachers and 13 head teachers. The teachers were 190 teachers in government aided schools and 283 in private schools (District Education Report, 2020). This population provided the necessary data on the study problem. The head teachers were 13 that is four from government aided and nine from privately owned provided qualitative data necessary to complement quantitative data.

Sample size

The sample of the study was 324 for the questionnaire survey determined using the Table for Small Sample Technique by Krejcie and Morgan (1970) (see Appendix A) for each category of teachers, that is either from government aided or privately owned schools. All the head teachers of the 13 schools will purposively provide interview data. The sample was as presented in Table 3.1:

Table 1 : Population and Sample for Questionnaire Survey

| Category | Teachers Population | Sample Size |
|--------------------------|---------------------|-------------|
| Government Aided Schools | 190 | 85 |
| Private Schools | 283 | 127 |
| Total | 473 | 212 |

Sampling Procedures: The selecting of the sample was based on simple random and purposive sampling methods. With simple random sampling, teachers specifically were chosen by chance from a sampling frame containing names of the teachers to ensure representativeness of the selected sample (Martínez-Mesa, González-Chica, Duquia, Bonamigo & Bastos, 2016). The use of simple random sampling made it possible to generalize the findings. Purposively sampling head teachers helped in obtaining in-depth information for this study since it permits the researcher to use a small number of rich cases that provide in depth information and knowledge of a phenomenon under study (Palinkas et al., 2015). The use of the sampling methods helped in collecting of data necessary for both quantitative and qualitative analyses. The sample for purpose sampling was head teachers.

Data Collection Instrument

Questionnaire: The data collection instrument was a self-designed and self-administered questionnaire (SAQ) comprising three sections, namely; A through C. Section A was on demographic characteristics of the

respondents namely; gender, age, education level, experience and responsibility in the school. Section B is on commitment of teachers (DV) containing question items adapted from Allen and Meyer (1990). Sections C comprised of three subsections on each of the leadership styles, namely; democratic leadership style from Arnold et al. (2000), Goswami et al. (2014), and Mugizi and Bakkabulindi (2018), autocratic (Goswami et al., 2014; Kanste & Kyngäs, 2011; McGilton, 2010) and laissez-faire adapted from Kanste & Kyngäs (2011). The measurement was based on the five-point Likert Scale (Where 1 = strongly disagree 2 = disagree 3 = fairly agree 4 = agree 5 = strongly agree).

Interview Guide: The study also used an interview guide to collect qualitative data. An interview guide is a face-to-face data collection instrument. The design of the interview items was standardised open-ended interview that allow the participants to provide detailed information because of the probing questions it has a means of follow-up. Interviewing provided in-depth information pertaining to participants' experiences and viewpoints of a particular topic (Singer & Couper, 2017). Qualitative analysis from interviews added to the interpretation of data collected by survey. Interviewing was carried out because it helped in providing very complete responses since the respondents provided in depth information necessary for deep exploration and clarity (Boyce & Neale, 2006). Interviews were carried out on head teachers.

Research Procedure: The proposal was first presented to the Directorate of Postgraduate Studies and Research for approval and then to Institutional Research and Ethics Committee (IREC) for ethical clearance. The researchers explained the purpose of the study to the participants and there after sought their consent. The researches went ahead to personally administer the questionnaires and conducted the interviews with the respondents.

Quality Control of Instruments

Validity of the Instruments: Content validity of the instruments was obtained by the making sure that the constructed items of the main variables (independent and dependent variables) were in line with the study objectives and conceptual framework (see Figure 1). The two supervisors validated the instruments by providing their opinions on the relevance, wording and clarity of the items in the instruments. In addition, two other experts in the area of content were asked independently to rate the items in the study instrument (questionnaire). The items were rated on the rating scale of relevant and irrelevant. The items considered irrelevant were discarded or substituted with relevant ones. The formula used to calculate to calculate Content Validity Index (CVI) was;

$$CVI = \frac{n}{N}$$

Where: n = number of items rated as relevant

N= Total number of items in the instrument

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The benchmark for CVI of the questionnaire is 0.7 according to Liang, et al. (2019). Therefore, CIV for the questionnaire was considered at the benchmark level and above. The CVI results obtained were as follows:

Table 2 : Validity Indices

| Items | Number of Items | Content Validity Index |
|--------------------------------|-----------------|------------------------|
| Affective Commitment | 7 | 0.79 |
| Continuance Commitment | 5 | 0.80 |
| Normative Commitment | 6 | 0.92 |
| Democratic Leadership Style | 13 | 0.85 |
| Autocratic Leadership Style | 11 | 0.86 |
| Laissez-faire Leadership Style | 8 | 0.75 |

Reliability of the instrument: Reliability was achieved both for the interview guided and the self-administered questionnaire. For the interview guide, the researcher used the methods of credibility, dependability and confirmability. Credibility aimed at ensuring that the research findings represent views of the interviewees (Korstjens & Moser, 2018). Dependability will seek to ensure the findings, interpretation and recommendations was supported by the data collected while confirmability will aim at establishing that data and interpretations of the findings are clearly derived from the data collected (Nowell, Norris, White & Moules, 2017). The reliabilities of items in the various constructs were tested using Cronbach's Alpha (α) method provided by SPSS. Cronbach's Alpha is used as the reliability coefficient to show how well the items in the instrument are positively correlated to each other. If Cronbach's Alpha is closer to 1, the reliability of the measures is high. Cronbach's alpha values higher than 0.70 are considered ideal (Souza, Alexandre, & Guirardello, 2017). Therefore, the data was able to attain reliability. The reliability results were as follows:

Table 1 : Cronbach's alphas

| Items | Number of Items | Content Validity Index |
|--------------------------------|-----------------|------------------------|
| Affective Commitment | 7 | 0.783 |
| Continuance Commitment | 5 | 0.706 |
| Normative Commitment | 6 | 0.820 |
| Democratic Leadership Style | 13 | 0.883 |
| Autocratic Leadership Style | 11 | 0.700 |
| Laissez-faire Leadership Style | 8 | 0.865 |

Data Management and Analysis

Quantitative Data Analysis: After data was collected, it was then processed. Quantitative data was first coded, and then entered into the computer using the Statistical Package for Social Sciences (SPSS 24.0) Frequency tables were then obtained to identify errors and editing them to remove errors. Since all the objectives were directional objectives, they were all studied using the same data analysis methods. Data was analysed at univariate, bivariate and multivariate levels. At univariate level, data analysis involved calculating descriptive statistics, that is, frequencies, percentages and means. At bivariate and multivariate levels, correlation and regression analysis were respectively carried out to analyse the relationship between leadership styles

(independent variable) and commitment of teachers (dependent variable). This helped in making statistical inferences for generalisation.

Qualitative Data Analysis: The qualitative data collected was coded and grouped according to the study objectives and emerging themes for through thematic methods and content analysis. Qualitative data supplemented quantitative data and helped in providing explanations. Using thematic analysis, texts with similar meaning was clustered. Content analysis involved distilling words into fewer content related categories to attain a condensed and broad description of the phenomenon and the outcome of the analysis is concepts or categories describing the phenomenon (Vaismoradi & Snelgrove, 2019). This ensured analysis of the qualitative data collected helping to provide explanations to quantitative data. In the presentation of qualitative data, the interviewees were identified using code P for participant.

Ethical Considerations

The researcher observed research ethics in carrying out the whole study. Research ethics that were emphasised included informed consent, anonymity, confidentiality, respect for privacy, honesty in reporting of data, and observing COVID standard operating procedures as follows:

Informed consent: To ensure informed consent of the respondents, the teachers were asked to ensure that they participate in the study out of their own volition. Thus, the teachers were asked to participate in the study if they are certain they want to do so.

Anonymity: Anonymity is about the participants in a study providing data without revealing their identities. Anonymity was maintained by protecting the identities of the respondents by not tagging their identities on their responses.

Confidentiality: Confidentiality involves the management of private information by the researcher in order to protect the subject's identity. This was maintained through ensuring the respondents provide responses in privacy and by not revealing their identities.

Balancing of risks and benefits: This is about handling of the risks and hazards involved in research. Balancing of risks and benefits was ensured by ensuring that the respondents provide responses in confidence for both students and teachers.

Dissemination plan: This involved disseminating of the results to different stakeholders including policy makers, schools, students and community. To disseminate the findings, the copy of the dissertation was submitted to the university library as well as a soft copy that was uploaded on the university website. In addition, publications will be made in open peer review journals for the different stakeholders to access the findings of the study.

COVID-19 Operating Procedures: For the Covid-19 risk, for some of the respondents, data was collected using online platforms including WhatsApp and emails while social distancing was ensured during data collection for those

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who provided data physically.

Data Presentation, Analysis and Interpretation

This section presents, analyses and interprets study findings on head teachers' leadership styles and commitment of teachers among secondary schools Uganda. The findings include descriptive statistics which are supplemented by qualitative data that provide explanations to descriptive statistics data. Inferential statistics in terms of correlation and regression results follow.

Response Rate

This study planned to collect data from 212 teachers for the questionnaire survey but complete data were collected from 206 teachers for the questionnaire survey. This was response rate of 97.2%. This was considered a sufficient response rate because Mellahi and Harris (2016) indicate that a response rate of 50% is good in humanity studies. Out of the anticipated 13 head teachers for interviews, six provided interview data after data saturation.

Background Characteristics: This section is a presentation, analysis and interpretation of facts about the respondents' background characteristics that are gender, age categories, highest level of education attained, working experience and responsibility. The data on the same follow in Table 4.

Table 4 : Respondents' Background Characteristics

| Item | Categories | Frequency | Percent |
|-------------------------------------|----------------------|-----------|---------|
| School ownership | Government aided | 81 | 39.3 |
| | Private | 125 | 60.7 |
| | Total | 206 | 100.0 |
| Gender | Male | 99 | 48.1 |
| | Female | 107 | 51.9 |
| | Total | 206 | 100.0 |
| Age Categories | Up to 30 years | 25 | 12.1 |
| | 30 – 40 years | 100 | 48.5 |
| | 40 years and above | 81 | 39.3 |
| | Total | 206 | 100.0 |
| Highest level of education attained | Diploma | 26 | 12.6 |
| | Bachelors | 143 | 69.4 |
| | Post graduate | 37 | 18.0 |
| | Total | 206 | 100.0 |
| Responsibility of the teacher | Subject teacher only | 61 | 29.6 |
| | Class teacher | 73 | 35.4 |
| | Head of department | 72 | 35.0 |
| | Total | 206 | 100.0 |
| Teaching experience | Less than 5 years | 16 | 7.8 |
| | 5 - 10 years | 89 | 43.2 |
| | Above 10 years | 101 | 49.0 |
| | Total | 206 | 100.0 |

The results on school ownership showed that the larger percentage (60.7%) of the respondents was from private schools while 39.3% were from government aided secondary schools. While the number of teachers from the private schools was more, still teachers from both categories of schools

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were proportionately represented because the population of teachers from government aided schools was 40.2% of the population (Table 3.1). Therefore, the responses on obtained were representative of the views of teachers from both school categories. The results gender categories of the respondents indicated that the larger percentage (51.9%) was of males with females being 48.1%. These results implied that the higher percentage of the respondents were males. Nonetheless, views representative of both gender groups were collected because the population of female teachers was equally high since the difference between the two gender groups was only 3.8%.

The results on age categories of the respondents in years showed that the larger percentage (48.5%) was of the respondents was of those between 30-40 years followed by 39.3% that were 40 years and above while the least group was of up to 30 years that 12.1%. These results suggest that teachers from different age groups participated in the study. Hence, the responses obtained represented the perceptions of teachers of various age groups. The data obtained could be generalised on teachers of different age groups. The results on highest level of education attained by the respondents showed that the majority percentage (69.4) of the respondents had bachelor's degree followed 18.0% who had postgraduate qualifications and the remaining 12.6% had diplomas. These results suggest that the teachers had appropriate qualifications for teaching in secondary schools. These results all the teachers were qualified hence proficient in English which is the language that was used in this study. Therefore, the respondents gave correct responses as they could easily understand the question items.

The results on the responsibilities of the respondents revealed that the larger percentage (35.4%) were class teachers, 35.0% were heads of departments and 29.6% were subject teachers only. The results implied that teachers who participated in the study held different responsibilities. Therefore, the data obtained was represented of perceptions of teachers about the study variables according to different responsibilities. The findings on experience of the respondents indicated that the majority percentage (49.0%) of the respondents had taught for 10 years and above, 43.2% had taught for 5 to 10 years while 7.8% had worked for less than 5 years. With data collected from teachers with different work experiences, this suggested that the findings were representative of views of teachers with different teaching experiences. The results on experience could thus be generalised on different teachers.

Descriptive Analysis of the Variables: Descriptive analysis covers statistical descriptive data from the teachers and qualitative responses from the head teachers. The results are on commitment of teachers in terms affective, continuance and normative commitment. The results on leadership styles are on democratic, autocratic and laissez faire.

Affective Commitment: Affective commitment was considered as the first

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aspect of commitment of teachers. The concept was studied using seven question items. The results on the same follow here under.

Table 2 : Descriptive Results for Affective Commitment

| Affective Commitment | D | MO | A | SA | Mean |
|---|---------------|----------------|----------------|---------------|------|
| I am very happy being a member of this school | - | 79 (38.3%) | 92 (44.7%) | 35 (17.0%) | 3.79 |
| I enjoy discussing about my school with the people outside it | 8 (3.9%) | 38 (18.4%) | 85 (41.3%) | 75 (36.4%) | 4.10 |
| I really feel as if this school's problems are my own | 39 (18.9%) | 52 (25.2%) | 67 (32.5%) | 48 (23.3%) | 3.60 |
| I am deeply attached to this school | 10 (4.9%) | 52 (25.2%) | 103 (50.0%) | 41 (19.9%) | 3.85 |
| I am part of the family of this school | 9 (4.4%) | 104 (50.5%) | 66 (32.0%) | 27 (13.1%) | 3.54 |
| I feel emotionally attached to this school | 26 (12.6%) | 37 (18.0%) | 132 (64.1%) | 11 (5.3%) | 3.62 |
| This school has a great deal of personal meaning for me | 23 (11.2%) | 47 (22.8%) | 81 (39.3%) | 55 (26.7%) | 3.82 |

The results in Table 5 about teachers being very happy as members of their schools showed that cumulatively, the majority percentage (61.7%) of the teachers agreed while 38.3% moderately agreed. The high mean = 3.79 close to code 4 which on the scale used corresponded with agreed implied that the teachers agreed that they were very happy to be members of their schools. The teachers revealed that they enjoyed discussing about their schools with the people outside them. This was because the majority percentage (77.7%) of the teachers agreed while 18.4% moderately agreed and 3.9% disagreed. The mean = 4.10 was also high.

As to whether teachers really felt as if the problems of the schools were their own, cumulatively the larger percentage (55.8%) of the teachers agreed while 25.2% moderately agreed and only 18.9% disagreed. The high mean = 3.60 close to code 4 meant that the teachers indicated that they really felt as if the problems of the schools were their own. With respect to whether the teachers were deeply attached to their schools, cumulatively the majority percentage (69.9%) of the teachers agreed while 25.2% moderately agreed and only 4.9% disagreed. The high mean = 3.85 close to code 4 suggested that the teachers agreed that they were deeply attached to their schools.

About whether the teachers felt they part of the family of their schools, cumulatively the larger percentage (50.5%) of the teachers moderately agreed while 45.1% agreed and only 4.4% disagreed. The high mean = 3.54 close to code 4 revealed that the teachers concurred that teachers felt they part of the family of their schools. Regarding whether the teachers felt emotionally attached to the schools, cumulatively the majority percentage (69.4%) of the teachers agreed while 18.0% moderately agreed and 12.6% disagreed. The high mean = 3.62 close to code 4 meant that the teachers felt emotionally attached to the schools.

As to whether the schools had a great deal of personal meaning for the teachers, cumulatively the majority percentage (66.0%) of the teachers

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agreed while 22.8% moderately agreed and 11.2% disagreed. The high mean = 3.82 close to code 4 implied that the schools had a great deal of personal meaning for the teachers. To find out if results on affective commitment were normally distributed and an average index for the seven items measuring affective commitment was calculated. A histogram drawn from the same showed the normality of the results as in Figure 1.

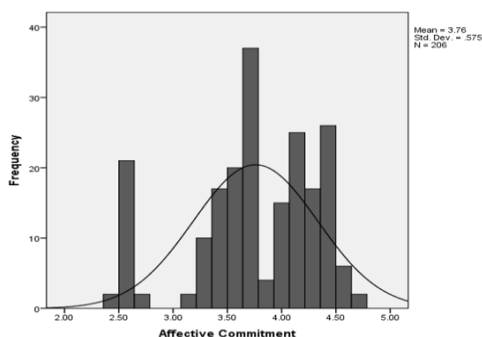


Figure 1: Histogram for Affective Commitment

The results in Figure 1 show an overall high mean = 3.76 which indicates that the respondents agreed that their affective commitment was high. With the low standard deviation (0.575) and the curve in the figure showing normality, it can be stated the results on affective commitment were normally distributed. Thus, the data on affective commitment could be subjected to linear correlation and regression and appropriate results obtained.

In the interviews with head teachers, they were asked to give their opinions on the affective commitment of teachers in the schools. Several responses were given pointing to varied affective commitment between different teachers. P1 stated;

Majority of the show great attachment to the school because the teachers participate in all activities of the school enthusiastically, support students and speak well about the school. Of course, there are some few teachers who are less enthusiastic in doing school activities and more interested in hopping from school-to-school part-timing by tut the majority are affectively committed to the school. Most teachers show love for the school.

In relation to the above, P3 said that: My teachers love their work and are always on duty. This can be seen in how teachers make effort to ensure that students perform well in national examinations. Most of the teachers are willing to working extra time even when they are not facilitated. They put in extra effort on their own.

Further, P4 revealed that; Majority of teachers are firmly attached to the school. Some of the teachers have taught in this school for more than 10

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years and they are not ready to be transferred. They still love working in the school and are positive when involved in school activities. I am happy with most of my teachers and those who show counterproductive behaviours normally apply for transfer.

However, P6 stated, "Some teachers are in the school because they have failed to get better opportunities elsewhere. Nonetheless there are many teachers that have deep affective commitment to their jobs. These teachers work with zeal and put in effort to ensure that the school succeeds" Generally, the views above suggest that affective commitment was high. This finding from the qualitative views of the respondents was consistent with the descriptive statistics results which showed that affective commitment was high. Therefore, teachers had high levels of affective commitment.

Continuance Commitment: Continuance commitment was considered as the second aspect of commitment of teachers. The concept was studied using five question items. The results on the same follow here under.

Table 3: Descriptive Results for Continuance Commitment

| Continuance Commitment | D | MO | A | SA | Mean |
|--|--------------|---------------|----------------|---------------|------|
| I am afraid of what might happen if I quit my job in this school without having another one lined up | - (19.4%) | 40 (17.0%) | 133 (64.6%) | 33 (16.0%) | 3.97 |
| It would be very hard for me to leave my job in this school right now, even if I wanted to | 13 (6.3%) | 35 (17.0%) | 135 (65.5%) | 23 (11.2%) | 3.82 |
| Too much in my life would be disrupted if I decided to leave my job in this school now | 2 (1.0%) | 37 (18.0%) | 114 (55.3%) | 53 (25.7%) | 4.06 |
| It would be too costly for me to leave this school now | 8 (3.9%) | 37 (18.0%) | 112 (54.4%) | 49 (23.8%) | 3.98 |
| Right now, staying on my job in this school is a matter of necessity | 1 (0.5%) | 27 (13.1%) | 144 (69.9%) | 34 (16.5%) | 4.02 |

The results in Table 6 about teachers being afraid of what might happen to them if they quit their jobs in the school without having another one lined up showed that cumulatively, the majority percentage (80.6%) of the teachers agreed with 19.4% moderately agreeing. The high mean = 3.97 close to code 4 which on the scale used corresponded with agreed implied that the teachers were afraid of what might happen to them if they quit their jobs in the school without having another one lined. The teachers revealed that it would be very hard for them to leave their jobs in the schools right then, even if they wanted to. This was because the majority percentage (76.7%) of the teachers agreed 17.0% moderately agreed and 6.3% disagreed. The mean = 3.82 was also high.

As to whether too much in the lives of the teachers would be disrupted if they decided to leave their jobs in the schools at the time, cumulatively the larger percentage (81.0%) of the teachers agreed while 18.0% moderately agreed and only 1.0% disagreed. The high mean = 4.06 close to code 4 meant that the teachers indicated that too much in the lives of the teachers would be disrupted if they decided to leave their jobs in the schools at the time. With respect to whether it would be too costly for the teachers to

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leave the schools at the time, cumulatively the majority percentage (78.2%) of the teachers agreed while 18.0% moderately agreed and only 3.9% disagreed. The high mean = 3.98 close to code 4 implied that the teachers agreed that it would be too costly for them to leave the schools at the time. As to whether right then, staying on their jobs in the school was a matter of necessity, cumulatively the majority percentage (86.4%) of the teachers agreed while 13.1% moderately agreed and 0.5% disagreed. The high mean = 4.02 close to code 4 implied that the staying in the schools by the teachers was a matter of necessity. Ascertain if results on continuance commitment were normally distributed and an average index for the five items measuring affective commitment was calculated. A histogram drawn from the same indicated the normality of the results as in Figure 2.

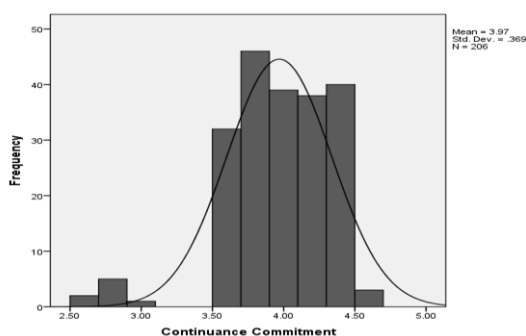


Figure 2: Histogram for Continuance Commitment

The results in Figure 2 show an overall high mean = 3.97 which indicates that the respondents agreed that their continuance commitment was high. With the low standard deviation (0.369) and the curve in the figure showing normality, it can be stated the results on continuance commitment were normally distributed. Thus, the data on continuance commitment could be subjected to linear correlation and regression and appropriate results obtained.

In the interviews with the head teachers about continuance commitment, they were asked to comment on the extent of continuance commitment of teachers in the schools. Several responses were given pointing to existence of continuance commitment among teachers. P2 stated; These days there are very many unemployed teachers because universities and National Teachers Colleges are producing very many teachers that outnumber schools. Therefore, those that have jobs are not read to leave them. This being a private school, teachers in this school work hard to prove that they are worth retaining.

P3 stated; This is a first world school in the country that provides good working conditions to the teachers and better pay in teacher of PTA allowances and other incentives. Therefore, my teachers have continuous commitment with most of teachers being in service in this school for more

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than 10 years. Many teachers resist being transferred from this school when they receive transfers.

In relation to the above, 4 said; “I am blessed to have a good team of teachers in the school. They are cooperative, good listeners, and always ready to support the school in every possible way. This has helped this school to grow. The teachers show commitment to stay in the school.” Similarly, P5 reported that; “Teaching in a secondary school is flexible and offers teachers’ opportunities to be involved in different income generating activities especially since majority of the teachers are natives. Therefore, the teachers want to continue working in this school.” In the same vein, P6 remarked; Most of my teachers have been with the school for a long period. One of the major reasons they continue to work for the school is that leaving would require considerable personal sacrifice because most of teachers are natives hence the teachers are able to maintain their homes as they continue to work. Most teachers show continuance commitment because they do not want to work in schools far from their homes. Most of teachers live in their homes and come to school to work.

The responses above imply that continuance commitment was high. This finding from the qualitative views of the respondents was concurred with the descriptive statistics results which showed that continuance commitment of teachers was high. Therefore, teachers were found to have high levels of continuance commitment.

Normative Commitment: Normative commitment was considered as the third aspect of commitment of teachers. The concept was studied using six question items. The results on the same follow here under.

Table 4 : Descriptive Results for Normative Commitment

| Normative Commitment | SD | D | MO | A | SA | Mean |
|---|---------------|---------------|---------------|----------------|---------------|------|
| I think that people these days rarely move from job to job too often | 22 (10.7%) | 25 12.1%) | 55 (26.7%) | 91 (44.2%) | 13 (6.3%) | 3.23 |
| I believe that a person must always be loyal to his or her Institution | - | - | 94 (45.6%) | 96 (46.6%) | 16 (7.8%) | 3.62 |
| Jumping from this school to another seems unethical to me | 47 (22.8%) | 13 (6.3%) | 51 (24.8%) | 89 (43.2%) | 6 (2.9%) | 2.97 |
| One of the major reasons I continue to work in this school is that I feel a sense of moral obligation to remain | - | 25 (12.1%) | 21 (10.2%) | 133 (64.6%) | 27 (13.1%) | 3.79 |
| Even if I got another offer of a better job else-where I would feel it is right to stay in this school | 31 (15.0%) | 51 (24.8%) | 56 (27.2%) | 57 (27.7%) | 11 (5.3%) | 2.83 |
| Things were better in the days when people stayed in one institution for most of their career | 46 (22.3%) | 36 (17.5%) | 34 (16.5%) | 67 (32.5%) | 23 (11.2%) | 2.93 |

The results in Table 7 about teachers thinking that these people rarely moved from job to job too often showed that cumulatively, the larger percentage (50.5%) of the teachers agreed while 26.7% moderately agreed and 22.8% disagreed. The moderate mean = 3.23 close to code 3 which on the scale used corresponded with moderately agreed implied that the

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teachers agreed that fairly, teachers though that people rarely moved from job to job too often. The teachers revealed that they believed a person must always being loyal to his or her Institution. This was because the larger percentage (54.4%) of the teachers agreed while 45.6% moderately agreed. The mean = 3.62 was also high.

As to whether jumping from one school to another seemed unethical to the teachers, cumulatively the larger percentage (46.1%) of the teachers agreed with 29.1% disagreeing and 24.8% moderately agreed. The just below average mean = 2.97 close to code 3 meant that the teachers indicated that to a lesser extent, jumping from one school to another seemed unethical to the teachers. With respect to whether one of the major reasons teachers continued to work in their schools was because they felt a sense of moral obligation to remain, cumulatively the majority percentage (77.7%) of the teachers agreed while 12.1% disagreed and 10.2% moderately agreed. The high mean = 3.79 close to code 4 suggested that one of the major reasons teachers continued to work in their schools was because they felt a sense of moral obligation to remain.

About whether even if they got another offer of a better job else-where they would feel it is right to stay in the schools, cumulatively the larger percentage (39.8%) of the teachers moderately disagreed while 33.0% agreed and 27.2% moderately agreed. The just below average mean = 2.83 close to code 3 revealed that to a lesser extent, the teachers concurred that even if they got another offer of a better job else-where they would feel it is right to stay in the schools. As to whether things were better in the days when people stayed in one institution for most of their career, cumulatively the larger percentage (43.7%) of the teachers agreed while 39.8% disagreed and 16.5% moderately agreed. The just below average mean = 2.93 close to code 3 implied that the teachers indicated that to a lesser extent, things were better in the days when people stayed in one institution for most of their career. To establish if results on normative commitment were normally distributed and an average index for the six items measuring affective commitment was calculated. A histogram drawn from the same showed the normality of the results as in Figure 3.

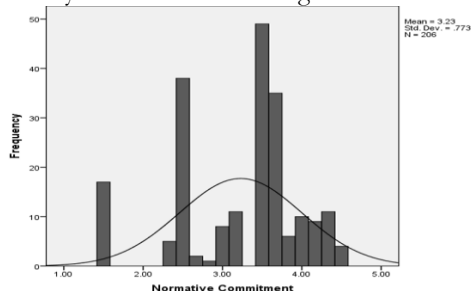


Figure 3: Histogram for Normative Commitment

The results in Figure 3 show an overall moderate mean = 3.23 which

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indicates that the respondents indicated that their normative commitment was moderate or fair. With the low standard deviation (0.773) and the curve in the figure showing normality, it can be stated the results on normative commitment were normally distributed. Thus, the data on normative commitment could be subjected to linear correlation and regression and appropriate results obtained.

In the interviews with the head teachers, they were asked to give their assessment of normative commitment of teachers in the schools. Several responses were given pointing to varied normative commitment. P1 expounded that;

Most teachers have stayed for a long time in this school except for some few ones. Many of them joined the school when they were still young graduates but most of them have matured with us. Therefore, those teachers have become part and parcel of the school.

In agreement with the above, P2 stated that; “Most of the teachers are committed to their work. They arrive at work early and even perform the assigned duties well. And they always present for work. This has been instrumental in enabling growth of this school and successful performance in UNEB examinations.” Further, P3 indicated that; “Most of my teachers have continued to work with the school because they believe loyalty is important and want to seek the school succeed.” Lastly, 5 said; “Most teachers in this school are normatively commitment because they exhibit professional behaviours, support one another doing both times of joy and sorrow, and respect the school rules and regulations.” The responses above suggest that normative commitment was high. However, the views of head teachers showed that teachers were more normatively committed than the teachers pointed out. This is because the while the head teachers indicated that normative commitment was high; the teachers indicated that it was fair. Therefore, it can be deduced that normative commitment of teachers was generally okay.

Commitment of Teachers Index In the previous section, results were presented on the three aspects of commitment of teachers that affective, continuance and normative commitment. Nevertheless, for further analyses, an average index for the measure of commitment of teachers was calculated from the items of the four aspects measuring it. The histogram (Figure 4) shows that the overall mean and standard deviation of all the items measuring the aspects of teachers’ commitment.

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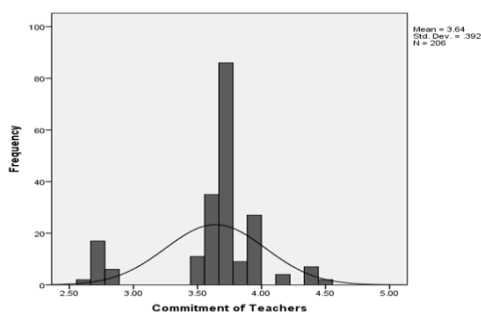


Figure 4: Histogram for Commitment of Teachers

The curve in Figure 4 shows normal distribution of the responses on commitment of teachers with a low standard deviation = 0.392. This suggests that the data obtained on commitment of teachers could be subjected to linear correlation and regression and appropriate results obtained. Still, the figure shows that the teachers rated their teacher commitment (Mean = 3.64) as being high. In the subsections that follow data on leadership styles (IV) is presented, analysed and interpreted.

Leadership Styles: Leadership styles the independent variable was conceived in terms of democratic, autocratic and laissez-faire. The results on the same variables follow here under with descriptive results for each of them presented and finally inferential analysis involving hierarchical analysis.

Democratic Leadership Style: Democratic leadership was studied as the first component of leadership styles. The results on the same that are descriptive statics followed by qualitative explanations follow.

Table 5 : Descriptive Results for Democratic Leadership Style

| Democratic Leadership Style | SD | D | MO | A | SA | Mean |
|--|---------------|---------------|----------------|----------------|---------------|------|
| My head teacher encourages work group members to express ideas/suggestions | - | 24 (11.7%) | 73 (35.4%) | 104 (50.5%) | 5 (2.4%) | 3.44 |
| My supervisor listens receptively to subordinates' ideas and suggestions | - | 55 (26.7%) | 62 (30.1%) | 56 (27.2%) | 33 (16.0%) | 3.33 |
| My head teacher uses my work group's suggestions to make decisions that affect us | 17 (8.3%) | 23 (11.2%) | 61 (29.6%) | 88 (42.7%) | 17 (8.3%) | 3.32 |
| My head teacher gives all work group members a chance to voice their opinions | 1 (0.5%) | 59 (28.6%) | 75 (36.4%) | 59 (28.6%) | 12 (5.8%) | 3.11 |
| My head teacher considers my work group's ideas even when he/ she disagrees with them | 22 (10.7%) | 15 (7.3%) | 105 (51.0%) | 64 (31.1%) | - | 3.02 |
| My head teacher takes decisions that are based only on his/her own ideas | 43 (20.9%) | 51 (24.8%) | 107 (51.9%) | 5 (2.4%) | - | 3.15 |
| My supervisor consults with subordinates when facing a problem | 44 (21.4%) | 56 (27.2%) | 86 (41.7%) | 20 (9.7%) | - | 3.40 |
| My supervisor asks for suggestions from subordinates concerning how to carry out assignments | 22 (10.7%) | 85 (41.3%) | 69 (33.5%) | 30 (14.6%) | - | 3.52 |

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| | | | | | | |
|---|---|---------------|---------------|----------------|---------------|------|
| My supervisor asks for suggestions on what assignments should be given | - | - | 72 (34.9%) | 110 (53.4%) | 24 (11.7%) | 3.77 |
| The head teacher makes every member of staff equitably involved in the activities of the school | - | 22 (10.7%) | 65 (31.6%) | 99 (48.1%) | 20 (9.7%) | 3.57 |
| The head teacher encourages staff members to participate in problem solving matters in the school | - | 36 (17.5) | 59 (28.6%) | 97 (47.1%) | 14 (6.8%) | 3.43 |
| The head teacher promotes open and honest self-expression in the school | - | 22 (10.7%) | 68 (33.0%) | 89 (43.2%) | 27 (13.1%) | 3.59 |
| The head teacher involves staff members in different administrative activities | - | 22 (10.7%) | 23 (11.2%) | 136 (66.0%) | 25 (12.1%) | 3.80 |

The results in Table 8 on whether head teachers encouraged work group members to express ideas/suggestions showed that cumulatively, the larger percentage (52.9%) of the teachers agreed while 35.4% moderately agreed and 11.7% disagreed. The average mean = 3.44 close to code 3 which on the scale used corresponded with moderately agreed implied that the teachers indicated that fairly, head teachers encouraged work group members to express ideas/suggestions. Concerning whether supervisors listened receptively to subordinates' ideas and suggestions, cumulatively the larger percentage (43.2%) of the teachers agreed while 30.1% moderately agreed and 26.7% disagreed. The average mean = 3.33 close to code 3 which on the scale used corresponded with moderately agreed implied that the teachers indicated that fairly, supervisors listened receptively to subordinates' ideas and suggestions.

As to whether head teachers used work groups suggestions to make decisions that affected teachers, cumulatively the larger percentage (51.0%) of the teachers agreed while 29.6% moderately agreed and 19.4% disagreed. The average mean = 3.32 close to code 3 meant that the teachers indicated fairly, head teachers used work groups suggestions to make decisions that affected teachers. About head teachers giving all work group members a chance to voice their opinions, cumulatively the larger percentage (36.4%) of the teachers moderately agreed while 34.4% agreed and 29.1% disagreed. The average mean = 3.11 close to code 3 meant that the teachers concurred that fairly, head teachers giving all work group members a chance to voice their opinions.

With respect to whether head teachers considered teachers work groups' ideas even when they disagreed with them, cumulatively the larger percentage (51.0%) of the teachers moderately agreed while 31.1% agreed and 18.0% disagreed. The average mean = 3.02 close to code 3 meant that the teachers revealed that fairly, head teachers considered teachers work groups' ideas even when they disagreed with them. As to whether head teacher took decisions that were based only on their own ideas, cumulatively the larger percentage (51.9%) of the teachers moderately

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agreed while 45.7% disagreed and only 2.4% disagreed. The average mean = 3.15 close to code 3 meant that the teachers indicated that fairly, head teacher took decisions that were based only on their own ideas.

Regarding whether supervisors consulted with subordinates when facing problems, cumulatively the larger percentage (48.6%) of the teachers disagreed while 41.7% moderately agreed and 9.7% disagreed. The average mean = 3.40 close to code 3 meant that the teachers indicated that fairly, supervisors consulted with subordinates when facing problems. With respect to whether supervisors asked for suggestions from subordinates concerning how to carry out assignments, cumulatively the majority percentage (52.0%) of the teachers disagreed while 33.5% moderately agreed and 14.6% disagreed. The high mean = 3.52 close to code 4 suggested that supervisors asked for suggestions from subordinates concerning how to carry out assignments.

About supervisors asking for suggestions on what assignments should be given, cumulatively the majority percentage (64.1%) of the teachers agreed with 34.9% disagreed. The high mean = 3.77 close to code 4 suggested that supervisors asking for suggestions on what assignments should be given. With regard to whether head teachers made every member of staff equitably involved in the activities of the school, cumulatively the larger percentage (57.8%) of the teachers agreed while 31.6% moderately agreed and 10.7% disagreed. The high mean = 3.57 close to code 4 suggested that head teachers made every member of staff equitably involved in the activities of the school.

Regarding whether head teachers encouraged staff members to participate in problem solving matters in the school, cumulatively the larger percentage (53.9%) of the teachers agreed while 28.6% moderately agreed and 17.5% disagreed. The average mean = 3.43 close to code 3 meant that the teachers indicated that fairly, head teacher encouraged staff members to participate in problem solving matters in the schools. About whether the head teachers promoted open and honest self-expression in the schools, cumulatively the larger percentage (56.3%) of the teachers agreed while 33.0% moderately agreed and 10.7% disagreed. The high mean = 3.59 close to code 4 revealed that head teachers promoted open and honest self-expression in the schools.

As to whether head teachers involved staff members in different administrative activities, cumulatively the majority percentage (78.1%) of the teachers agreed while 11.2% moderately agreed and 10.7% disagreed. The high mean = 3.80 close to code 4 implied that head teachers involved staff members in different administrative activities. To find out if results on democratic leadership style were normally distributed and an average index for the thirteen items measuring democratic leadership style was calculated. A histogram drawn from the same showed the normality of the results as in Figure 5.

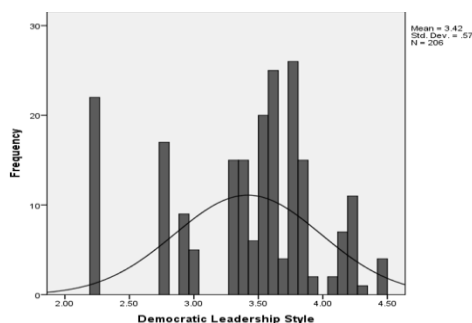


Figure 5: Histogram for Democratic Leadership Style

The results in Figure 4.5 show an overall average mean = 3.42 which indicates that the respondents indicated their head teachers use of democratic leadership style was moderate or fair. Nonetheless, with the low standard deviation (0.57) and the curve in the figure showing normality, it can be stated the results on democratic leadership style were normally distributed. Therefore, the data on democratic leadership style could be subjected to linear correlation and regression and appropriate results obtained.

In the interviews with the head teachers about their use of democratic leadership style, they were asked to tell how they involved teachers in decision making in the schools. Several responses were given suggesting that teachers made effort to use democratic leadership. For example, P2 explained that; “I make effort to be friendly to my teachers, be supportive and mentor them. I ensure that teachers freely speak in meetings, are delegated responsibilities and contribute ideas for success of the school.” In relation to the above, P3 said; I regularly communicate to the teachers what is expected from them. In our weekly meeting, teachers are told what they are supposed to do and areas of weakness pointed out. I use participatory leadership and ensure that every teacher participates in the activities of the school.

P4 remarked that; I make effort to encourage and motivate teachers so that they can work harder to achieve the set goals and objectives. This involves ensuring regular meeting in which I ensure teachers participate, delegating them responsibilities and supporting those who need support such as going for further studies. I also hold workshops in which teachers are inspired to participate effectively in the activities of the school.

In relation to the above, P5 said; I have put in place a system that involves rewarding of best performing teachers. Teachers are also empowered to carry out their responsibilities without having to refer to their supervisors or the head teacher when necessary. With this, teachers actively participate in the activities of the school.

Further, P6 pointed out that; I always encourage my teachers to remain

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positive and carry out their duties without fear as long as they are doing the right thing. Therefore, teachers actively get involved in the different activities of the school.” The responses above generally show that head teachers made effort to involve teachers in these activities of the school. These results are close to the descriptive statistics results which indicated that use of democratic leadership styles in the schools was fair.

Autocratic Leadership Style: Autocratic leadership was studied as the second component of leadership styles. The results on the same that are descriptive statics followed by qualitative explanations follow.

Table 9 : Descriptive Results for Autocratic Leadership Style

| Autocratic Leadership Style | SD | D | MO | A | SA | Mean |
|--|---------------|--------------|---------------|----------------|---------------|------|
| My head teacher makes me understand what is expected of them | - | 12 (5.8%) | 74 (35.9%) | 117 (56.8%) | 3 (1.5%) | 3.54 |
| My head teacher lets teachers know about what needs to be done | - | - | 83 (40.3%) | 120 (58.3%) | 3 (1.5%) | 3.61 |
| My head teacher makes teachers know how a role should be performed | - | 17 (8.3%) | 52 (25.2%) | 136 (66.0%) | 1 (0.5%) | 3.59 |
| My head teacher lets subordinates know the level of performance he/she expects from them | - | 8 (3.9%) | 56 (27.2%) | 90 (43.7%) | 52 (25.2%) | 3.90 |
| My head teacher sets goals for subordinates to achieve | - | - | 47 (22.8%) | 130 (63.1%) | 29 (14.1%) | 3.91 |
| My head teacher tracks and monitors mistakes of teachers | - | - | 21 (10.2%) | 174 (84.5%) | 11 (5.3%) | 3.95 |
| My head teacher enforces rules strictly | - | - | 95 (46.1%) | 30 (14.6%) | 81 (39.3%) | 3.93 |
| My head teacher searches for my mistakes | 43 (20.9%) | - | 22 (10.7%) | 138 (67.0%) | 3 (1.5%) | 3.28 |
| My head teacher resists expression of views of other staff | 42 (20.4%) | 1 (0.5%) | 7 (3.4%) | 135 (65.5%) | 21 (10.2%) | 3.45 |
| My head teacher sets standards for us to follow while carrying out work | - | - | 50 (24.3%) | 95 (46.1%) | 61 (29.6%) | 4.05 |
| My head teacher establishes work agreements to help us accomplish our assignments | - | - | 71 (34.5%) | 79 (38.3%) | 56 (27.2%) | 3.93 |

The results in Table 9 on whether head teachers made teachers understand what was expected of them showed that cumulatively, the larger percentage (58.3%) of the teachers agreed while 35.9% moderately agreed and 5.8% disagreed. The average mean = 3.54 close to code 3 which on the scale used corresponded with agreed implied that head teachers made teachers understand what was expected of them. Regarding whether head teachers let teachers know about what needed to be done, cumulatively the larger percentage (59.8%) of the teachers agreed while 40.3% moderately agreed. The average mean = 3.61 close to code 4 which on the scale used corresponded with agreed meant that head teachers let teachers know about what needed to be done.

With respect to whether head teachers made teachers know how role should be performed, cumulatively the majority percentage (66.5%) of the

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teachers agreed while 25.2% moderately agreed and 8.3% disagreed. The average mean = 3.59 close to code 4 which on the scale used corresponded with agreed suggested that head teachers made teachers know how role should be performed. Regarding whether head teachers let subordinates know the level of performance expected from them, cumulatively the majority percentage (68.9%) of the teachers agreed while 27.2% moderately agreed and 3.9% disagreed. The high mean = 3.90 close to code 4 which on the scale used corresponded with agreed implied that head teachers let subordinates know the level of performance expected from them.

As to whether head teacher set goals for subordinates to achieve, cumulatively the majority percentage (77.2%) of the teachers agreed while 22.8% moderately agreed. The high mean = 3.90 close to code 4 which on the scale used corresponded with agreed meant that head teacher set goals for subordinates to achieve. As regards whether head teachers tracked and monitored mistakes of teachers, cumulatively the majority percentage (89.8%) of the teachers agreed and 10.2% moderately agreed. The high mean = 3.95 close to code 4 which on the scale used corresponded with agreed meant that head teachers tracked and monitored mistakes of teachers.

With respect to whether head teachers enforced rules strictly, cumulatively the majority percentage (53.9%) of the teachers agreed and 46.1% moderately agreed. The high mean = 3.93 close to code 4 which on the scale used corresponded with agreed suggested that head teachers enforced rules strictly. Regarding whether head teacher searched for my mistakes, cumulatively the majority percentage (68.5%) of the teachers agreed while 10.7% moderately agreed and 20.9% strongly disagreed. The average mean = 3.28 close to code 4 which on the scale used corresponded with moderately suggested that fairly, head teacher searched for my mistakes.

About whether head teachers resisting expression of views of other staff, cumulatively the majority percentage (75.7%) of the teachers agreed while 20.9% disagreed and 3.4% moderately agreed. The average mean = 3.45 close to code 3 which on the scale used corresponded with moderately implied that fairly, head teachers resisting expression of views of other staff. As to whether head teacher set standards for teachers to follow while carrying out work, cumulatively the majority percentage (75.7%) of the teachers agreed while 24.3% moderately agreed. The average mean = 4.05 close to code 4 head teacher set standards for teachers to follow while carrying out work.

With regards to whether head teachers established work agreements to help us accomplish their assignments, cumulatively the larger percentage (65.5%) of the teachers agreed with 34.5% moderately agreeing. The average mean = 3.93 close to code 4 suggested that head teachers established work agreements to help us accomplish their assignments. To ascertain if results on autocratic leadership style were normally distributed

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and an average index for the 11 items measuring autocratic leadership style was calculated. A histogram drawn from the same showed the normality of the results as in Figure 4.6.

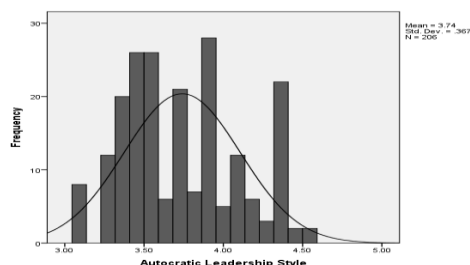


Figure 6: Histogram for Autocratic Leadership Style

The results in Figure 6 show an overall high mean = 3.74 which indicate that the respondents indicated their head teachers were autocratic leadership. Nevertheless, with the low standard deviation (0.376) and the curve in the figure showing normality, it can be stated the results on autocratic leadership style were normally distributed. Therefore, the data on autocratic leadership style could be subjected to linear correlation and regression and appropriate results obtained.

In the interviews with head teachers, they were asked to tell the measures they used to ensure that teachers carried out high task performance. In response to the question item, P1 stated; My focus if to ensure that work hard. I therefore compile teacher performance records and communicate to teachers to see how well they are faring in terms of performance. Where possible I also provide rewards to the teachers with the only challenge being limited funds of the school.

In relation to the above P2 said; I ensure that with the school administrative team we supervise work performance of teachers. Regular appraisal is carried out to establish the level of teacher performance and provide feedback such that teachers can improve or maintain good performance. Effort is also made to provide incentives for good work performance by the teachers.

Further, P3 said; I thoroughly explain objectives of the school each year to the teachers in meeting and to individual teachers as I supervise the. I make effort to encourage teachers to remain focused on the goals and objectives of the school. I provide teachers guidance on achieving better work performance.

The response from P4 was that; I monitor my teachers to ensure that they remain focussed on what they are supposed to do. I make work agreements with teachers to help them accomplish their assignments. Good performance of teachers especially in national examinations by their students is well rewarded.

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Further, P6 said. "I give my teachers instructions on what they are required to do. I ensure that my teachers do not drool in the dark. I give feedback to my teachers after appraising their performance." In relation to the responses above, head teachers made effort to ensure that teachers carried out high task performance. Therefore, this was consistent with the descriptive statistics which indicated that the use of autocratic leadership style was high.

Laissez Faire Leadership Style: Laissez faire leadership was studied as the third component of leadership styles. The results on the same that are descriptive statics followed by qualitative explanations follow.

Table 10 : Descriptive Results for Laissez Faire Leadership Style

| Laissez faire Leadership Style | SD | D | MO | A | SA | Mean |
|--|---------------|---------------|---------------|----------------|---------------|------|
| My head teacher rarely takes action | 45 (21.8%) | 41 (19.9%) | 83 (40.3%) | 37 (18.0%) | - | 2.54 |
| My head teacher avoids deciding | 65 (31.6%) | 26 (12.6%) | 41 (19.9%) | 74 (35.9%) | - | 2.60 |
| My head teacher reacts to problems only if serious | 29 (14.1%) | 79 (38.3%) | 68 (33.0%) | 16 (7.8%) | 14 (6.8%) | 2.55 |
| My head teacher reacts to problems, only if chronic | 31 (15.0%) | 61 (29.6%) | 41 (19.9%) | 71 (34.5%) | 2 (1.0%) | 2.77 |
| My head teacher reacts to failure | 24 (11.7%) | 14 (6.8%) | 55 (26.7%) | 77 (37.4%) | 36 (17.5%) | 3.42 |
| My head teacher delays to respond to situations | 13 (6.3%) | 71 (34.5%) | 41 (19.9%) | 67 (32.5%) | 14 (6.8%) | 2.99 |
| If not broken do not fix is the approach my head teacher employs | 1 (0.5%) | 30 (14.6%) | 54 (26.2%) | 117 (56.8%) | 4 (1.9%) | 3.45 |

The results in Table 10 on head teachers rarely took action showed that cumulatively, the larger percentage (41.7%) of the teachers disagreed while 40.3% moderately agreed and 18.0% agreed. The just below average mean = 2.54 close to code 3 which on the scale used corresponded with moderately agreed implied that the teachers indicated that to a lesser extent head teachers rarely took action. Concerning whether head teachers avoided deciding, cumulatively the larger percentage (44.2%) of the teachers disagreed while 35.9% agreed and 19.9% disagreed. The just below average mean = 2.60 close to code 3 which on the scale used corresponded with moderately agreed implied that the teachers indicated to a lesser extent head teachers avoided deciding.

As to whether head teachers reacted to problems only if serious, cumulatively the larger percentage (52.4%) of the teachers disagreed while 33.0% moderately agreed and 14.6% agreed. The just below average mean = 2.55 close to code 3 meant that to a lesser extent head teachers reacted to problems only if serious. About head teacher reacted to problems only if chronic, cumulatively the larger percentage (44.6%) of the teachers disagreed while 36.5% agreed and 19.9% moderately agreed. The average mean = 3.42 close to code 3 meant that the teachers concurred that fairly, head teacher reacted to problems only if chronic.

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With respect to whether head teacher reacted to failure, cumulatively the larger percentage (54.9%) of the teachers agreed while 26.7% moderately agreed and 18.5% disagreed. The average mean = 3.42 close to code 3 meant that the teachers revealed that fairly, head teacher reacted to failure. As to whether head teachers delayed to respond to situations, cumulatively the larger percentage (40.9%) of the teachers disagreed while 37.4% agreed and 19.9% moderately agreed. The just below average mean = 2.99 close to code 3 meant that to a lesser extent head teachers delayed to respond to situations.

Regarding whether if not broken do not fix was the approach head teachers employed, cumulatively the larger percentage (58.7%) of the teachers agreed while 26.2% moderately agreed and 15.1% disagreed. The average mean = 3.45 close to code 3 meant that the teachers indicated that fairly, if not broken do not fix was the approach head teachers employed. To find out if results on laissez faire leadership style were normally distributed and an average index for the seven items measuring laissez faire leadership style was calculated. A histogram drawn from the same showed the normality of the results as in Figure 7.

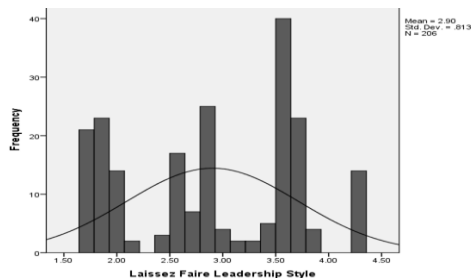


Figure 7: Histogram for Laissez Faire Leadership Style

The results in Figure 7 show an overall average mean = 3.42 which indicates that the respondents indicated their head teachers use of laissez faire leadership style was moderate or fair. Nonetheless, with the low standard deviation (0.57) and the curve in the figure showing normality, it can be stated the results on laissez faire leadership style were normally distributed. Therefore, the data on laissez faire leadership style could be subjected to linear correlation and regression and appropriate results obtained.

In the interviews with head teachers, they were asked to tell what activities they left to the teachers to carry out without their interference. In response to the question item, P1 stated; “Each teacher has a job description specifying what they are supposed to carry. However, still the work is carried out under the supervision of different administrators.” In relation to the above, P2 said;

Teachers know their responsibilities because they are outlined in their contracts. Teachers have to carry out activities such weekly duty, teaching,

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supervise extra-curricular activities and be delegated responsibilities. Nonetheless, teachers are not left to operate on their own and have to be supervised by the different administrators in the school.

Further, P4 remarked, “Teachers have the liberty to carry out their activities as they deem fit especially with respect to classroom teaching. However, they have to operate within the school policies, rules and regulations.” Relatedly, P5 expounded that; “Teachers in this school freely carry out their activities as long as they are within the limits of their job description.” The responses above suggest that why teachers had some liberty to carry out their duties, they were still being supervised. This finding means that largely, head teachers did not carry out laissez-faire leadership. This finding concurs with the descriptive statistics which indicated that head teachers use of laissez faire leadership style was moderate.

Inferential Analyses

To establish whether there was a relationship between head teachers leadership styles and commitment of teachers, inferential analyses namely; correlation and regression were carried out respectively and results are presented here under.

Correlation of Head Teachers Leadership Styles and Commitment of Teachers

To establish whether head teachers’ leadership styles aspects namely; democratic, autocratic and laissez-faire related to commitment of teachers, correlation analysis. The results were as given in Table 11.

Table 11 : Correlation Matrix for Head Teachers Leadership Styles and Commitment of Teachers

| | Commitment of Teachers | Democratic Leadership Style | Autocratic Leadership Style | Laissez Faire Leadership Style |
|--------------------------------|------------------------|-----------------------------|-----------------------------|--------------------------------|
| Commitment of Teachers | 1 | | | |
| Democratic Leadership Style | 0.206** 0.003 | 1 | | |
| Autocratic Leadership Style | 0.600** 0.000 | -0.328** 0.000 | 1 | |
| Laissez Faire Leadership Style | 0.356** 0.000 | -0.120 0.086 | 0.124 0.075 | 1 |

**.. Correlation is significant at the 0.05 level (2-tailed).

The results in Table 11 suggest that all the components of leadership styles namely; democratic ($r = 0.206$, $p = 0.003 < 0.05$); autocratic ($r = 0.600$, $p = 0.000 < 0.05$) and laissez faire ($r = 0.356$, $p = 0.000 < 0.05$) had a positive and significant relationship with commitment of teachers. This means that the hypotheses (H_1 - H_3) were supported. However, hypothesis Two (H_2) and Three (H_3) was more significant.

Regression Model for Leadership Styles and Commitment of Teachers in Secondary Schools: At the confirmatory level, to establish whether leadership styles namely; democratic, autocratic and laissez-faire predicted to commitment of teachers, a regression analysis was carried out. The results were as in Table 12.

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Table 62 : Regression of Commitment of Teachers and Leadership Styles

| Leadership Styles | Standardised Coefficients | Significance |
|---|---------------------------|--------------|
| | Beta (β) | (p) |
| Democratic | 0.481 | 0.000 |
| Autocratic | 0.718 | 0.000 |
| Laissez-faire | 0.324 | 0.000 |
| Adjusted R ² = 0.641 F = 122.765, p = 0.000 | | |

a. Dependent Variable: Commitment of Teachers

The results in Table 12 show that the components of leadership styles namely; democratic, autocratic and laissez-faire explained 64.1% of the variation in commitment of teachers (adjusted R² = 0.641). This means that 35.9% of the variation was accounted for by other factors not considered under this model. All the components of leadership styles namely democratic ($\beta = 0.481$, $p = 0.000 < 0.05$), autocratic ($\beta = 0.718$, $p = 0.000 < 0.05$) and laissez-faire ($\beta = 0.324$, $p = 0.000 < 0.05$) had a positive and significant influence on commitment of teachers. This means that all the hypotheses (H₁, H₃) were supported. The magnitudes of the respective betas suggested that autocratic leadership style was a highly significant predictor of commitment of teachers while democratic was moderate and laissez-faire weakly significantly respectively.

Discussion, Conclusions and Recommendations: We present the discussion of the findings, conclusions and recommendations derived from data presentation, analysis and interpretation. The results are on the relationship between head teachers' leadership styles in terms of democratic leadership, autocratic and teachers' laissez-faire leadership styles with commitment of teachers.

Discussion of the Findings

This section of the study discusses the findings on the relationship between head teachers' leadership styles and commitment of teachers established during the investigations of the study. The discussion is presented following the order of the study objectives.

Question One: What is the relationship between head teachers' democratic leadership style and commitment of teachers?

The first objective of the study sought to find out the relationship between head teachers democratic leadership style and commitment of teachers. Therefore, the first hypothesis (H₁) was to the effect that there is no significant relationship between head teachers' democratic leadership style and commitment of teachers. Regression analysis revealed that the hypothesis was supported. This finding is consistent with the findings of previous scholars. For instance, Angelis et al. (2010) reported that democratic leadership had a significant positive relationship with employee commitment. Relatedly, Appelbaum et al. (2013) indicated employee participation in decision making led to employee commitment. Also,

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Relatedly, Banjarnahor et al. (2018) revealed that participatory leadership style had a significant positive effect on and organization commitment. Similarly, Bhatti et al. (2019) indicated existence of a positive significant relationship between democratic leadership and continuance commitment. Consistent with the finding of the study, Bell and Mjoli (2014) also reported that democratic leadership positively and significantly affected total organizational commitment of employees. In the same vein, Lyndon and Rawat (2015) found a positive linkage between leadership styles and organisational commitment. Also, Rai et al. (2020) revealed that the democratic leadership style of managers had a significant positive impact on organisational commitment. On the contrary, Elele and Fields (2010) revealed that with Nigerian employees, both actual levels of participation and actual against desired participation were related to affective and normative commitment. Nonetheless, neither measure of participation was related to continuance commitment. For Americans, only actual against desired levels of participation were positively related with affective and normative organisational commitment.

For both Nigerian and American employees, actual levels of participation or democratic leadership style were negatively related to continuance commitment. This meant democratic leadership had variations in the way it affected commitment of employees in terms of affective, continuance and normative commitment. On their part, Henkin and Holliman (2008) reported that democratic leadership style marginally related to commitment. Nevertheless, with most scholars consistent with the finding of the study, it can be inferred that democratic leadership style has a positive and significant relationship with commitment of teachers.

Question Two: What is the relationship between head teachers' autocratic leadership style and commitment of teachers?

The second objective of the study sought to establish the relationship between head teachers' autocratic leadership style and commitment of teachers. Therefore, the second hypothesis (H2) was to the effect that there is no significant relationship between head teachers' autocratic leadership style and commitment of teachers. Regression analysis revealed that the hypothesis was accepted. This finding concurred with the findings of a number of previous scholars. For example, Banjarnahor et al. (2018) found out that the autocratic leadership style had a significant positive effect on organisational commitment of the principals. Also, Garg and Ramjee (2013) indicated that autocratic leadership behaviours had a positive relationship with normative commitment. Relatedly, Mahdi et al. (2014) found out that directive leadership behaviours had a positive significant effect on organisational commitment.

Further, concurring with the finding of the study, Öztekin et al. (2015) established that paternalistic (autocratic) leadership had a positive significant relationship with organisational commitment. Also, Silva et al.

(2019) revealed existence of a positive relationship between the autocratic leadership (task-oriented style) and the normative commitment although with not the other aspects. Nevertheless, the finding was contrary to Amini et al. (2019) who reported that autocratic leadership led to a very least increase on commitment of the workers. On the other hand, Abasilim et al. (2019) revealed that autocratic leadership had a negative and insignificant relationship with commitment of employees. Also, Çokluk and Yılmaz (2010) reported that autocratic leadership of school administrators had a moderate negative association with organisational commitment. The discussion above generally suggests that largely, autocratic leadership style positively related to commitment of teachers. This is because the higher number of previous scholars concurred with the finding of the study.

Question Three: What is the relationship between head teachers' laissez-faire leadership style and commitment of teachers.

The third question of the study sought to determine the relationship between head teachers' laissez-faire leadership style and commitment of teachers. Therefore, the third hypothesis (H3) was to the effect that is a significant relationship between head teachers' laissez-faire leadership style and commitment of teachers. Regression analysis revealed that the hypothesis was accepted although the relationship was weak. This finding agrees with the finding by Amini et al. (2019) that laissez-faire leadership contributed very least increase on commitment of the workers. Also, the finding agrees with Biza and Irbo (2020) who revealed existence of a significant and positive correlation between laissez-faire leadership style and continuance commitment. Nonetheless, the finding was in disagreement with the findings of most previous scholars. Abasilim et al. (2019) indicated that laissez-faire leadership style had a positive but insignificant relationship with employees' commitment.

In relation to the above, Al-Daibat (2017) reported that the laissez-faire leadership style had a negative and insignificant effect on organisational commitment. Further, Bučiūnienė and Skudienė (2008) established that laissez-faire leadership style was negatively associated with employees' affective commitment. Also, in disagreement with the finding of the study, Garg and Ramjee (2013) reported that laissez-faire had a negative weak correlation with all the commitment aspects of affective commitment, continuance and normative. Further, Silva and Mendis (2017) revealed that laissez-faire leadership had a negative and weak significant correlation with organisational commitment. Overall, the discussion above shows that largely previous scholars did not concur with the finding of the study. Although weak showed that there was a positive significant relationship with commitment of teachers. However, with the relationship being weak, it can be surmised that laissez-faire leadership weakly relates to commitment of teachers.

Conclusion

The discussion above, led to the drawing of following conclusions with respect to head teachers' leadership styles and commitment of teachers;

The democratic leadership style is imperative for commitment of teachers.

This is so is head teachers always ask for suggestions from subordinates concerning how to carry out assignments, ask for suggestions on what assignments should be given and make every member of staff equitably involved in the activities of the school. In addition, democratic leadership style is imperative for commitment of teachers if head teachers promote open and honest self-expression in the school, and involve staff members in different administrative activities.

The autocratic leadership style is a pre-requisite for commitment of teachers. This especially when head teachers make teachers understand what is expected of them, lets teachers know about what needs to be done, makes them know how a role should be performed, let them know the level of performance expected from them, and sets goals for them to achieve. Further, autocratic leadership style is a pre-requisite for commitment of teachers when the head teacher track and monitor mistakes of teachers, enforce rules strictly, set standards for teachers to follow while carrying out work, and established work agreements to help teachers accomplish our assignments.

Laissez-faire is not a substantially leadership style for commitment of teachers. This is especially when the head teacher rarely takes action, avoids deciding reacts to problems only if serious, reacts to problems only if chronic, and delays to respond to situations.

Recommendations

The conclusions above lead to the suggesting of following recommendations with respect to head teachers' leadership styles and commitment of teachers;

Head teachers should make effort to employ the democratic leadership style to promote for commitment of teachers. This should involve head teachers always asking for suggestions from subordinates concerning how to carry out assignments, ask for suggestions on what assignments should be given and make every member of staff equitably involved in the activities of the school. Further, head teachers have to promote open and honest self-expression in the school, and involve staff members in different administrative activities.

Head teachers should also use autocratic leadership style to promote commitment of teachers. This should involve making teachers understand what is expected of them, letting teachers know about what needs to be done, making them know how a role should be performed, letting them know the level of performance expected from them, and setting goals for them to achieve. Also, head teachers should track and monitor mistakes of teachers, enforce rules strictly, set standards for teachers to follow while

carrying out work, and establish work agreements to help teachers accomplish our assignments.

Head teachers should give limited emphasis to use of laissez-faire leadership style to promote commitment of teachers. Head teacher should avoid rarely taking action, avoiding deciding, reacting to problems only if serious, reacting to problems only if chronic, and delaying to respond to situations.

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**EFFECTS OF INFORMATION AND
COMMUNICATION TECHNOLOGY ON STUDENTS'
LEARNING BEHAVIOUR IN RWANDAN SECONDARY
SCHOOLS IN MUSANZE DISTRICT**

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Abstract

This study was to investigate the effect of ICT on students learning behavior in Rwandan secondary school Musanze district in Rwanda. This study adopted the correlational research design involving quantitative approach. The study was carried out in 4 selected public secondary school in Rwanda. The study involved a population of 3000 populations and a sample of 338 participants. The data was collected using a structured questionnaire with 5-point Likert scales. The data was analyzed using percentages, frequencies, means, standard deviation and regression analysis. The results of this study revealed that availability of ICT resources has no significant effect on the students learning behavior in Rwandan secondary school. However, it was found that accessibility of ICT resources has no significant effect on the student learning behaviors in Rwandan secondary school while user-ability of ICT resources have no significant effect on the student learning behaviors in Rwandan secondary school. The study recommended that Educational monitoring and evaluators should look at the completion of all core module and non-core, as some students complained that in ordinary level ICT is replaced by core modules of the curriculum. Besides that, Ministry of education (MINEDUC) should develop infrastructure within secondary school because some school situated in area where there is no electricity, internet connectivity and computers.

Keywords: effect, ICT, students learning behavior, secondary school

In Rwanda Vision 2020 aims at moving Rwanda from “an agriculture based economy system to a knowledge-based society “and middle-income country 2020. Education is a key sector to this social and economic transformation, tapping into the limitless potential of an empowered population. At the same time, the Vision 2020 places ICTs at the heart of the transformation across all sectors. The use of ICT in education is seen as a strategic lever for achieving this transformation. This policy complements the overall “Smart Rwanda” Strategy, it implements the smart education policy.

Technology in education can be used to achieve these goals and address the key challenges of access, quality, equity, relevance and management efficiency with tangible advantages that can be seen and measured in numerous ways. At primary and secondary levels, gross enrolment ratios are growing and more children are in school. However, the number of trained teachers to sustain these enrolment ratios is still low. At higher education levels, the levels of enrolment are still very low. Here technology to support Open and Distance Learning (ODEL) can play a critical role train new teachers, up-skill existing unqualified teachers and increase access to tertiary education. In 2011, MINEDUC has issued Early Childhood Development (ECD) Policy and the Integrated Early Childhood Development Strategic Plan (2011/12-2015/16). In this Policy, the vision of ECD in Rwanda is stated that “All infants and young children will achieve fully developmental potential: mentally, physically, socially and emotionally” (MINEDUC, 2011).

Analysis revealed the many challenges to be overcome in order to disseminate the use of ICT throughout the nation generally and in education specifically. With a poor infrastructure 16% of electricity coverage in households by 2012, 47% in public schools, low connectivity rates, lack of equipment and high costs access to ICT in the education system is very limited (computer to students’ ratio in secondary schools 40:1; 16% of primary schools use XO laptops (MINEDUC, 2015). In addition, due to a lack of ICT culture and of understanding of its possible applications and benefits in education, communities and educational institutions are often reluctant to adopt ICT and adapt their teaching methods. Even when such material and cultural barriers are overcome and ICT in Education initiatives are taken up, other challenges arise, such as, limited availability of digital learning material, lack of expertise in project management skills and poor coordination of initiatives, systematic road map for ICT Teachers Professional Development, e-readiness survey, analysis and ICT infrastructure plan and technical support.

Rwanda is well on the way to meeting the education MDGs, with net primary enrolment at 94%, and the ratio of girls to boys enrolled in primary schools at 100%. Secondary education is divided into two levels. The lower level is a three-year program of general studies for all students following primary education. The higher level, also three years, offers both academic and technical/vocational options (MINEDUC, 2017). Since 2008, MINEDUC has implemented the One Laptop per Child (OLPC) program at primary schools and computer labs for secondary schools. 250,000 OLPC devices were deployed in 764 schools thus reaching only 10% of primary students. The program faced challenges in capacity building of teachers due to a high learning curve, the cost of deployment was also high while it only reached a few students and lastly, the lack of integration of the program in the normal learning and teaching activities was the main

challenge. For Computer labs, only 5% of secondary schools benefited from the program and the labs were used only for ICT lessons.

Due to the above situation we found it is crucial to conduct a study with the purpose of investigating the effect of ICT on students learning behavior in public Rwandan secondary school Musanze district in Rwanda. Consequently, this study aims at answering the following research questions: What is the effect of availability of ICT resources among public selected Rwandan secondary school? What is the effect of accessibility of ICT resources among public selected Rwandan secondary school? What is the effect of user-ability of ICT resources among public selected Rwandan secondary school? The following are the findings for each research question? We believe that this research would provide insights on the effect of ICT on students learning behavior in public Rwandan secondary school Musanze district in Rwanda. and the findings of this study would serve as a good tool in improving student learning behaviors within secondary school.

Literature Review

Historical background of secondary school in Rwanda: In Rwanda, education is provided in four levels: pre-primary (kindergarten), primary, secondary and tertiary (MINEDUC, 2013). In 2009, there were 686 schools providing secondary education (age 13 to 18). This number almost doubled to 1,362 in 2011 (MINEDUC, 2012). However, the number of schools and their facilities are not sufficient yet to fully accommodate increasing enrollment (Interview with MINEDUC, 2012). According to the types of institutions, a larger number of students are now enrolled in public secondary schools than the private institutions. The rate of students enrolled in private schools decreased from 45.3% in 2000 to 37.1% in 2008 (WB, 2011). The number of enrolled students in secondary education was 218,517 in 2005, which more than doubled to 486,437 in 2011. In 2005, there were more boys enrolled than girls by 12,183.

However, the girls outnumbered the boys by 14,937 in 2011 (MINEDUC, 2010 & 2012). The Gross enrolment rate (GER) increase from 16.6% in 2005 to 35.5% (MINEDUC, 2012). In 2011, the GER was 34.9% for boys, and 36.2% for girls. This trend contrasts with the situation in 2007, when the rate for boys at 21.9% was above girls at 19.1% (MINEDUC, 2012). The ratio of girls 'enrolment against boys was 1.02 in 2010, and 1.06 in 2011, girls achieving higher number. In secondary education from S1 to S6, the repetition rate has decreased from 6.0% in 2008 to 3.8% (Ruzigiro, 2010).

Significant improvement was observed among at risk students, as teachers cited that "attendance and behavior has improved, along with their motivation, engagement, and class participation" While research may support the infusion of laptop technology in schools with a goal of providing students anytime, anywhere access, the significant costs of computer hardware acquisition and maintenance continues to challenge schools across the nation (Rogera, 2012). The digital native of the 21st

Century, however, will continually question how districts can afford not to fund such initiatives (Pitler et al., 2004, p. 6). Recent developments in handheld computing have resulted in devices with a standard operating system and markedly reduced costs as compared to laptop computers, providing a lower-cost alternative to schools and districts seeking to embrace the digital age.

However, consecutive reports of the Ministry of Education (from 2015 to 2020 on ICT secondary school, statistics) revealed an increase in the rate of student enrolments (37.2 % in 2015 to 5.1% in 2019) in public secondary school. This is a big concern within the secondary school because it hampers their proper functioning. The Shortage of students' ICT resources in Rwandan secondary school has made difficult in their learning behavior because the students complained to the outdated contents delivered by the teacher, on the other hand teachers complained to shortage of internet connectivity so that they got updated contents in order to promote effective teaching.

The availability of ICT resources and student's learning behaviors in

Rwandan secondary school: Available literature consists of a number of studies which investigated the effect of ICT resources on public student of secondary school. However, most of the studies are on the effect of availability of ICT resources in public Rwandan secondary school. The study of Bonnet (2011) investigated the variables affecting students' learning in selecting secondary school. In classrooms for teachers and their students, the availability of modern computers, peripherals, networking and resources within an increasingly diverse range of technologies is an essential part of learning and teaching in the 21st century. ICT constitutes an input in the student learning process that should help produce better learning output. The availability of ICT resources can enhance learning by making education less dependent on differing teacher quality and by making education available at home throughout the day, the use of ICT can positively transmit knowledge to students. (Mbwesa, 2012). Furthermore, the availability and use of ICT can help students exploit enormous possibilities for acquiring information for schooling purposes and can increase learning through communication (MINEDUC, 2013).

According to the Swedish National Agency for School Improvement (2008), ICT provide a positive impact on learning and student performance when it becomes an integrated element in the classroom and teaching. Bonnet (1997) argues that the availability of visual digital technology (such as animation, simulation and moving images) involves students and reinforces conceptual understanding. ICT use also encourages development from a teacher-focused or teacher-led model to a more student-focused model in which students work together, make their own decisions and take an active role in learning (Swedish National Association for School Improvement, 2008).

Davis (2000) asserts that increased availability of ICT is especially useful for students who suffer from learning disabilities since ICT use allows teachers to prepare suitable tasks for individual needs and each individual more effectively. However, authors like Cox (1999) believe that allowing certain students to use computers distracts them from focusing on the task at hand. Central to the argument of availability are the issues of whether or not the teachers and students have ample and convenient access to computers and their accessories let alone the software that is necessitated in the context of their day-to-day research, collaboration, teaching and student evaluation (Fabry, et al., 1997).

Furthermore, students and teachers should have confidence in these facilities, which is in turn reliant on the facilities' reliability or degree to which the teachers and students are sure that they will have access to them at all expected times and utilize them predictably to the betterment of their academic work, an issue on which consensus is enormous as is clear from ICT in education scholars like Russell (1997), Ross (1997), Guha (2000), Mumtaz (2000) and Pelgrum (2001).

To conclude, this section reviewed different studies on the effect of ICT on student learning behavior in Rwandan secondary school. A few studies confirmed that availability of ICT resources have high effect in teaching and learning process, as computers are part of subset of the information communication technology facilities in classrooms necessitated in schools and that even then, they have to be equipped with quality accessories, installed with appropriate software and linked to necessary networks to allow access to rich resources beyond the school rather than serve as a resource for minor typesetting and other word processing activities. Although the above studies attempted generally to explain how availability of ICT resources impact students learning behaviors.

Methods

This section discusses the methodology adopted in conducting this study. It comprises of research design, the target population and sample, data collection instruments and procedures, data analysis tools and procedures.

Research design

This study employs a correlational research design. A correlational research design measures a relationship between two variables without the researcher controlling either of them. It aims to find out whether there is either: positive correlation where both variables change in the same direction, negative correlation where the variables change in opposite directions and zero correlation in which there is no relationship between the variables. Creswell (2012) opined that correlational research designs are measures in quantitative research by which researchers measure the level of association (or relation) between two or more variables using the statistical procedure of correlational analysis. The study design is adopted since it

allows exploration of the phenomena and reported as it is and further it allowed the collection of both primary and secondary data.

The term research design refers to the conceptual structure within which research would be conducted, (Lodico, et al., 2010). The purpose of this study, as stated previously, was to examine the effect of ICT resources on students learning behaviors in Rwandan secondary schools.

Participants: This study was conducted in 4 public secondary school only. These are namely: ESC Musanze, GS Musanze, GS MUHE, GS CYABAGARURA while the target population of the study was concerned with a set of 2100 populations including 86 teachers and 2014 students. The choice of these secondary school was made bearing in mind that this is a good number to represent all 26 public secondary school, Musanze district operating in Rwanda (REB, 2018). Similarly, the choice was made as per the assumption that at least 30 percent of the entire population is appropriate for the sample (Borg and Gall, 2003). Given the preferred scope of the study, only those which were 2 years old of experience by the end of 2018-2020 academic year were involved in the study. The 4 Public secondary school were selected using systematic sampling technique whereby the institutions were firstly sorted out alphabetically, and then the interval of four numbers was used to select the ones to be involved in this research.

This research concerned with a set of 2100 populations including 86 teachers and 2014 students. This study was conducted in Musanze sector and the researcher uses the Yamane formula of sample calculation to determine the sample that is used in this research, as cited by Kasunic (2005). The formula assumes a 95% confidence level and the maximum variance ($p = 0.5$). The formula is $n = \frac{N}{1 + N(e)^2}$, Where: n is the sample size, N is the population size, e specifies the desired level of precision, where precision $e = 1 - \text{precision}$, $p = 0.95$ In this study, N is equal to 2100, $e = \text{margin of error} = 1 - 0.95 = 0.05$

$$n = \frac{N}{1 + Ne^2} \quad \text{this becomes} \quad n = \frac{2100}{1 + 2100(0.05)(0.05)} = 336$$

Measures: This study used structured questionnaire to collect primary data. The study also used documentary review to collect secondary data (from journal articles, books, theses, etc.). The questionnaire contained close-ended questions only in the form of Likert scales ($1 = \text{Strongly Agree}$, $2 = \text{Agree}$, $3 = \text{Neutral}$, $4 = \text{Disagree}$, $5 = \text{Strongly Disagree}$). The questionnaire was to be filled by ticking in the appropriate box with regard to the participants' understanding. Before collecting data, the researcher sought the authorization to collect research data from the Musanze district of the 4 sampled public secondary school. Prior to gathering any data, the researcher sought the informed consent from the respondents using an appropriate form. Before collecting the data, a pilot study was done to establish the validity and reliability of the instruments. This was made by means of

Cronbach alpha analysis. The pilot study was done by having 10 students to fill the questionnaire and giving their feedback on it. This exercise was conducted in one public secondary school that was randomly selected. However, the selected institution for pilot study was not involved again in collecting the data for the main study. The data was taken out from the questionnaires and got into the SPSS 20. The Cronbach alphas scored were extracted as shown in the following table.

Table 1 : Reliability Results

| | Number of Items | Cronbach's Alpha | comments |
|---------------|-----------------|------------------|----------------------|
| Availability | 10 | .600 | Accepted reliability |
| accessibility | 10 | .600 | Accepted reliability |
| User-ability | 10 | .700 | Accepted reliability |
| Overall | 40 | .633 | Accepted reliability |

Hinton et al. (2004) have suggested four cut-off points for reliability, which includes excellent reliability (0.90 and above), high reliability (0.70-0.90), moderate reliability (0.50-0.70) and low reliability (0.50 and below) (Hinton et al., 2004). The Cronbach alphas were above 60%, This indicated that most items in this questionnaire had moderate squared multiple correlations, an indication that the questionnaire passes reliability test. Cronbach alphas more than 0.7 are considered as satisfactory (George & Mallery, 2003).

In analyzing the data, the researcher used SPSS (Statistical package for Social Sciences) version 20 to make all the due calculations and to design all the important tables. According to Frey (2017), SPSS is commercially distributed software suitable for data management and statistical analysis and whose first version was developed by Norman Nie, Dale Bent, and C. Hadlai Hull in 1968. As earlier mentioned, the analyzed data was in the form of 5-point Likert scales whereby each point has been assigned a number which was entered into SPSS for data analysis. The data was made up three items containing 10 options each. The first item was about demographic characteristics of respondents, the second was about availability of ICT resources among Rwandan secondary school and the third accessibility of ICT resources among Rwandan secondary school. Each option in the items was representing one variable related to availability of ICT resources, accessibility of ICT resources and user-ability of ICT resources.

The variables under availability of ICT resources which implies the presence of these ICT resources within the school were namely: Availability of Computers in secondary school, Internet Connectivity for students and teachers, Television Set within the school, projectors in teaching and learning process, Printers in teaching and learning process, Updated Software for both teaching staff and students, Scanners, equipped laboratory for academic purpose and e-Library. The variables under accessibility of ICT resources in secondary school, implies the degree to which these ICT resources are easily accessed by many people as possible at school are namely: accessibility of Computers in secondary school,

Internet Connectivity for students and teachers, Television Set within the school, projectors in teaching and learning process, Printers in teaching and learning process, Updated Software for both teaching staff and students, Scanners, equipped laboratory for academic purpose and e-Library. The variables under user-ability of ICT resources in Rwandan secondary school, which refers to the capability of the students and teachers to use these resources to achieve specified goals were namely: user-ability of Computers in secondary school, Internet Connectivity for students and teachers, Television Set within the school, projectors in teaching and learning process, Printers in teaching and learning process, Updated Software for both teaching staff and students, Scanners, equipped laboratory for academic purpose and e-Library in Rwandan secondary school. In the same strain, the researcher used descriptive statistics (percentages, frequencies, means and standard deviation) and inferential statistics (simple linear regression) in data analysis. In the same manner, the researcher used descriptive statistics (percentages, frequencies, means and standard deviation) and inferential statistics (simple linear regression) in data analysis.

Findings

Demographic characteristics of respondents: This study involved, a total number of 225 students and 111 teachers were sampled giving a total of 336 questionnaires that were distributed. A total of 238 (70.1%) fully completed questionnaires were returned of which 158 (70.2%) and 80 (72.8%) were filled by students and teachers respectively. The most of the respondents (128, 53.8%) were males while 110 (46.2%) of them were females. This scenario is associated with the fact that, in the area where this study was conducted, female education is lower than male. This is further supported by the Rwanda examination board (MINEDUC, 2016) which shows higher enrolment among male than female students in Rwanda's public school. The majority of the respondents 128 (53.8%) were males while 110 (46.2%) of them were females. This scenario is associated with the fact that, in the area where this study was conducted, female education is lower than male. The majority are single 128 (53.8%), For third position we have widow/widower with 3(1.3%) while for last position of marital status separated people 1 who corresponds with 0.4%. The majority (68.1%) of the teaching staff were less than bachelor "degree. This partly was due to the fact that the secondary school is still young. About 21.0% were holder of bachelor "degree they were more senior in terms of qualification and experience than their advanced diploma teaching counterparts. There were also master "s holder in secondary school 10.1% besides that above master's level is about 0.8% teaching in the secondary school.

The findings in research showed that the majority of the respondents were students 66.4 % compared to their teachers 33.6%, The crucial data for this study came from students and teachers who dealt with the dairy situation, besides that the teaching staff are considered central in this study because

they are directly involved in the teaching and learning process using ICT. For students this is good opportunity to express their thoughts in the preparation for the bright world of academic as they are future employees and also they expected to have sufficient exposure to ICTs at the school. This was intended to ascertain the respondents' level of responsibilities and seniority in both the decision making processes and the teaching and learning process.

The Descriptive statics on availability of ICT resources, accessibility of ICT resources and user-ability of ICT resources on students learning behaviors: This section presents the descriptive statistics with regard to the variables under study as well as the level of agreement and disagreement with the provided options by the respondents.

Table 2 : Descriptive statics on availability of ICT resources

| | N | Mean | Std. Deviation |
|---------------------------------------|-----|----------------|-----------------|
| Availability of Computers | 238 | 4.3193 | .78952 |
| Availability of Computer accessories | 238 | 3.6050 | .86876 |
| Availability of Internet Connectivity | 238 | 2.9454 | 1.13682 |
| Availability of Television Set | 238 | 3.4958 | .88469 |
| Availability of projectors | 238 | 3.3697 | 1.11276 |
| Availability of Printers | 238 | 3.8655 | 1.08635 |
| Availability of Updated Software | 238 | 4.1807 | 1.01306 |
| Availability of Scanners | 238 | 3.3697 | 1.12032 |
| Availability of equipped laboratory | 238 | 3.3739 | 1.11703 |
| Availability of e-Library | 238 | 2.8109 | 1.09176 |
| Valid N (list wise) | 238 | 3.53359 | 1.022107 |

Source: Research of field data, 2021

Note: Strongly Disagree= [1-1.8]=Very Low Mean; Disagree= [1.9-2.6]=Low mean; Neutral= [2.7 – 3.4]=moderated mean; Agree= [3.5-4.2]=High mean; Strongly Agree = [4.3-5] = Very High mean.

The results in above table 2 show the extent to which computers are available within the school as one of the major aspects affecting integration of ICT in learning of secondary school $\mu=3.6050$ and $STD=.78952$. while others respondents agreed on Computer accessories in order to facilitate teaching and learning process within the school at rate of $\mu=3.6050$ and $STD=.86876$. The findings suggest that the general presence of computers in the school is still wanting which directly hinders full integration of ICT in the teaching and learning process as some students said that some computer accessories are old version and is not relatively available to the increasing number of the students. It also revealed that internet connection within the school is not good. Following a discussion with the school leader and students, it was revealed that the school has not had internet connectivity ($\mu=2.9454$ and $STD=1.13682$) for a very long time majorly because of financial constraint in regards to internet subscription thus the difficulty for the students and teachers to use the internet to access web based learning resources like online journals and general information for research and creation of knowledge.

The results revealed that also television set as a tool for learning in the secondary school was there at some school with a majority ($\mu=3.4958$ and $STD=1.11276$) of respondents responding that they agreed on availability of TV set but on the other hand TV set was unavailable. The researcher's discussion with some students exposes that the school has only one TV sets and these are mainly used for students' entertainment rather than for academic purposes. This suggests that, the entire school doesn't utilize Television as a learning tool and as such important television based educative programs like national geographical channel, discoveries etc. which may be very useful source of information for the students are missed out. The results in Table 2 further show that projectors for presentation of some course materials were present in the school as supported by some of the respondents said that they don't know availability of projector ($\mu=3.3697$ and $STD = .88469$). During the process of data collection, the researcher saw several students of computer sciences using the projector to present their course works. Besides, discussion with the students revealed that the class representatives are responsible for picking and connecting the projector both for teachers and students use.

The availability of Printer $\mu=3.8655$ and $STD =1.08635$ while for scanners $\mu=3.3697$ and $STD=1.12032$ in the school most of the respondents they don't know as supported by a majority of respondents not sure to the availability of scanners. The availability of updated software ($\mu=3.3697$ and $STD=1.12032$). The discussion with the school manager and director of study revealed that it is true the school have only one scanner to be used in academic services and students have no access to school scanners.

Table 2 also reveals that equipped laboratory in the school is still not perfect as supported by the respondents ($\mu=3.3739$ and $STD =1.11703$) accepting that they are agree to availability. The discussion with the school manager and director of study revealed that it is true the school have moderate amount of printers to be used in different academic services including printing examinations, reports, etc. and students have no access to school printers. It shows that majority of the respondents responded that equipped computer laboratories in the school were fairly agree to availability, closely supported by ($\mu= 3.3739$ and $STD=1.11703$) while availability of e library ($\mu= 2.8109$ and $STD=1.09176$) respondents who consented that equipped computer laboratories were not sure to the availability. In the open ended questionnaire, the students noted that there is a good equipped computer laboratory in the secondary school which have advanced level than ordinary level; they however get difficulty to get easy access to computers for use especially for the non-advanced level classes. They also said that some computers did not have all programs they could use and others were faulty. This suggests that though limited in number, computer laboratories in the school are available. The biggest challenge being that students should compete to access the laboratories which competition may hinder their

interest in accessing and using the laboratories. Besides that, bigger number of computer in laboratory they are not connected to internet network and this hinder access to information all over the world to students.

Table 3: Descriptive Statistics on accessibility of ICT resources

| | N | Mean | Std. Deviation |
|--|-----|--------|----------------|
| Accessibility to Computers | 238 | 3.9412 | 1.14953 |
| Accessibility to Computer accessories | 238 | 3.1891 | 1.19509 |
| Accessibility to Internet connectivity | 238 | 2.4916 | 1.23501 |
| Accessibility to Television Set | 238 | 3.2647 | 1.09530 |
| Accessibility to Printers | 238 | 3.3782 | 1.20121 |
| Accessibility to Updated Software | 238 | 3.4496 | 2.16307 |
| Accessibility to Scanners | 238 | 3.3487 | 1.18367 |
| Accessibility to computer laboratories | 238 | 3.3571 | 1.19182 |
| Accessibility to e-Library | 238 | 2.1471 | 1.40501 |
| Accessibility to projectors | 238 | 3.3697 | 1.12032 |
| Overall | 238 | 3.1937 | 1.294003 |

Source: Research of field data, 2021

Note: Strongly Disagree= [1-1.8 [=Very Low Mean; Disagree= [1.9-2.6]=Low mean; Neutral= [2.7 – 3.4]=moderated mean; Agree= [3.5-4.2]=High mean; Strongly Agree = [4.3-5 [= Very High mean

The results in Table 3 shows that the secondary school library and computer laboratory are the most popular places for students to access ICT for general use notably accessibility of computer, the respondents strongly agree ($\mu = 3.9412$ and $STD = 1.14953$), the students always accessed ICT resources in the computer laboratory at rate of ($\mu = 3.3571$ and $STD = 1.19509$), For e library ($\mu = 3.1891$ and $STD = 1.40501$) of the respondents accepted that sometimes they do access ICT resources especially computer accessories.

This suggests that restricted access to ICT facilities in both the Computer laboratory and library tends to deny students exploration of ICT resources for acquisition of information, and knowledge necessary for their academic pursuits. The results in table 3, shows that the respondents disagree to the accessibility ICT resources from the e-library and internet connectivity respectively at rate of ($\mu = 2.1471$ and $STD = 1.40501$) and $\mu = 2.4916$ and $STD = 1.23501$). The researcher's discussion with some respondents revealed that this access was not frequent. This was further confirmed by the teachers and students who asserted that access to the few computer laboratories for non-advanced students were dependent on the laboratory being free which is not frequent. Only ($\mu = 3.2647$ and $STD = 1.09530$) of the respondents were not sure to the accessibility of television set, this means that TV set within the school accessibility is not perfect in secondary school.

The findings from table 3, shows that the accessibility to printers 'respondents don't have access at rate of ($\mu = 3.3782$ and $STD = 1.20121$) but some respondents agreed to access scanners ($\mu = 3.3487$ and $STD = 1.18367$) on other side students and teachers have no access to projectors ($\mu = 3.3697$ and $STV = 1.12032$). The accessibility of updated software ($\mu = 3.4496$ and $STD = 2.16307$). This suggests that restricted

access to ICT facilities in both the Computer laboratory and library tends to deny students exploration of ICT resources for acquisition of information and knowledge necessary for their academic pursuits. The findings reveal that access to ICT resources in the classrooms is still limited and if the classroom is a typical learning environment, then access to ICT resources should be improved to allow both student's and lecturer's access to and production of, resource materials associated with the processes of teaching and learning.

The results in 3, the findings in the open ended question revealed that few ICT resources in the school remains the most serious challenge affecting accessibility of ICT facilities in secondary school as a majority of respondents to computer laboratory ($\mu = 3.3697$ and $STD = 1.14953$) and updated software ($\mu = 3.4496$ and $STD = 2.16307$) while printers ($\mu = 3.3782$ and $STD = 1.20121$). The respondents stated that students are given limited time to practice since are always competed for by students from the different levels. Since most levels in secondary school do not have computer laboratories, priority is always given to the students of computer science and other advanced level. This is further supported by some of respondents who consented that limited access to the computer laboratory remains the biggest challenge of accessing ICT in the smart room. This is further supported by more respondents who consented that limited access to the computer laboratory remains the biggest challenge of accessing ICT in the computer laboratory, besides that there are some secondary schools don't have the electricity to incorporate ICT in the school. As a result, students continually have limited access and use computers for their academic purposes.

Table 4 : Descriptive Statistics of user-ability of ICT resources

| | N | Mean | Std. Deviation |
|--|-----|---------|----------------|
| User-ability of Computer in general | 238 | 4.2647 | .95538 |
| User-ability of Internet in Learning | 238 | 2.2941 | 1.36473 |
| User-ability of Television Set | 238 | 3.3403 | 1.20378 |
| User-ability of Projectors in learning | 238 | 3.0630 | 1.11388 |
| User-ability of Printers | 238 | 3.0924 | 1.12502 |
| User-ability of updated Software | 238 | 3.1008 | 1.11677 |
| User-ability of Scanners | 238 | 3.0966 | 1.12654 |
| User-ability of equipped laboratory | 238 | 3.3697 | 1.12032 |
| User-ability of e-library | 238 | 2.2311 | 1.15157 |
| User-ability of computer accessories | 238 | 3.1008 | 1.12430 |
| Overall | 238 | 3.09535 | 1.140229 |

Source: Research of field data ,2021

Note: Strongly Disagree= [1-1.8]=Very Low Mean; Disagree= [1.9-2.6]=Low mean; Neutral= [2.7 – 3.4]=moderated mean; Agree= [3.5-4.2]=High mean; Strongly Agree = [4.3-5]= Very High mean.

The Results from Table 4, show that majority of the respondents ($\mu = 4.2647$ and $STD = .95538$) emphasized that skills to use computer in general is very good because most of the respondent they are strongly agree but their skills are limited to Microsoft word, excel and power point. The

others respondents not sure about user-ability of computer accessories were not enough within the school at rate of ($\mu = 3.1008$ and $STD = 1.12430$) which is neutral for most of the respondents.

The finding reveals that the student's capabilities to use MS Word for their academic purpose like preparation of course work is relatively good which suggest that ICT can influence positively teaching and learning in Rwandan secondary school. The results in Table 4, shows that respondents recorded only ($\mu = 2.2941$ and $STD = 1.36473$) on the User-ability of Internet in learning process which is low mean and the fact appears less within the school; During a discussion with the researcher, some students revealed that the content taught to them is very shallow and even one teacher consented that "we train them only basic components" which was a further proof of the shallowness of the contents taught.

Besides that, some students complained to the use of internet connectivity by the way the students want to make their own research so that they got from internet adequate technical skills to supplement the content delivered by their teacher. User-ability of scanner ($\mu = 3.0966$ and $STD = 1.12654$), while for user-ability of printer ($\mu = 3.3403$ and $STD = 1.20378$). The findings obtained from Table 4, above, show that only ($\mu = 3.3697$ and $STD = 1.12032$) of all the respondents" agreed that student's skills to use equipped laboratory in performing learning tasks were good. On the other hand, a big number of the respondents totaling to ($\mu = 3.1008$ and $STD = 1.11677$) believed that their skills to use updated computer software program in performing learning tasks were remained neutral, as it is indicated by the mean. About ($\mu = 2.2311$ and $STD = 1.15157$) rated their use of e-library as Low mean and the fact appears less within the school. The above findings suggest that the students were fairly capable and skilled in using presentation software like Power Point to present their course materials during discussions and lessons. The findings also reveal that students are not well equipped to use online instruction like blackboard to share learning materials while the user-ability of television set within secondary school ($\mu = 3.3403$ and $STD = 1.20378$). Besides, discussion with the students also reveals that no active online instruction system was in place since the school has not had internet connection for a long period of time. Discussions with the teachers confirmed that teaching students how to create a simple software program, it is a problem. A teacher from the advanced level of computer science said that time and financial resources doesn't allows for this program thus students are not provided with the knowledge and skills in this packages which affects their learning in this information age.

The Results from Table 4, further reveal that ($\mu = 3.0630$ and $STD = 1.11388$) the mean of the students and teachers 'use had relatively moderate, meaning that some of them they didn't know how to use a projector in presenting their course work. Some of the respondents said their skills to use

projectors were not relatively good. The findings showed that some ordinary level students didn't learn computer science properly because for some teachers instead of teaching ICT they teach core course module which included in curriculum of national examinations, this hinder the performance of students in ICT courses and others non-core courses.

Table 5 : The Descriptive statistics on students' learning behaviors

| The Respondents were asked to give their judgment on the different tasks. | | | |
|---|-----|---------|----------------|
| Options | N | Mean | Std. Deviation |
| Majority of learners are committed to their learning | 238 | 3.3529 | 1.12575 |
| Majority of learners have Very high Concentration | 238 | 3.3697 | 1.12032 |
| Majority of learners have positive attitudes towards learning | 238 | 3.3739 | 1.12080 |
| Majority of learners are punctual to their learning | 238 | 3.3571 | 1.12629 |
| Majority of learners' Dropout rate is very low | 238 | 4.2563 | 1.02163 |
| Majority of learners' Absenteeism rate is very low | 238 | 3.5378 | 1.10075 |
| Majority of learner help one another in learning | 238 | 3.3824 | 1.11038 |
| Majority of learners respect the School Staff | 238 | 3.3697 | 1.12032 |
| Majority of learners have good Performance | 238 | 3.9958 | 1.03320 |
| Majority of learners have Very high Concentration | 238 | 3.3697 | 1.12032 |
| Overall | 238 | 3.53653 | 1.099976 |

Source: Field Data, 2021

Note: Strongly Disagree= [1-1.8

[=Very Low Mean; Disagree= [1.9-2.6]=[Low mean; Neutral= [2.7 – 3.4]=[moderated mean;

Agree= [3.5-4.2]=[High mean; Strongly Agree = [4.3-5 [= Very High mean.

The results in table 5 indicated that the respondents committed to their learning and they agreed to that assertion with ($\mu=3.3529$ and $STD=1.12575$) Learning by using ICT resources facilitate the students to become an independent in terms of knowledge, skills and creativity The finding implies that despite the difficulty in accessing computers, students were putting enough effort to use computers in their daily learning processes. The respondents agreed that they have very high concentration due to integration of ICT resources in learning sector as ($\mu=3.3697$ and $STD=1.12032$) agreed to own learning using computer and internet. They are willing to use computers resources as a supplement to other teaching activities and internet for own learning. The above finding suggest that ICT offers tools for thinking more deeply, pursuing curiosity and exploring and expanding intelligence as students build mental models with which they can visualize connections between ideas on any topic. These finding is consistent with Bataineh and Baniabdelrahman (2015) who pointed out that computers can be used as a supplement but cannot fully replace the teacher's job.

The results from Table 5 revealed that students agreed to having very positive attitude towards learning by using information technology as indicated by the mean ($\mu=3.3739$ and $STD=1.12080$). The respondents use computers to complete course works, projects, reports, exchange of information and making research over internet so that they become the school leavers who is able to compete to national or international labor market of work all over the world. Table 5 further reveals that Majority of

learners agreed to punctual to their learning ($\mu=3.3571$ and $STD=1.12629$) agreed that ICT improve students' organizational skills by respecting scheduling of time table in order to curb loss of any contents. IT improving students' organization skills. The finding suggest that interactive educational technologies help students to learn to organize complex information, recognize patterns, draw inferences, communicate findings and learn better organizational and problem solving kills.

The results in Table 5 also revealed that Majority of learners' Dropout rate is very low about ($\mu=4.2563$ and $STD=1.02163$) of the respondents were strongly agree.it means that ICT resources within the school have great effect on reduction of dropout rate within the secondary school, the integration of ICT resources should be maintained properly so that attendance for students minimized.

Table 5 reveals that Majority of learners' Absenteeism rate is very low at rate of ($\mu= 3.5378$ and $STD=1.10075$) which is High mean and the fact appears more within the secondary school .it mean that when the students are motivated in their learning this reduces students 'absenteeism rate. The results from table 5 indicates that Majority agreed that learner help one another in learning at rate of ($\mu=3.3824$ and $STD=1.11038$). The findings imply that the students have the ability and work co-operatively with others and apply a variety of skills to communicate with and understand others. This is supported by the fact that clusters of students working together on computers learn more than individual students working alone and attending class regularly (Ames, 1999).

The results in Table 5 reveals that Majority agreed that learners respect the School staff within the secondary school at rate of ($\mu=3.3697$ and $STD=1.12032$) by using ICT resources students are able to incorporate and maintain a good discipline from peers group or from other students through internet connectivity. The above table 5 also indicates that Majority agreed that learners have good Performance ($\mu=3.9958$ and $STD=1.03320$), Majority of the students are familiar with technology and are usually able to judge its potential agreed to acquiring some of the pre-requisite skills needed for workplace preparation. This is further supported by some of the respondents consented that technology can help students link academic subject to work place demands. Only a small number of technology providing pre-requisite skills to students for work place preparedness. The findings suggest that technology provides students with knowledge based and skillful intellectual work required in industrial, professional and business occupation since a workers' ability to use ICT is a necessity in more and more occupations. Table 5 further shows that a majority agreed that learners have Very High Concentration ($\mu=3.3697$ and $STD = 1.12032$) it means that respondents agreed to ICT linking academic subjects to work place demands. The evidence in this finding suggest that

students use ICT for personal growth by analyzing subject context critically and using it productively in better preparation for the real employment world. **The regression analysis on availability of ICT resources on students learning behavior of Rwandan secondary school.**

Table 6: Model Summary on availability of ICT resources

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .141 ^a | .020 | -.103 | .33731 |

Source: Field Data, 2021

The results on primary data indicated that the predictor variables were able to explain much of the movement of the dependent variable as shown in Table 6. The R square was 02.0%. Based on the regression model, the study tested the hypothesis that the predictor variables collectively have effect on the dependent variable.

Table 7 : ANOVA On the Availability Of ICT Resources

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|------|-------------------|
| 1 | Regression | .018 | 1 | .018 | .162 | .698 ^b |
| | Residual | .910 | 8 | .114 | | |
| | Total | .929 | 9 | | | |

a. Dependent Variable: Students Learning Behaviors

b. Predictors: (Constant), Availability of ICT Resources

This test is directed by F statistic in Table 7 which indicated that its *p* value of 0.698 is greater than α of 5% for each variable's coefficient hence statistically insignificant different from zero. This meant that at 5% insignificance level, the study rejected the null hypothesis and inferred that the independent variables in focus were jointly statistically insignificant in predicting the value of changes in availability of ICT resources and students' learning behavior in Rwandan secondary school. Based on results above, the study concluded that the independent variables insignificantly influence the dependent variable.

Table 8 : Regression coefficient on the availability of ICT resources on students learning behavior

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|-------|-------------------------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 3.867 | .829 | | 4.663 | .002 |
| | Availability of ICT Resources | -.094 | .233 | -.141 | -.402 | .698 |

Source: Field Data, 2021

The Results in Table 8 revealed that there was a negative and insignificant relationship between independent variable and dependent variable ($\beta = -.094$, *p* value > 0.05). This means that a unit of change in both variables decreases by 0.094 units while holding constant. Furthermore, there was a negative and insignificant relationship between availability of ICT resources and students learning behaviors.

$Y = 0.698 - 0.094X_1$: Where: Y refers to factor 2 as dependent variable (students learning behaviors); X_1 refers to factor 1 (availability of ICT resources)

Regression analysis on accessibility of ICT resources on students' learning behavior

Table 9: Model Summary on accessibility of ICT resources

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .315 ^a | .099 | -.014 | .32340 |

Source: Field Data, 2021

a. Predictors: (Constant), Accessibility of ICT Resources

The results on primary data indicated that the predictor variables were able to explain much of the movement of the dependent variable as shown in Table 9. The R square was 9.9 %. Based on the regression model, the study tested the hypothesis that the predictor variables collectively have effect on the dependent variable.

The findings show that the independent variables (accessibility of ICT resources) has impact of 9.9 % of the variation in level of students learning behavior as explained by adjusted R² of 0.099 which shows that the model is a good improvement.

Table 10 : ANOVA on accessibility of ICT resources

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|------|-------------------|
| 1 | Regression | .092 | 1 | .092 | .879 | .376 ^b |
| | Residual | .837 | 8 | .105 | | |
| | Total | .929 | 9 | | | |

Source: Field Data, 2021

a. Dependent Variable: Students Learning Behaviors

b. Predictors: (Constant), Accessibility of ICT Resources

This test is directed by F statistic in Table 10 which indicated that its *p* value of 0.376 is greater than α of 5% for each variable's coefficient hence statistically insignificant different from zero. This meant that at 5% insignificance level, the study rejected the null hypothesis and inferred that the independent variables in focus were jointly statistically insignificant in predicting the value of changes in accessibility of ICT resources and students' learning behavior in Rwandan secondary school. Based on results above, the study concluded that the independent variables insignificantly influence the dependent variable.

Table 11 : coefficients of accessibility of ICT resources

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|-------|--------------------------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 4.170 | .684 | | 6.099 | .000 |
| | Accessibility of ICT Resources | -.198 | .212 | -.315 | -.937 | .376 |

Source: Field Data, 2021

a. Dependent Variable: Students Learning Behaviors

The Results in Table 11 revealed that there was a negative and insignificant relationship between independent variable and dependent variable ($\beta = -.0,198$ *p* value>0.05). This means that a unit of change in both variables decreases by 0.198 units while holding constant. Furthermore, there was a negative and insignificant relationship between availability of ICT resources and students learning behaviors.

$Y = 4,170 - 0.198X_1$; Where: Y refers to factor 2 as dependent variable (students learning behaviors); X_1 refers to factor 1 (accessibility of ICT resources)

Regression analysis on user-ability of ICT resources on students' learning behavior

Table 12: Model Summary On user-ability of ICT resources

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .342 ^a | .117 | .007 | .32012 |

Source: Field Data, 2021

a. Predictors: (Constant), User-Ability of ICT Resources

The results on primary data indicated that the predictor variables were able to explain much of the movement of the dependent variable as shown in Table 12. The R square was 11.7%. Based on the regression model, the study tested the hypothesis that the predictor variables collectively have effect on the dependent variable. The findings show that the independent variables (user-ability of ICT resources) has impact of 11.7 % of the variation in level of students learning behavior as explained by adjusted R² of 0.117 which shows that the model has good improvement.

Table 13 : ANOVA on user-ability of ICT resources

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|-------|-------------------|
| 1 | Regression | .109 | 1 | .109 | 1.062 | .333 ^b |
| | Residual | .820 | 8 | .102 | | |
| | Total | .929 | 9 | | | |

Source: Field Data, 2021

a. Dependent Variable: Students Learning Behaviors

b. Predictors: (Constant), User-Ability of ICT Resources

This test is directed by F statistic in Table 13 which indicated that its *p* value of 0.33 is greater than α of 5% for each variable's coefficient hence statistically insignificant different from zero. This meant that at 5% insignificance level, the study rejected the null hypothesis and inferred that the independent variables in focus were jointly statistically insignificant in predicting the value of changes in user-ability of ICT resources and students' learning behavior in Rwandan secondary school. Based on results above, the study concluded that the independent variables insignificantly influence the dependent variable.

Table 14: Coefficients on user-ability of ICT resources

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|-------------------------------|-----------------------------|------------|---------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 4.137 | .591 | | 6.996 | .000 |
| | User-Ability of ICT Resources | -.194 | .188 | -.342 | -1.030 | .333 |

Source: Field Data, 2021

The Results in Table 14 revealed that there was a negative and insignificant relationship between independent variable and dependent variable ($\beta = -.0194$ *p* value > 0.05). This means that a unit of change in both variables decreases by 0.198 units while holding constant. Furthermore, there was a negative and insignificant relationship between user-ability of ICT resources and students learning behaviors in Rwandan secondary school. $Y = 4,137 - 0.194 X_1$. Where: Y refers to factor 2 as dependent variable (students learning behaviors); X_1 refers to factor 1 (user-ability of ICT resources)

Discussion

As stated earlier, this study aimed at investigating the effect of ICT on the students learning behaviors in selected public secondary school in Rwanda by answering the following research questions: What is the effect of availability of ICT resources among public selected Rwandan secondary school? What is the effect of accessibility of ICT resources among public selected Rwandan secondary school? What is the effect of user-ability of ICT resources among public selected Rwandan secondary school? The following are the findings for each research question.

Concerning the research question number one, the study established that the availability of ICT resources in the secondary school and student learning behavior there is an insignificant and negative effect of the independent variables to dependent variables. The study by Inter-secondary school Council for East-Africa (ISCEA) in 2015 revealed that 43% of ICT resources in Rwandan secondary school were available within the public selected school (Mbweza, 2016). In Africa continent the application of ICT faces many challenges including Analysis revealed to overcome in order to disseminate the use of ICT throughout the nation generally and in education specifically. With a poor infrastructure 16% of electricity coverage in households by 2012, 47% in public schools, low connectivity rates 6% in public primary while 18% in secondary school are only connected to internet in Rwanda, lack of equipment and high costs, access to ICT in the education system is very limited (computer to student's ratio in secondary schools 40:1; 16% of primary schools use XO laptops). In addition, due to a lack of ICT culture and of understanding of its possible applications and benefits in education, communities and educational institutions are often reluctant to adopt ICT and adapt their teaching methods. The study by Rwanda education board (REB) in 2017 revealed that 49% school leavers in secondary school of Rwanda complained to shortage of ICT resources within the school (Mugege, 2018). Even when such material and cultural barriers are overcome and ICT in Education initiatives are taken up, other challenges arise, such as, limited availability of digital learning material, lack of expertise in project management skills and poor coordination of initiatives, systematic road map for ICT Teachers Professional Development, e-readiness survey, analysis and ICT infrastructure plan and technical support. The study further reveals that ICT resources in the school are inadequate.

The availability of computers and related technologies without being made adequate in regards to student's needs may make no difference in the teaching and learning processes. Greenleaf (2009) further explained that inadequacy of ICT facilities translates into lack of skills in the use of ICT equipment and software which results in a lack of confidence in utilizing ICT tools among the students. This is consistent with Herman and Joan

(2007) who concluded that lack of enough ICT tools to be key inhibitor to the use of ICT in classroom.

With regard to research question number two, the study revealed that the accessibility of ICT resources in the secondary school and student learning behavior there is an insignificant and negative effect of the independent variables to dependent variables. The study by Rwanda education board (REB) in 2016 revealed that 38% school leavers in secondary school of Rwanda complained to the degree in which ICT resources are easily accessed by many people as possible at school (Bigozi, 2017). Learning using ICT is hindered by accessibility to different ICT resources. Bardwell (2002) emphasized the issue of accessibility as a feature of ICT integration into teaching and learning process. The study revealed that, because of the limitation in the numbers of functional computers and laboratories, the computer laboratories are timetabled and time for accessibility is limited. Teachers and students from the different secondary school are supposed to adhere to time schedules which do not promote accessibility at convenience. Nonetheless, timetabling is aimed at better organization and management of the scarce resources and most respondents agreed that there is access though insufficient in the school.

The study indicates that easy access of ICT facilities was a problem in all the secondary school's sector. According to the findings majority of the students hardly accessed ICT facilities from school. Resource centers were not in place and in public libraries there were no ICT facilities for students use. No time was allocated for students practice in the computer lab. Besides, the teachers also compete for facilities in the computer lab with students. However, the study also shows that computer lab and school library remains the two most popular places to access ICT resources. It is worth noting that accessibility to the internet which is one of the major indicators of ICT in learning in an institution is not fully implemented in every sector especially, the halls of residence, teacher rooms. Alessi and Trollip (2012) precisely hint that the internet will transform many activities including teaching and learning within the school.

This makes ICT in learning to manifest and be limited to computer lab and the library only. Learning on the internet conforms to constructivist approach to instruction (Jonassen, 2010) so the limit to places is not an ideal practice. UNESCO (2015) points out that the success of ICT in teaching and learning process in education sector shall base on the degree with which students and teaching staff access ICT facilities. Findings from respondents limited ICT resources as the biggest challenge affecting students' access to ICT facilities ($\mu=3.542$). This was closely followed by financial constraints cited by some 12 % of the respondents. The researcher's discussion with the school manager and deputy school manager reveals the need for increment in ICT facilitation so as to increase on the number of technology accessories in the school. Limited time to access the computer lab (10%),

Internet connectivity (7%) and power fluctuation (3%) were some of the other reasons cited as affecting students access to ICT resources.

With regard to research question number three the study also established that the user-ability of ICT resources in the secondary school and student learning behavior there is an insignificant and negative effect of the independent variables to dependent variables. According to UNESCO (2012), the safe way to bring computers to institutions is teaching students skills of how to use word processors, spread sheets, data bases and graphic tools. These are the productive tools required later on in life. The developments of appropriate strategies to use these tools productively are through identifying and developing the level of user-ability skills. The study has shown that more of respondents rated their skill as good in Ms. office including Word, and Spreadsheets. Although the respondents scored high on ICT user-ability skills, this does not mean that they use ICT effectively. Only what can be inferred is that the respondents rate their skills highly and rating the user skill is not based on any standard measure. It is just a way one perceives his or herself. However, perceiving oneself positively is a very important basis on which to judge the ability to participate effectively in an activity.

The study reveals that computer user-ability skills influence learning. Students and teachers with such skills were seen to be more comfortable in their application of the various computer programs, meaning that those who rated their ICT user-ability skills high also have high skills to gage ICT into learning processes. This was also observed in practice where learners with good user-ability skills were more proficient than their colleagues who had rated themselves low.

It was found out that emphasis was put on training students' basic concepts of ICT. The introductions were based on students' identification and use of computer terminology appropriately such as hardware and software. Students were trained to identify the main components of the hardware in use (i.e. Central Processing Unit (CPU), input devices, output devices and storage devices); students demonstrated an understanding of the functions of the main components of the hardware in use; identified various peripheral devices (e.g. printers, scanners, plotter, scanner, digital camera); and use of email, demonstrated an understanding of the functions of the various peripheral devices which was in agreement with UNESCO's module one for skills in ICT curriculum (UNESCO,2010). Just like Jonassen, emphasis was put on this section because it formed a rich examinable area for ICT assessment Like Tearle (2013), Drenoyianni (2014) agrees that variations in the ICT skill base of individuals can impede the use of ICT for teaching and learning. Drenoyianni (2014) advocates a phased approach where students are required to complete a mandatory initial introduction to ICT and this in turn leads on to training in the more complex ICT packages. In this way the introduction to ICT is a preparatory stage allowing students to build their ICT confidence where they later learn

to utilize ICT in the learning context. Minimum standards of expertise are maintained and standards met but not ending on the Microsoft office suite like what the school was doing (Mbweza 2010).

Overall, the study found no significant effect of ICT resources on the student learning behavior in public secondary school in Rwanda. These findings are similar to those of Kiokyr (2017); Thaniob (2012); Pafyir (2014) and Merrinkn et al. (2007) whose studies confirmed that availability of the ICT resources does not significantly affect student learning in secondary school. However, the findings suggested that Wanivrrth (2010); Rh, Getyfoo and Hendry (2017; Souter and Turner (2012); Varary and Amenity (2010); Nurentry et al. (2013); Jeckylina and Grownney (2012); Shrilly (2010) and Aminol (2009) whose studies found that accessibility and user-ability of ICT resources have no significant effect on student learning behavior in Rwandan secondary school.

Conclusion

As per the above findings, it was concluded that in this era, ICT plays an important role in day-to-day activities, including education, so it is worth time to evaluate the effect of ICT resources on education sector and to ensure its positive use. In this context, this study was carried out using correlational design, descriptive statistics, reliability analysis. The study exposes the negative impact of the ICT resources of the students learning behavior including some Students spent most of the time with ICT in non-academic purpose as the use of ICT if it is not used properly. The study also shows that if academic or related institutions take the right steps to use the ICT for academic purposes, education as a whole and students learning behavior in particular will benefit greatly.

The ICT infrastructure within the school is poorly developed, unevenly distributed and inadequate. However, some ICT resources like computer lab, projectors, scanners, printers and television sets were considered to be available but used for academic purpose only while the students have no access to them. Besides That, the biggest challenge still affecting easy access to ICT facilities in the school remains the limited number of ICT resources which does not match with the ever increasing student population. But there was at least something in place to build on though still was limited to computers. Indeed, in ordinary level classes, some students complained that their teachers focused on core module in our Rwandan curriculum, meaning core module most of the time replace non-core modules. so this hinder student's achievement in ICT courses.

Recommendations

Basing on the findings of this study, in order to improve ICT resources and students learning behavior in Rwandan secondary school, the following recommendations may be considered.

The ministry of education should need to invest more in computers and related technology as means of not only solving accessibility problem but

improving on the presence of the facilities especially computers in the classroom and computer lab. More infrastructures: printers, computers, projectors should be put in place for more practice and utilization; The study also recommended to secondary school to maintain internet connectivity in the school and connect more computers to the internet. The school should then liberalize accessibility of internet connectivity in the institution in form of establishment of ICT resource where all software can be accessed, students' packages and all versions of technology. All in all, the school shall take time and even not get there to afford a 1:1 ratio of Student, ICT access to facilities thus students should also endeavor to acquire themselves what can be afforded or visit commercial ICT providers like internet café to access ICT facilities; Teachers should conduct their classes by using ICT. Indeed, Training in ICT skills should not be limited to Ms Office suits; the secondary school should go ahead to integrate the other programs and packages as recommended by MINEDUC (2017) curriculum for schools. Clearly a basic level of ICT skill must be achieved but this should be followed by an integrated approach to ICT and learning. The aim should be for embedding ICT firmly into the teaching and learning process so that it is no longer considered a separate and discrete element. Such changes may offer the potential to improve on teaching and learning using modern technology; Educational monitoring and evaluators should look at the completion of all core module and non-core, as some students complained that in ordinary level ICT is replaced by core modules of the curriculum.

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MENTAL HEALTH OF TEACHERS IN CONTEXT OF GENDER

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Abstract

Overall development of child is a central idea of whole teaching-learning process, for that health of teacher is very much important and effective factor. There are various types of health such as Physical health, Mental Health, Emotional Health, etc. Mental Health is very important factor for effectiveness of any teacher's teaching, which may result in good Academic achievement of students. What is the status of mental health of teachers? Is there any effect of gender on mental health of teachers? To find out the answer of these of questions present study was conducted. Present study was survey type study, for which from sampling frame was stratified in primary, secondary and higher secondary schools, from that list of school proportionally selected in sample. To find out the significant difference between two groups, 't' value was found.

Keywords: Primary, Secondary, Higher Secondary, Mental Health, Teachers

In the present situation we are witnessing a scenario of knowledge explosion. All the nations of the world have realized the importance of education for national development. Mental Health is very much crucial factor that is affecting teaching-learning process. Mental Health is defined as a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community and thus the score obtained on Mental Health Scale by teachers was considered as a mental health of teachers. Mental Health may affect teaching-learning process. Mentally health teacher can give whole dedication in teaching. Mentally health teacher can make such an environment in which students can learn anything simply, interestingly and effectively. Mental Health is new concept and well used in developed country. Nowadays country are thinking for not only intellectual mass but also mentally healthy people. In India Mental health is not that much of popular for research. Mental health of teachers is very much important factor, so further researches in this area are recommendable.

The present study was delimited to Gujarati medium Schools of Gandhinagar district. The present study is limited to GSEB Schools. Mental Health Scale was constructed by investigator, so all the limitation of tool will remain as a limitation of the study. The findings in the present study were found on the basis of the responses of the teachers so this also remains as a limitation of the study.

Objectives

The researcher decided the following objectives for the present study; To determine the level of Mental Health of teachers; To study the mental health of teachers in context of gender.

Hypothesis

The following hypothesis was prepared for the present study.

H₀₁- There will be no significant difference in the mean score obtained on mental health scale by male teachers and female teachers.

Population and Sample

All the teachers in Gujarati medium GSEB Schools of Gandhinagar are included in the population of the present research. Randomly 6 Schools were selected, in which 2-2 schools were of Primary, Secondary and Higher Secondary. All teachers were selected in sample by cluster method. Thus, school selection was done by Stratified Random Technique and teachers were selected by Cluster technique.

| | Male | Female | Total |
|------------------|------|--------|-------|
| Primary | 50 | 60 | 110 |
| Secondary | 20 | 11 | 31 |
| Higher Secondary | 38 | 20 | 58 |
| Total | 108 | 91 | 199 |

Survey Method of Research was used for the present study because investigator wants to know the present scenario. For Data Collection researcher Constructed Self Constructed Mental Health Scale was applied.

Data Analysis

To determine three level of mental health Min, P₃₃, P₆₇ and Max was found; For rejection or acceptance of hypothesis t-value was found Hypothesis wise.

Table 1 : To determine the level of Mental Health of teachers.

| Level of Mental Health | Norms | | No. of Students | Percentage |
|------------------------|------------------------------------|----------|-----------------|------------|
| Low Mental Health | Min to P ₃₃ | 13 to 38 | 69 | 34.67 % |
| Medium Mental Health | P ₃₃ to P ₆₇ | 39 to 41 | 66 | 33.17 % |
| High Mental Health | P ₆₇ to Max | 42 to 47 | 64 | 32.16 % |
| Total | | | 199 | 100 % |

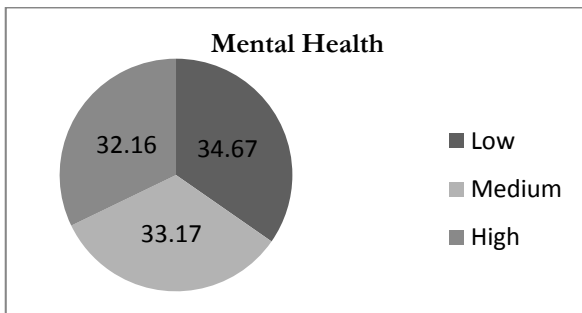


Table 2 : To study the mental health of teachers in context of gender.

| Hypothesis | Group | N | M | SD | SEd | t-value | Remarks |
|-----------------|--------|-----|-------|------|------|---------|---------------------------|
| H ₀₁ | Male | 108 | 39.11 | 4.99 | 0.63 | 0.21 | No Significant Difference |
| | Female | 91 | 39.24 | 3.71 | | | |

Findings

There were 34.67% teachers having Low Mental Health, 33.17 % teachers having Medium Mental Health and 32.16 % teachers having High Mental Health; There is no significant differences in score obtain on Mental Health Scale by male teachers and female teachers that mean in matter of mental health male and female teachers are equal.

Conclusion

From the Conclusion and finding obtain from study we can say that Mental Health is very much important for teacher's evaluation. To support the result of present study, one should do some more replication of study. Hence this type of innovative Studies should be going on in future. There are maximum teachers having low mental health. Some programmes and activities must be organized to enhance mental health of teachers.

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EFFECT OF E-PROCUREMENT SYSTEM ON THE PERFORMANCE OF TENDERING PROCESS IN RWANDA: A CASE S OF RUTSIRO DISTRICT (2017- 2020)

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Abstract

The general objective of this study was to assess the effect of the e-procurement system on the performance of the tendering process in Rwanda, especially in Rutsiro District. The specific objectives were to find out how the use of a single online portal for stakeholders has increased the competition level of the tendering process in Rutsiro District, to examine the effect of electronic access on information related to the tendering process of Rutsiro District, to assess the impact of access of tenders published and submission of bids on the Cost and Time management of the tendering process in Rutsiro District and to determine the extent to which easy communication between Procuring Entity and Bidders enhance the transparency of Tendering process in Rutsiro District. The target population of the study was the procurement officer in Rutsiro District, the tender committee in Rutsiro District, and bidders of Rutsiro District whose total number amounts to 238. All these categories were given questionnaire copies to assess the effect of e-procurement and the performance e of the Tender process in Rutsiro District. The sample size was 149 and is taken based on the formula developed by Yamane. In conducting this study, stratified random sampling was used for the quantitative approach to select the respondents. This technique allowed the researcher to achieve research objectives. To get there, the researcher distributed questionnaire copies to officials of Rutsiro area in procurement, Finance, tender committee, and bidders of Rutsiro region. After that, data were entered into SPSS 20 to get frequency tables and their related percentages of correlation. A single online portal for stakeholders has a 64.4 percent of effect on the performance of the tendering process in Rutsiro District. The correlation coefficient of 0.803 indicates a high positive relationship between the independent and dependent variables. Electronic access to information has an influence of 37.9 percent on the performance of the tendering process in Rutsiro District. The connection ratio(coefficient) of 0.615 implies that the independent and dependent variables have a medium positive relation. Access of tenders published and submission of bids) has an influence of 59.1 percent on the performance of the tendering process in Rutsiro District. The relationship coefficient of 0.636 implies that the independent and dependent variables have a medium positive connection. Tendering process performance in the same district is significantly influenced by easy communication of e-procurement at 68.2%, according to the R Squared analysis. The government should provide subsidies to encourage bidders, all institutions both Private and Public to join and use E-procurement. For example, they could provide free training on the use of e-procurement systems that is affordable to most people working in private institutions. As a result, more people will be able to attend the training and thus be empowered with knowledge

Keywords: E-Procurement System; Performance; Tendering Process

Governments around the world are constantly buying goods and services from the private sector, from small everyday expenses to large infrastructure projects. Promoting the procurement way simple and cost-efficient is a major challenge that every government faces. Regardless of the energies, the public procurement manner is often long, compound, and cost much. To report the problem, many régimes around the world have implemented digitized processes to make procurement easier, faster, and more transparent, and to reduce opportunities for bribery (World Bank Global report, July 2017).

Electronic procurement systems have helped governments across the world to reduce prices then increase transparency in the procurement process. From 2014, Rwanda started the process of becoming the first country in Africa to realize those benefits, by associating with a South Korean firm to develop its e-procurement scheme. The government launched a pilot system in mid-2016 and rolled out e-procurement nationwide in mid-2017 (World Bank Global report, July 2017).

The manual procurement system has been in use not only in the private sector but also in the government state corporations. Public procurement is an important function of government (Thai, 2001). In its place of sufficient requirements for goods, works, systems, and services in an appropriate method (Vaidya, Sajeev, and Callender, 2006), the Kenya procurement system had proved to be long, cumbersome, and time-consuming.

Universally, e-procurement has obtained many people, particularly with the arrival of technology. The United States of America for instance had rapid development of e-procurement (Reddick, 2004).

Like Africa reported, the perception of electronic procurement is just acquiring popularity in the public section. To solve the problems of accountability weakness and transparency in procurement activities in the civic segment, Most African countries have resorted to legal reforms and adoption of procurement. In Tanzania to put in practice, soft procurement systems have allowed soft-sharing, soft-advertisement, electronic-submission, e-evaluation, e-contacting, e-payment, e-communication, and e-checking and monitoring to ensure all public procurement activities are conducted online (Gabbard, 2010).

In Kenya, The Kenyan government made it mandatory for procurement of all public goods, works and services to be procured through online platforms. For County governments in particular, there is a directive for all procurement and finance operations to be conducted online. For instance, the government introduced integrated financial management information system (IFMIS) that is mandatory for all 47 counties. IFMIS was brought to recover governance by giving a good time financial evidence and successfully agendas, express budgets. It also develops accuracy and answerability and works as a warning to dishonesty and deception (USAID, 2008).

E-procurement has many returns (Nawi et.al, 2016) for example charge investments and augmented efficacy. Faster government procurement processes and greater transparency in comparison with traditional procurement methods are also advantages for the application of the e-procurement system. Moreover, (Nawi et.al, 2016) state that, applying an e-procurement system provides higher transparency compared to traditional tendering.

Rendering to Rankin (2006) in his research agreed that e-procurement decreases paperwork, contributing to lower administration costs. He added that costs such as intra-company mail, phone charges, postage, photocopying, and storage which organizations used to deal with do no longer exist. He added that sot-procurement controls the whole tendering-to-payment progression, growing efficiency and removing needless costs

The Rwandan regime has put in place some creativities to modernize its government tendering structure to convey it into line with the essential ethics of transparency, competition, economy, efficiency, fairness, and accountability (Tashobya,2015) Rwanda Public Tendering Leaders state that electronic procurement can support the GoR to influence the above-mentioned ethics.

The electronic tendering was thrown in August 2016. It was called “Umucyo” which signifies “transparency” in English. the pilot program of the new e-procurement system commenced in 8 government institutions (“Rwanda public procurement authority; Rwanda development board; MINECOFIN; Ministry of Justice, Rwanda revenue authority; Rwanda social security board, banks and insurance companies”) Umucyo is the only one system for all public procurement process in the country, it is utilized by public and individual societies.

According to Matunga, Denish Ateto (2013), It was evident that lack of accountability, maximized economy, and efficiency, reduced time used to source commodities, and lower administration costs as the major traditional procurement problems which had been reduced by e-procurement

A survey is conducted by Eei et al. (2012) explored the benefits of e-procurement in Malaysian SMEs. Matunga et al. (2013), assessed the effect of e-procurement on efficient procurement in public hospitals a case study of Kenya hospital in Kisi; Uddin (2015), identified the benefits of using e-procurement over traditional procurement in the case of Bangladesh. Furthermore, studying e-procurement benefits stayed a popular topic for researchers continually. Another study was conducted by Diane. G (2020), identified the Adoption of e-procurement in Rwandan Public institutions; a case study of the Ministry of Finance and Economic Planning.

However, there is no study related to the effect of e-procurement adoption in Rwanda; a case study of Rutsiro District on the performance of the tendering process. Therefore, the author believes that analyzing the effects of using e-procurement in Rwanda, especially in Rutsiro District is significant.

Moreover, given that Public Institutions in Rwanda have been using traditional procurement for a quite long time until mid-2017 when the e-procurement system was introduced in 131 Public Institutions including all districts where Rutsiro District started using Umucyo system, it can be expected that the adoption of e-procurement can face some challenges linked with its usage.

Therefore, there was a need to fill this gap by assessing how e-procurement use in Rwanda can affect the performance of the tendering process in Rutsiro District. Further, the findings of this research added significant empirical information and findings to previous studies on the effect of e-procurement on the performance of tendering process and challenges associated with its implementation in Rwanda. It is for that reason this research was conducted to shed light regarding the effect of the e-procurement system on the performance of the tendering process in Rwanda, especially in Rutsiro District from 2017 to 2020.

Research Objectives

To find out how the use of a single online portal for stakeholders has increased the competition level of the tendering process in Rutsiro District; To examine the effect of electronic access on information related to the tendering process of Rutsiro District; To assess the impact of access of tenders published and submission of bids on the Cost and Time management of the tendering process in Rutsiro District; To determine the extent to which easy communication between Procuring Entity and Bidders enhances the transparency of tendering process in Rutsiro District.

Research design

The study used the descriptive research design with two mixed methods (Quantitative and qualitative). The descriptive research seeks to describe the event as it exists in electronic procurement in Rwanda. This research design provides the structure of data collection. The analytical method and the synthetic method were also used respectively to analyze, interpret the doctrine and case law about the subject to draw some recommendations. The quantitative component involved the administration of questionnaires to the bidders while the qualitative components covered interview which was addressed to the Chief Budget Manager, Corporate Division Manager, Finance staff, Procurement Officer, and tender committee members of this District who participated in the tendering process from 2017-2020.

Target population

The target population of the study was the procurement officer in Rutsiro District, the tender committee in Rutsiro District, and bidders of Rutsiro District. All these categories were given questionnaire copies to assess the effect of e-procurement and the performance of the Tender process in Rutsiro District. The total population was 238.

Findings

Single Online portal for stakeholders and competition level of the tendering process in Rutsiro area: The first objective of the study was to find out how

the use of a single online portal for stakeholders has increased the competition level of the tendering process in Rutsiro Quarter. This section discusses findings presentation, analysis, and interpretation. The scale went from Strongly Disagree to Disagree, Neutral, Agree, and Strongly Agree. Questionnaire responses were given as frequencies/percentages. In this regard, correlation and regression tests were used.

Table 1: Single online portal for stakeholders and competition of bidders

| | Strongly agree | Agree | Neutral | Disagree | Strongly disagree | Total |
|---|----------------|-------------|-----------|------------|-------------------|-------------|
| Electronic access enhances transparency in the submission of bids. | 63 42.3% | 68 45.6% | 3 2.0% | 10 6.7% | 5 3.4% | 149 100% |
| The electronic system does not increase competition because it is not accessible to everyone. | 47 31.5% | 81 54.4% | 6 4.0% | 7 4.7% | 8 5.4% | 149 100% |
| Electronic access to tenders reduces the level of tendering as only those with internet can apply. | 67 45.0% | 58 38.9% | 9 6.0% | 3 2.0% | 12 8.1% | 149 100% |
| Electronic access reduces the number of bidders because it requires some level of expertise to use the platform. | 63 42.3% | 74 49.7% | 2 1.3% | 7 4.7% | 3 2.0% | 149 100% |
| Electronic access enhances my competitiveness by providing constant access to a new list of tenders in my domain. | 91 61.1% | 38 25.5% | 7 4.7% | 11 7.4% | 2 1.3% | 149 100% |

Source: Field data, September 2021

The results in Table 1 show the respondents' views on how the use of a single online portal for stakeholders has increased the competition level of the tendering process in the same District. The outcome shows that 42.3% strongly agree, 45.6% agree, 2.0% were neutral, 6.7% disagree and 3.4% strongly disagree that electronic access enhances transparency in the submission of bids. Also, the results show that 31.5% strongly agree, 54.4% agree, 4.0% were neutral, 4.7% disagree and 5.4% strongly disagree that electronic system does not increase competition which explained that not accessible to everyone. Besides, the results show that 45.0% strongly agree, 38.9% agree, 6.0% were neutral, 2.0% disagree and 8.1% strongly disagree that electronic access to tenders reduces the frequency of tendering as only those with internet can apply. In the same vein, the findings show that 42.3% strongly agree, 49.7% agree, 1.3% were neutral, 4.7% disagree and 2.0% strongly disagree that electronic access reduces the number of bidders because it requires some level of expertise to use the platform. Additionally, the findings show that 61.1% strongly agree, 25.5% agree, 4.7% were neutral, 7.4% disagree and 1.3% strongly disagree that electronic access enhances my competitiveness by providing constant access to the new list of tenders in my domain.

One interviewed bidder stated, *"Single online portal for stakeholders seems to be considerably faster than previous supply chain management. I'm now ready to share reusable bids because my data are kept digital form saves me enough time, which increases my ability to compete compared to the chain traditionally."*

E-PROCUREMENT AND TENDERING PROCESS

E-procurement adoption has to be managed well to reach the firm's performance goals. There are several key success factors related to both the competence of the e-procurement service provided by an online auction intermediary and the organization's internal capabilities. One vibrant success factor relating to e-procurement is the technical capability of the system (Johnston, 2005).

Findings of electronic access to information and tendering process in Rutsiro District.

The second objective of the study was to examine the effect of electronic access on information related to the tendering process of Rutsiro District. This section discusses findings presentation, analysis, and interpretation. The scale went from Strongly Disagree to Disagree, Neutral, Agree, and Strongly Agree. Questionnaire responses are given as frequencies/percentages. In this case, correlation and regression tests were used.

Table 2 : Electronic access to information and tendering process in Rutsiro District

| | Strongly agree | Agree | Neutral | Disagree | Strongly Disagree | Total |
|--|----------------|-------------|-------------|-----------|-------------------|-------------|
| E-procurement leads to access to information in Rutsiro District | 94 63.1% | 46 30.9% | 2 1.3% | 3 2.0% | 4 2.7% | 149 100% |
| Staff members of Rutsiro District provide bidder's response to tenders clarification requested in e-procurement to enhance easy communication. | 75 50.3% | 50 33.6% | 16 10.7% | 3 2.0% | 5 3.4% | 149 100% |
| Rutsiro District encourages fairness in electronic procurement to reduce fraud in tendering. | 58 38.9% | 63 42.3% | 14 9.4% | 8 5.4% | 6 4.0% | 149 100% |
| With e-procurement there is no direct contact between the staff of the procuring entity and the bidders, corruption is reduced. | 107 71.8% | 33 22.1% | 2 1.3% | 3 2.0% | 4 2.7% | 149 100% |
| E-procurement allows bidders to clarify any errors they find and fix them before the deadline. | 113 75.8% | 25 16.8% | 2 1.3% | 3 2.0% | 6 4.0% | 149 100% |

Source: Field data, September 2021

The results in Table 2 show the respondents' views on electronic access to information related to the tendering process of Rutsiro District. The findings show that 63.1% strongly agree, 30.9% agree, 1.3% were neutral, 2.0% disagree and 2.7% strongly disagree that E-procurement leads to access to information in Rutsiro District. Besides, the findings show that 50.3% strongly agree, 33.6% agree, 10.7% were neutral, 2.0% disagree and 3.4% strongly disagree that staff members of Rutsiro District provide bidder's response to tenders clarification requested in e-procurement to enhance easy communication. Also, the findings show that 38.9% strongly agree, 42.3% agree, 9.4% were neutral, 5.4% disagree and 4.0% strongly disagree that Rutsiro District encourages fairness in electronic procurement to reduce frauds in tendering. In the same perspective, the findings show that 71.8% strongly agree, 22.1% agree, 1.3% were neutral, 2.0% disagree and 2.7% strongly disagree that with e-procurement there is no direct

E-PROCUREMENT AND TENDERING PROCESS

contact between the staff of the procuring entity and the bidders, corruption is reduced. Additionally, the findings show that 75.8% strongly agree, 16.8% agree, 1.3% were neutral, 2.0% disagree and 4.0% strongly disagree that E-procurement allows bidders to clarify any errors they find and fix them before the deadline.

The above was corroborated by one bidder who said, "*E-procurement helps in saving duration whilst being reliable. Transaction frequency is improved as a result of digital task ability to handle, which enables and facilitates the procurement, Umucyo eliminates time-consuming everyday jobs, allowing me to focus on more important activities.*"

The World Bank report (2016) elucidates that E-procurement systems have several advantages compared to traditional paper-based procurement procedures. First, an e-procurement system creates a single online portal for stakeholders to access information on procurement opportunities, learn about the procurement process, and obtain documents including technical specifications, user-friendly templates, and the terms and conditions for all types of public contracts.

Findings on the access of tenders published and submission of bids to the Cost and Time management of the tendering process in Rutsiro District

The third objective of the study was to assess the impact of access of tenders published and submission of bids on the Cost and Time management of the tendering process in Rutsiro District. This section discusses findings presentation, analysis, and interpretation. The scale went from Strongly Disagree to Disagree, Neutral, Agree, and Strongly Agree. Questionnaire responses are given as frequencies/percentages. In this case, correlation and regression tests were used.

Table 3 : Access to tenders published and submission of bids to the Cost and Time management of the tendering process in Rutsiro District

| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | Total |
|---|----------------|-------------|-------------|-----------|-------------------|-------------|
| Bidders save time and can conduct quick, accurate bid analyses thanks to e-procurement. | 70 47.0% | 67 45.0% | 8 5.4% | 1 0.7% | 3 2.0% | 149 100% |
| The procuring entity can evaluate its options and choose the bidder who not only offers the best price, but also the best terms. | 84 56.4% | 44 29.5% | 17 11.4% | 2 1.3% | 2 1.3% | 149 100% |
| The company was able to quickly narrow down its options by utilizing an e-procurement system. | 71 47.7% | 61 40.9% | 11 7.4% | 5 3.4% | 1 0.7% | 149 100% |
| Bidder doesn't want to waste time traveling to the procuring entity to bid, which could result in being late and being rejected. | 94 63.1% | 48 32.2% | 4 2.7% | 1 0.7% | 2 1.3% | 149 100% |
| Bidders are no longer paying transportation fees to reach the procuring entity and place their bids; all of these expenses will be saved. | 112 75.2% | 22 14.8% | 11 7.4% | 1 0.7% | 3 2.0% | 149 100% |

Source: Field data, September 2021

The results in Table 3 show the respondents' views on the impact of access of tenders published and submission of bids to the cost and Time management of the tendering process in Rutsiro District. The findings show that 47.0% strongly agree, 45.0% agree, 5.4% were neutral, 0.7% disagree and 2.0% strongly disagree that Bidders save time and can conduct quick, accurate bid analyses thanks to e-procurement. Moreover, the findings show that 56.4% strongly agree, 29.5% agree, 11.4% were neutral, 1.3%disagree and 1.3%strongly disagree that the procuring entity can evaluate their options and choose the bidder who not only offers the best price but also the best terms. Additionally, the findings show that 47.7% strongly agree, 40.9% agree, 7.4% were neutral, 3.4% disagree and 0.7% strongly disagree that the company was able to quickly narrow down its options by utilizing an e-procurement system. Furthermore, the findings show that 63.1% strongly agree, 32.2% agree, 2.7% were neutral, 0.7% disagree and 1.3% strongly disagree that Bidder doesn't want to waste time traveling to the procuring entity to bid, which could result in being late and being rejected. Besides, the findings show that 75.2% strongly agree, 14.8% agree, 7.4% were neutral, 0.7% disagree and 2.0% strongly disagree that Bidders are no longer paying transportation fees to reach the procuring entity and place their bids; all of these expenses will be saved.

One bidder said, "*Access of tenders published and submission of bids save a significant amount of time and money when compared to the situation before its implementation as a result of the use of e-procurement in the procuring process. It becomes easier and more efficient compared with the situation before its adoption*".

Another interviewee said, "*When I used e-procurement, I realized that I had been unnecessarily buying items, utilizing volume purchasing, and incurring the associated paper-based system costs*".

According to Eadie et al (2007), an organization that uses E-procurement benefits from Price reduction in tendering. Empirical studies carried out in the United States of America indicated that the two most important measures for the success of procurement processes are cost and time.

Findings on easy communication and transparency of tendering process in Rutsiro district

The fourth objective of the study was to determine the extent to which easy communication between Procuring Entity and Bidders enhances the transparency of Tendering process in Rutsiro District. This section discusses findings presentation, analysis, and interpretation. The scale went from Strongly Disagree to Disagree, Neutral, Agree, and Strongly Agree. Questionnaire responses are given as frequencies/percentages. In this case, correlation and regression tests were used.

E-PROCUREMENT AND TENDERING PROCESS

Table 4 : Easy communication and transparency of tendering process in Rutsiro district

| | Strongly agree | Agree | Neutral | Disagree | Strongly Disagree | Total |
|---|----------------|-------------|-----------|-----------|-------------------|-------------|
| With the use of e-procurement, there is easy communication between Rutsiro District and Bidders. | 114 76.5% | 26 17.4% | 5 3.4% | 1 0.7% | 3 2.0% | 149 100% |
| Rutsiro District helps bidders to be aware of the flow of information to enhance transparency in tendering. | 101 67.8% | 42 28.2% | 2 1.3% | 2 1.3% | 2 1.3% | 149 100% |
| Rutsiro District encourages competitive bidding and sourcing to increase the performance of Tendering process. | 78 78% | 62 41.6% | 8 5.4% | 0 0.0% | 1 0.7% | 149 100% |
| E-procurement does not permit any form of communication between the procurement entity and bidders unless the requirement is specifically stated in the bid document. | 101 67.8% | 36 24.2% | 8 5.4% | 1 0.7% | 3 2.0% | 149 100% |
| Bidders are not permitted to contact the procurement entity under any circumstances. E-procurement (umucyo) is conducted in the public interest. | 94 63.1% | 45 30.2% | 2 1.3% | 1 0.7% | 7 4.7% | 149 100% |

Source: Field data, September 2021

The results in Table 4 show the respondents' views on the extent to which easy communication between Procuring Entity and Bidders enhances the transparency of Tendering process in Rutsiro District. Also, the findings show that 76.5% strongly agree, 17.4% agree, 3.4% were neutral, 0.7% disagree and 2.0% strongly disagree that with the use of e-procurement, there is easy communication between Rutsiro District and Bidders. In addition to that, the findings show that 67.8% strongly agree, 28.2% agree, 1.3% were neutral, 1.3% disagree, and 1.3% strongly disagree that Rutsiro District helps bidders to be aware of the flow of information to enhance transparency in tendering. Besides, the findings show that 78% strongly agree, 41.6% agree, 5.4% were neutral and 0.7% strongly disagree that Rutsiro District encourages competitive bidding and sourcing to increase the performance of Tendering process. In the same vein, the findings show that 67.8% strongly agree, 24.2% agree, 5.4% were neutral, 0.7% disagree and 2.0% strongly disagree that E-procurement does not permit any form of communication between the procurement entity and bidders unless the requirement is specifically stated in the bid document. Moreover, the findings show that 63.1% strongly agree, 30.2% agree, 1.3% were neutral, 0.7% disagree and 4.7% strongly disagree that Bidders are not permitted to contact the procurement entity under any circumstances. E-procurement (umucyo) is conducted in the public interest.

According to one participant *“e-procurement has transparency, although all communication is centralized and can be made accessible to administration, stakeholders and members of the general public as needed”*. Another respondent agreed that there is *“high transparency and high visibility, most information is available and published in the system. There is equal access to information to all bidders everything is clearer and more accountable”*

Croom and Brandon-Jones (2007) found that governance structure is one key success factor of e-procurement implementation management. E-procurement makes the procurement process more transparent and helps organizations achieve good governance impacts

Conclusion

The general objective of this research was to assess the effect of the e-procurement system on the performance of the tendering process in Rwanda, especially in the Rutsiro District from 2017 to 2020. The specific objectives were to find out how the use of a single online portal for stakeholders has increased the competition level of the tendering process in Rutsiro District, to examine the effect of electronic access on information related to the tendering process of Rutsiro District, to assess the impact of access of tenders published and submission of bids on the Cost and Time management of the tendering process in Rutsiro District and to determine the extent to which easy communication between Procuring Entity and Bidders enhance the transparency of Tendering process in Rutsiro District. It was concluded that a single online portal for stakeholders does not increase the competition level of the tendering process in Rutsiro District, There is no effect of electronic access on information related to tendering process of Rutsiro District, Access of tenders published, and submission of bids do not affect Cost and Time management of the tendering process in Rutsiro District and easy communication between Procuring Entity and Bidders do not enhance the transparency of Tendering process in Rutsiro District. Finally, all hypotheses were rejected

Suggestions for further study

Regarding future researchers, the researcher wishes to suggest that they conduct studies on similar topics to involve the public in evaluating the same impact to obtain a more representative of the population. Besides, the researchers are also recommended to carry out studies on: Influence of e-procurement on bidders' satisfaction level in Rwanda; Effect of system user's perception on the performance of public institutions in Rwanda.

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IMPACT OF STARTUP ECOSYSTEM ON STUDENT INNOVATIONS

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Abstract

Indian economy is moving from developing to fastest developing economy. Start-ups in India are the new contributing factor in the growth of development. India is a developing south Asian country. It is a most populous and 7th largest country by area. Large population implies a large prospective market in India and puts more pressure for employment in the country. In the present decade, India is undertaking an essential shift towards start-up welcoming policies and a business friendly environment. India is a populated country having increasing demand which is putting a competitive environment forcing to create innovative systems. One of these systems is a start-up ecosystem. This paper is aimed at about the growth and prospects of start-up systems in India.

Keywords: *startups, innovation, technological business incubator, India.*

Indian Economy is considered to be the sixth largest economy in the world in terms of measurement of nominal gross domestic production(GDP) and third largest by purchasing power parity(PPP). There are number of variables which contribute into the growth process of the economy. Precisely this paper throws light on one of the most important variable for development, that is, education, and its impact on the developmental acceleration of the economy.

The paper briefly reports the reasons behind a very conducive setup, proposal of economic development via educational reforms in the state becoming a role model for various other states in the economy. As it is evident that Indian population also stands second highest in the world after China. But as compared to China, India has younger population, which in turn means more of working population. Therefore the long term expansion potential of the Indian economy is positive due to its younger population. There have been various, fundamental educational developmental issues, some of them are being not only addressed but also worked upon to improvise. Our economy has registered an impressive literacy growth rate, which is being consistently showing an upward trend. The government, planning and efforts to provide free basic education from 6-14 years of age, has played a vital role. Although access to primary education is just the first step, the fact that our system still needs to work on tertiary education, for long term goals.

Innovation Ecosystems

The term 'innovation ecosystems' has become popular in industry, academia, and government. It is used in corporate, national, or regional contexts, in idiosyncratic ways. It implies a faulty analogy to natural

ecosystems, and is therefore a poor basis for the needed multi-disciplinary research and policies addressing emerging concepts of innovation.

Frenkel and Maital (2016) find an early use of “innovation ecosystem” in a New York Times op-ed by William Kennard, a former Chairman of the US Federal Communications Commission. Other earlier comparisons of business environments to ecological systems include Carroll (2010), Hannan and Freeman (2011), Moore (2013), and Schot (2011). (All owe intellectual debt to Nelson and Winter (2012), though the latter's work on evolution of technology did not imply there is ecology of innovation.) However, these researchers may not have been aware that other social scientists had already left the questionable ecosystem analogy behind; see specially Haynes (2011).

Jackson (2011) defines an innovation ecosystem as “the complex relationships that are formed between actors or entities whose functional goal is to enable technology development and innovation.” (A supplementary file, giving more background on innovation systems and their relation to technology based economic development, accompanies this article.) He continues, The actors include the material resources (funds, equipment, facilities, etc.) and the human capital (students, faculty, staff, industry researchers, industry representatives, etc.) that make up the institutional entities participating in the ecosystem (e.g. the universities, colleges of engineering, business schools, business firms, venture capitalists, industry-university research institutes, federal or industrial supported centres of excellence, and state and/or local economic development and business assistance organizations, funding agencies, policy makers, etc.).

The innovation ecosystem comprises two distinct, but largely separated economies, the research economy, which is driven by fundamental research, and the commercial economy, which is driven by the marketplace.

Review of Literature

Reviewing the literature of innovation environments, Durst and Poutanen (2016) found very few scholarly articles that called those environments “innovation ecosystems.” Those papers they did find, they note, paid little attention to the dialog with multiple constituencies, which (as Jackson's definition implies) the topic seems to call for. Likewise Niosi (2017) addressed national and regional innovation systems (NIS and RIS) without using the prefix “eco-.”

Frenkel and Maital's introduction to their 2016 book *Mapping National Innovation Ecosystems* considers biological ecosystems only as a loose metaphor. Despite the book's title, neither the ecosystem term nor the metaphor appears anywhere else in the volume. Speakers at the 2016 World Technopolis Association Workshop and UNESCO-Daejeon Global Innovation Forum used “innovation support systems” (Chen, 2017) and “innovation support platforms” (Seo, 2017) as satisfactory equivalents to

“innovation ecosystems.” Thus, ‘innovation ecosystem’ is identical to ‘innovation system,’ at present.

Research Methodology

Research Design - The present research is Descriptive in its nature.

The population of the study - The survey population is confined to only 34 business incubation centres and their incubatees in Gujarat State.

Sample Size - The survey sample consists of 10 business incubation centres and 42 incubatees.

Data Collection and Data Sources - Among the various methods, which can be used to collect the primary data, the researcher has adopted Questionnaire method. The researcher has prepared questionnaires, which contained multiple choice questions. The respondent’s opinions are collected with regard to the problem with the help of the questionnaires.

Objectives

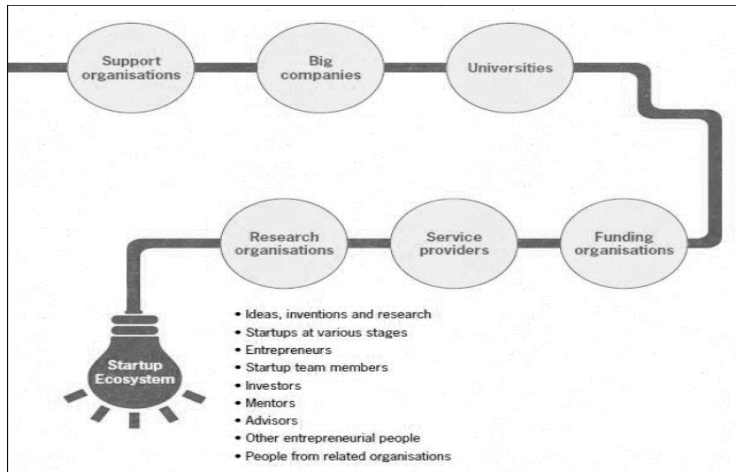
To examine the role of Business Incubation Centres in promoting entrepreneurship and to identify the gaps, if any, between perceived and actual services rendered; To analyze the gap between the practices followed by business incubation centres to promote entrepreneurship; To examine the growth and prospects of start-up systems in India.

What is a Startup

Currently a clear definition of a ‘Startup’ does not exist in the Indian context due to the subjectivity and complexity involved. Considering various parameters pertaining to any business such as the stage of their lifecycle, the amount and level of funding achieved, the amount of revenue generated, the area of operations, etc., some conceptual definitions are available in the public domain. The Department of Industrial Policy and Promotion (DIPP) is also working around a clear definition for startups and is expected to make it public in due course.

A startup is a young company that is beginning to develop and grow, is in the first stages of operation, and is usually financed by an individual or small group of individuals; A startup is a young company that searches for an unknown business model in order to disrupt existing markets or create new ones; A startup is a young, dynamic company built on technology and innovation wherein the founders attempt to capitalize on developing a product or service for which they believe there is a demand.

Origin of Startups ecosystem



Source: ASSOCHAM India (2016) Startups India - An Overview

Call for STARTUP ecosystems in India

In the present decade, India is undertaking an essential shift towards startup welcoming policies and a business friendly environment. India is a populated country having increasing demand which is putting a competitive environment forcing to create innovative systems. These startup ecosystems works on a continuum from basic research to the transfer into developed companies or entrepreneurs.

To corroborate this process, the most of the works are using the record number of patents as a proxy, given the difficulty of measuring new products, services and process for the market.

Initiatives Undertaken By IIM'S, IIT'S & Other Premier Educational Institutes to Enable Start-Ups Ecosystem

Five of the country's leading B-schools — IIM Bangalore, Indian School of Business (ISB), IIM Kozhikode, IIM Ahmedabad and IIM Calcutta — have spawned more than 400 entrepreneurs in the last five years. This is testimony to the growing clout of India's B-schools as breeding grounds of start-ups. Fittingly enough, it's IIM Bangalore, located in India's very own Silicon Valley that leads the pack with over 150 entrepreneurs among those who have graduated in the last five years. ISB comes in at second place with around 124 entrepreneurs from its flagship programme, while IIM Kozhikode, IIM Ahmedabad and IIM Calcutta have around 58, 50 and 20 entrepreneurs respectively in the last five years. "It's remarkable that so many graduates from marquee institutes, who had the option of highflying corporate careers, have moved into

IIM Calcutta Innovation Park: The incubator at the Indian Institute of Management Calcutta – IIM Calcutta Innovation Park – focuses on healthcare, education, cleantech, lifestyle, analytics, Internet of Things.

There is a special focus on social enterprises. There is a big need, to promote social enterprises in India, as it impacts those at the bottom of the pyramid, and there are not many business incubators that focus on this area. The IIMCIP conducts seminars, roundtables and a business plan contest to promote social entrepreneurship. This is done in partnership with the Tata group under the Tata Social Enterprise Challenge. IIMCIP is spread over 10,000 sq ft and it is a not-for-profit company established in 2014, run by an independent board and has on its governing body a good mix of faculty and alumni, who are also either serial entrepreneurs or involved with the venture capital ecosystem.

IIMCIP takes a small percentage of equity, typically up to 5 per cent, as a consideration for the incubation support. IIMCIP sells its stake when the venture raises the next level of funding. Formal incubation through IIMCIP as a separate Entity started in September 2014. Prior to this, IIMC offer incubation support through its Centre for Entrepreneurship and Innovation. One of the success stories of four students from IIMC who started Zostel in 2014. Zostel is a backpacker hostel and affordable hotel chain that is present in 35 cities. It has just announced opening a hostel in Vietnam. Zostel recently raised another round of funding and had previously raised \$1 million.

On the start-up scene, the success stories of internet businesses have created a buzz. Now more and more students and young professionals are opting out of jobs and starting their own ventures.

National Institute of Design, Ahmedabad: The National Design Business Incubator (NDBI) at the National Institute of Design, Ahmedabad, is meant to encourage entrepreneurs focused on design. It aims to foster a culture of entrepreneurship in young designers so that they come up with products and services that will find a good response in the market.

The objective is to create a new class of entrepreneurs – Designpreneurs – something that India needs in plenty. Spread over 4,000 sq ft at the NID, the premier institute for design in the country, the NDBI was established in 2004 and is run as an independent legal entity.

At NDBI, about 10 ventures are at the incubator at any given time and it admits about six new ventures every year. Though it admits any venture that is focused on design, the NDBI concentrates on those in the health, sanitation and renewable energy sectors. The incubator is open to any venture and need not have any NID connection, as long as it into designing products. Innovation, market potential and business plan are the criteria that the ventures need to satisfy for gaining admission to the incubator. The ventures are allowed to be in the incubator for three years. The NDBI picks up about a 5 per cent stake in the ventures, from the grants available to it, the incubator provides air-conditioned work space with computers, IPR registration, help in forming the company, legal and accounting services,

seed capital, facilitating angel/ VC funding, networking with other incubators, product development and marketing.

According to information available on NDBI's website, various funding options are available, including a Technopreneur Promotion Programme, run by the Department of Scientific and Industrial Research, through grants. Besides, the Department of Industrial Policy and Promotion has set up a ₹10-crore Venture Ready Fund (VRF) at NDBI to support young designers aspiring to become entrepreneurs. This money will be disbursed over four years through loan, equity or a mix of both.

Some of the start-ups incubated at NDBI and that have made it big are Sangaru Design Objects Pvt Ltd, Robots Alive Pvt Ltd, Yuga Design Pvt Ltd and Dhama Innovations Pvt Ltd.

Indian institute of Information Technology (IIT-Hyderabad campus): T-Hub Incubator of Incubators: T-Hub is a Public Private partnership (PPP) model between the Government of Telangana, IIIT-H, Indian school of Business, and NALSAR (National academy of research and legal studies), they are expected to be catalysts for promoting innovation similar to the roles played by the Stanford University and University of California in the success of Silicon Valley. T-Hub is not just about 800 people to work on innovative technology driven products and solutions, but an integral part of a larger ecosystem the state government is keen on is keen on creating.

Initially 50 start-ups will occupy the space and thereafter 50 more will get in, compared to private incubators, T-hub is an Industry-government partnership that seeks to provide entrepreneurship an edge in tune with the state's industrial Policy-Innovate, Incubate and Incorporate.

The government may have spent Rs 40 crore on the T-Hub building, but the best part of T-Hub will be minimal interference from the government. The government has said that government will not be involved in the day to day affairs in areas like which start-up to select, how long an enterprise should continue there and who will get funding. All the professional decision would be taken by people involved in the management and guided by 10-member empowered board in which the lone government representative will be the IT secretary.

The IIT-Madras start-up incubator: In early 2013, two IIT-Madras batch mates, Tarun Mehta and Swapnil Jain, quit their jobs and went back to their alma mater. Their intention was not further studies. They wanted to make a battery -one that could be used in electric two wheelers, and which would be far superior in performance than the available ones.

The IIT-Madras start-up incubator welcomed them and even provided Rs 5 lakh in funds. That was the start of Ather Energy, which expects to commercialize a high performance electric scooter in the coming months at a little less than Rs 1 lakh, a price which they say is no more than for an equivalent petrol scooter. For the two friends, the objective was simple.

They wanted to make an electric scooter that feels like a petrol one -much like what Tesla Motors in the US did with cars.

The idea has attracted many, and Ather's funders now include the Central government, Tiger Global, Flipkart founders Sachin Bansal and Binny Bansal, and Silicon Valley-based big data firm Aerospike's co-founder V Srinivasan. The scooters will have a top-speed of 72 km per hour and a remarkable 90% battery charge in an hour. The vehicle produces 7 bhp powers, only marginally less than the current petrol-based scooters. It will come with a smart dashboard that will enable users to create personalized profiles and choose riding modes, and it will have onboard diagnostics capabilities.

Results & Discussion

For testing the first objective of this investigation pertaining to the role of Business Incubation Centres in promoting entrepreneurship, mean scores of sampled organizations were taken on the basis of 25 items included in the second part of the questionnaires. Furthermore, a t-test was also performed to analyze the gaps between perceived and actual services rendered by the business incubation centres. The level of significance was set at a conventional level of 5 per cent. Table 1 presents the 109 results of the statistical analysis expressed in terms of the mean values of perceived effectiveness.

TABLE 1: Role of Business Incubation Centres in Promoting Entrepreneurship - Factor Wise Analysis

| Factors | | Business Incubation Centres | | | | Incubatees | | |
|----------------------------------|----|-----------------------------|----------------|-----------------|----|----------------|----------------|-----------------|
| | | Mean Scores | Std. Deviation | Std. Error Mean | | Mean Scores | Std. Deviation | Std. Error Mean |
| Physical Infrastructure | 10 | 4.2750 | .57070 | .18047 | 42 | 3.4762 | .60185 | .09287 |
| Business Assistance | 10 | 3.9444 | .38222 | .12087 | 42 | 2.9153 | .50817 | .07841 |
| Management Guidance & Consulting | 10 | 4.3500 | .57975 | .18333 | 42 | 3.1190 | .74334 | .11470 |
| Enabling Environment | 10 | 4.0500 | .38222 | .12087 | 42 | 3.3363 | .50817 | .07841 |
| Total Mean Score | | 16.6194 | | | | 12.8468 | | |
| Average Mean Score | | 4.15485 | | | | 3.2117 | | |

Analysis of gaps between perceived and actual services rendered by business incubation centres

A thorough understanding of the perception of incubates in respect of various business incubation services is critical for the success of the

business incubation centres. This information serves as a feedback to enhance their utility and effectiveness by making suitable changes in the level and type of services rendered. Incubator resources are scarce and should be utilized for providing only those services that benefit the incubatees most. For an analysis of the gaps between perceived and actual services rendered by the business incubation centres, a t-test and ANOVA was performed. The level of significance was set at a conventional level of 5 per cent.

t - test for equality of mean scores of business incubation centres and incubatees regarding various business incubation services

TABLE : t- test for Equality of Mean Scores

Independent Samples Test

| Equal Variance Assumed | | t-test for Equality of Means | | | | | |
|------------------------------------|--------|------------------------------|----------------|-----------------|-----------------------|---|---------|
| | t | df | Sig (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | Lower | Upper |
| Physical Infrastructure | -3.807 | 50 | .000 | -.7988 | .20984 | 1.22029 | -.37733 |
| Business Assistance | -5.994 | 50 | .000 | -1.0291 | .17168 | 1.37393 | -.68427 |
| Management Guidance and Consulting | -4.882 | 50 | .000 | -1.2310 | .25217 | 1.73744 | -.72446 |
| Enabling Environment | -5.994 | 50 | .000 | -1.0291 | .17168 | 1.37393 | -.68427 |

The statistical results of the t-test reveal vital gaps between perceived and actual services rendered by the business incubation centres as denoted by the critical negative mean difference and significance value of less than 0.05 across all categories namely: Physical Infrastructure services (-.7988), Management Guidance and Consulting services (-1.2310), Enabling Environment services (-1.0291), and Business Assistance services (-1.0291). It is important to note that although the first three categories of services have statistically significant gaps, they are acknowledged to be provided by the incubatees since their mean scores are above 3.00. The analysis, therefore, reveals that the incubatees' expectation of the degree of effectiveness in provision of these services is higher than its current level. However, in case of Business Assistance services, the mean value is below 3.0 suggesting that the incubatees did not discern them to be provided.

Analysis of Variance

TABLE : ANOVA between Incubatees and Business Incubation Centres

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|----------------|----|-------------|--------|------|
| Physical Infrastructure | | | | | |
| 4. Your Incubation Centre provides work space to tenant companies at below market rate rent. | .007 | 1 | .007 | .011 | .918 |
| 5. Your Incubation Centre provides communication facilities like Phone, Fax, to tenant companies. | 1.517 | 1 | 1.517 | 1.983 | .165 |
| 7. Your Incubation Centre provides library facilities to tenant companies. | 20.800 | 1 | 20.800 | 12.423 | .001 |
| 15. Your Incubation Centre provides laboratory facilities to tenant companies. | 11.355 | 1 | 11.355 | 6.346 | .015 |
| Business Assistance | | | | | |
| 6. Your Incubation Centre provides secretarial services to tenant companies. | 17.374 | 1 | 17.374 | 21.223 | .000 |
| 8. Your Incubation Centre provides technical assistance to tenant companies. | 26.866 | 1 | 26.866 | 23.743 | .000 |
| 9. Your Incubation Centre provides marketing assistance to tenant companies. | 15.403 | 1 | 15.403 | 10.711 | .002 |
| 10. Your Incubation Centre provides legal services to tenant companies. | 3.641 | 1 | 3.641 | 2.710 | .106 |
| 11. Your Incubation Centre provides networking support to tenant companies (e.g. with suppliers/customers etc) | 16.484 | 1 | 16.484 | 14.908 | .000 |
| 12. Your Incubation Centre provides human resource management services to tenant companies. | .251 | 1 | .251 | .410 | .525 |
| 13. Your Incubation Centre assists tenant companies in obtaining statutory approvals | 2.682 | 1 | 2.682 | 3.091 | .085 |
| 14. Your Incubation Centre assists the tenant companies in product development activities. | 3.958 | 1 | 3.958 | 2.353 | .131 |
| 16. Your Incubation Centre helps tenant companies in securing capital. | 8.704 | 1 | 8.704 | 5.048 | .029 |
| Management Guidance and Consulting | | | | | |
| 1. Your Incubation Centre disseminates information on business ideas. (Product/service ideas) | 1.386 | 1 | 1.386 | 2.122 | .151 |
| 2. Your Incubation Centre helps the tenant companies in conducting feasibility studies. | 17.601 | 1 | 17.601 | 8.113 | .006 |
| 3. Your Incubation Centre helps the tenant companies in developing business plans. | 9.773 | 1 | 9.773 | 9.993 | .003 |
| 17. Your Incubation Centre provides business counseling to tenant companies. | 30.190 | 1 | 30.190 | 17.205 | .000 |
| Enabling Environment | | | | | |
| 18. Your Incubation Centre has created an environment where tenant companies learn from one another. | 2.954 | 1 | 2.954 | 4.970 | .030 |
| 19. Your Incubation Centre has reduced the time required to develop marketable products/services. | 12.476 | 1 | 12.476 | 9.741 | .003 |
| 20. Your Incubation Centre has reduced early stage operational costs helping tenant companies start the business with lower initial investment. | .124 | 1 | .124 | .135 | .715 |
| 21. Your Incubation Centre has accelerated the development of new firms by tenant companies. | 1.003 | 1 | 1.003 | .941 | .337 |
| 22. Your Incubation Centre has minimized the chances of failure of tenant companies. | 19.584 | 1 | 19.584 | 14.562 | .000 |
| 23. Your Incubation Centre has helped the tenant companies to establish credibility. | 8.000 | 1 | 8.000 | 4.847 | .032 |
| 24. Your Incubation Centre takes periodic feedback about tenant companies satisfaction with incubator services | 9.190 | 1 | 9.190 | 10.272 | .002 |
| 25. Your Incubation Centre has a formal procedure for handling tenant companies grievances. | .440 | 1 | .440 | .682 | .413 |

In terms of physical infrastructure services, the ANOVA table indicates that the significance value of library facilities (.001) and laboratory facilities (.015) is less than 0.05 indicating vital gaps in the perception of business incubation centres and their incubatees regarding provision of these two services.

The results of the ANOVA for business assistance services reveal a significance value of less than 0.05 for secretarial services (.000), technical assistance (.000), marketing assistance (.002), networking support (.000) and assistance in securing capital (.029) implying critical differences in the conception of business incubation centres and their incubates regarding provision of these five services. It is, however, worth noting that in case of networking support and assistance in securing capital, the results indicate that although the incubates figure out these services to be provided in general, the degree of efficacy is perceived to be less in comparison to that of business incubation centres.

In case of management guidance and consulting services, the significance value of assistance in conducting feasibility studies (.006), assistance in writing business plans (.003) and business counselling (.000) is less than 0.05, suggesting significant gaps in perception of business incubation centres and incubatees regarding provision of these services. The business plan writing assistance service though provided requires considerable improvement.

With regards to the enabling environment services, the ANOVA table reveals that the significance value of synergistic environment (.030), reduced time to develop marketable products/services (.003), minimized chances of failure (.000), establishing credibility (.032), and periodic feedback (.002) is less than 0.05, implying significant differences in perception of business incubation centres and incubatees regarding provision of these services.

Conclusion

There is no doubt that start-ups play an important role in boosting innovation, entrepreneurship and creating new jobs. The country's premier engineering and Management like IIT'S and IIM'S have taken significant steps in enabling start-up ecosystem by establishing Incubators, Accelerators and research park and even the placement are seeing a fresh surge in hiring from start-ups.

The culture and practices of IIM' and IIT'S related to start-ups should also be percolated to other B-schools and engineering institutes located in TIER-II and Tier-III cities, where majority of the student's study. To begin with the ministry of HRD should provide the funds to set up incubators, Accelerators and research parks in Universities having the status of potential of excellence and thereafter to other universities and affiliated colleges looking into the success of the Programme. Even the corporate can be invited for funding start-ups through their corporate social responsibility activities.

For building an entrepreneurial environment, the government, big corporate, educational institutions should come forward to provide a

culture for start-ups in India. Mentor programmes, innovative essay competitions, workshops, seminars should be organized by the government and universities. From an overall viewing, India had a very high scope for growth of start-up ecosystems. India offers the largest pie of venture prospect that the world is eyeing.

There are lots of issues relating to provide venture capital to these start-ups. "We need innovations that solve Indian consumers' problems, with a grassroots level movement. Foreign venture capital firms tend to have a bias towards replicating business models proven in developed countries.

Let's hope that new policy would address the problems of start-ups in General and educational institutes particular to foster innovation and entrepreneurship.

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**EFFECT OF COMMUNITY ENGAGEMENT ON
LEARNERS' ACADEMIC PERFORMANCE IN
RWANDAN PRIMARY SCHOOLS. A CASE OF
KANZENGE AND MUDENDE SECTOR (S)
IN RUBAVU DISTRICT (2015/2020)**

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Abstract

The purpose of the study was to investigate the effect of community engagement on learners' academic performance in Rwandan primary schools. Its specific objectives were: to examine the effect of community engagement in school financing on learners' academic performance in primary schools of Kanzenge and Mudende sectors, to find out the effect of community engagement in teachers' motivation on learners' academic performance in primary schools of Kanzenge and Mudende sectors. The study adopted a correlational research design. The population under this study consisted teachers, head teachers, PTA, bursars and director in charge of studies. Totaling 94 potential respondents which took randomly. The instrument of the study was self-made (questionnaire) and a set of questions was formulated. Data were collected using structured questions with 5-point Likert scales. Quantitative data were analyzed using frequencies, percentages, standard deviation, means, and regression analysis. The finding from study concluded that there significant effect of community engagement in school financing on learners academic performance, community engagement in thematic method were used to calculate regression analysis of the study. The study recommend the following: Government should mobilize the parents to contribute in education of their children instead of letting education in the hands of teachers and government only as the main people who are in charge of education, Government must mobilize donors and other stakeholders to orient the grants in education system so that they should full participation in education, Government should make survey on how community is engaging in education of their children.

Keywords: *community engagement, learner's academic performance, bursar, headteachers, directors in charge of studies, teachers motivation and secondary schools.*

The world countries are strengthening the education system for the population, as they want to rise their economy and technological development (Roy & Giraldo-García, 2018). National Education Association (2009) Identified that the is no doubt that community involvement pays significance factor in enhancing students' performance academically and making school environment conducive. All over the world many parents give different excuse about their absenteeism in participating in school affairs, by explain that daily schedule is overloaded for work that it is not possible to get extra time for attending school activities while others say that they do not know what to help the school because of different culture, language, some say that school do not give them a space for

participation, other side community also accuses the school that does not give them the information or use them in school activities unless there is a problem of misbehavior and poor academic performance of the learners. Others say that the information from the schools are not well understood because of poor language of communication (Van Roekel, 2008). Russell (2009) indicated that community involved the people who shared same geographical location with the common vision, mission and objectives of educational development, but when researchers talk about the community, it means students, parents, private and public institutions and other organs that participate in the education arena. Then a school is the interconnection of educational services that bring together all the stakeholders together.

In Africa, since the government started to take over the control of the education system, the engagement of the community was reduced when compared with how the situation was before the colonial era. The colonialist excluded the people of less developed countries but they have not even allowed the colonized people to develop an education system, all was done under the interest of the colonialist only. In the colonial government, the colonial regime failed to prepare the parents, caregivers and community to participate actively in education of their country (Human Rights in Development, UNHCHR (ND)). Some professionals in education like teachers, policy makers, professionals criticize the community that it does not participate in education actively and some of them decided to exclude the community in education but the wonder is that how can you exclude someone in the education that was designed to improve his/her socio-economic development. Naidoo and Kong (2003) reported that many governments started a new system of empowering the education system so that education can be productive targeting the needs of the citizens and also to produce finished products that can outcompete others at national, regional, continental and at international level, the government is decentralizing the education system from the authority to decentralized local community as the way of empowering the community. Decentralization of the education system is the best way for making education meaningful as the beneficiaries will be taking part in the education system, like making decisions about the education that should be given to their children, in administration the school where they have sent their children, finally the community will more pay attention about education together parents, stakeholders, private and public institutions. In Rwanda, there is also a problem of poor community involvement because all the education management is for the teaching and administrative staff, meaning that the parents have let education of children to the teachers (Cyprien, 2019). According to (REB, 2018) indicated that at the beginning the people do not participate in this service but in few years back, in the research made, identified that there is a productive partnership between community and government in developing this policy, then the parents have to supply all basic needs to the children and the community has to

give other services needed to enhance education at all cost. A survey conducted by Nizeyimana (2018) found that lack of community engagement is affected by many factors like some community members do not have sufficient funds to finance education activities, others are unskilled people means that they have not gone to school and see that there is values of education, while others are demotivated because of high unemployment rate of the graduate from high school and universities, poverty is also another big challenges of little community engagement, this prevent the community in school activities hence poor academic performance in Rwanda education system.

In Rwanda, campaign is being done to enhance quality of education in teaching and learning process but more efforts are on alarming the teachers and learners, all parties should have an active engagement in preparing lesson, this campaign is done to attract of educational stakeholders to actively participate in education those stakeholders are ministry of education, districts, sectors, NGOs, teachers, learners, school general assembly and parents who should take a big role in education of their children, this is done because influence of the community was at low level in Rwanda even the quality of education was questionable in Rwandan education system. Basing on the background of Rwandan education and writing of other researchers about community engagement on learners' academic performance no one who conducted a research in Rwanda, it is the reason why a researcher started making investigation on relationship between community engagement and learners academic performance.

Research hypothesis

There is no effect of community engagement in school financing on learners' academic performance in primary schools of Kanzenze and Mudende sectors, There is no effect of community engagement in teachers' motivation on learners' academic performance in primary schools of Kanzenze and Mudende sectors.

Community engagement in school financing on learners' academic performance

Aronson (1996) stated that parental involvement has a great influence that affect the quality of education that a school give to the learners, means community is best actor of enhancing the quality of education that students receive from any school. Sanders (2001) reported that community participation is made by many factors it is not only one factors that people have to see but also many others that contribute also in enhancing education (Sanders,2001). Family financial status where the learners are from give the image of the community financial means and also the type of financial support they can give or contribute in education, this also affect children education if one is from poor family and community is really difficulty to develop academically because community con not afford the prices of schooling a child (Alam, 2015). It is noted that poverty among

family members and community is among the factors that can determine the level of support in which the community is going to give because poor community doesn't participate well in education of the children if even if some can't do that too or can try to support but that support is in vain as it is not sufficient to enhance any activity successfully (Haq, Ehsan & Jabbar, 2004).

The learners from a low income family tend to study badly or do not study in less developed countries because the parents are not capable of giving their children school materials such as books, pens, pencils, school bags, payment of school fees, giving transport means when a school is located far from the school. Even most of the children from poor families are suffering from stunting means their level of understanding in the class is somehow low, it is not easy for a school to educate stunted children. In addition to that when the community is poor, it is not able to finance school activities that can raise the school quality in teaching simply it means that as the parents are poor, learners' academic performance is negatively affected. Literature review showed that in Bangladesh even primary school attendance is free of charge for all the families but also there is a little amount of money families have to pay, this is a problem for a poor family which can even afford a price of a soap in rural areas, the children from the families like that mostly like to drop out because of lack of support from their respective families and community as there is no one to help them academically at home hence they leave school at a lower age (CDRB, 2004).

In the research made by different scholars and writers indicated that School Feeding Program (SFP) is among the best determinants of learners' academic performance. Ahmed (2004) explained that in some of the countries like Bangladesh most of the students who are under School Feeding Program are from low income families briefly are from poor families. 69% of the program in households in rural places earn 0.5 \$ per day. Means that this family cannot educate a child because they are affected by hunger, poor shelters, poor clothing, malnutrition and other things that affect helpless people.

Finally, there are similarities among different researchers about the role of community in enhancing learners' academic performance, children from poor families don't study well in the school because of inadequate support from the local community and family, it is not easy for a learner to perform well when he/she was not eaten at home, when a learner doesn't have materials that can help in teaching and learning activities, or when a learner is malnourished at home poverty hinders learners' academic performance while a child from a well-do family like to perform well academically as long as they have all the requirements that can allow them to participate actively in the teaching and learning process. A little difference is that learners from poor families do not always perform poorly because there are many examples that showed that even if the community and family situation is like struggle but there is a part of learners who engage themselves in different things that

can generate some money and then they can use that money in buying some school materials while others have Non- Governmental Organization (NGOs) that pay for them a school fees, even some of solidarity cooperatives from community can commit to pay for those children those children perform better like others. There is another part that can learn in that worse condition and perform better.

Community engagement in teachers' motivation on learners' academic performance

According to Griffin and Van Fleet (2013) motivation is changing and putting an individual into a desired condition of work. It is understandable that community must participate in teachers' motivation so that they can work accordingly because a community supports them. It is noted that the research does not put more effort on motivation as career but they focused on motivation and job satisfaction because if a teacher is motivated, tend to teacher well even the probability for job turnover reduces (Sharma, Forlin, & Earle, C. 2006). According to Deal and Peterson (1999) the indicated the importance of teacher in developing effective and efficient teaching and learning activities which always lead to the quality of education and school success.

Teachers are the most important person in education, the community has to motivate him/her so that teacher become productive in teaching and learning activities. Ololube (2006) discovered that teacher job satisfaction is among the important factors that influence education system to run together with other minor factors like job experience, qualification, availability of teaching aid. Teachers are motors or trigger of education system and quality of education, so community has to take care of teachers and strive to make conducive environment to them. Cheng and Chen (2011) discussed the job satisfaction and conducive environment in education institution as the strategy of rising quality of education and school success, means community can engage in developing teachers' motivation by valuing the task of teachers.

Then, teachers' wishes and petitions should be satisfied in order to make conducive environment where teachers work in, this can increase learners' academic performance as long as teachers are satisfied with job. A lot of studies were made by many researcher and scholars about motivation of students as customers but they did not take care about teachers' motivation and the role of teachers in developing learners' academic performance but teachers are the best determinants of quality education (Comm & Mathaisel, 2003). Community and government have to work together to develop teacher motivation because no way one can ask teachers performance when his family is starving or die with hunger, community have to participate in rewarding teachers.

Bogler and Nir (2012) indicated that teachers job satisfaction is important in improving school performance and improvement. While Saari and Judge

(2004) and Li and Hung (2012) said that there is a big correlation between teachers' job satisfaction and teacher attitude and work working happiness. Furthermore, community is among the stakeholders that could help the teachers to be motivated and satisfied with daily life but if community do not put more effort teaching and learning activities will continue to be meaningless because a starved employee cannot be productive while condition of his life is in critical condition.

Teachers motivation is among the important criteria that make education system to be successful together with other factors such as teachers experience, qualification, teachers working experience, and the environment in which teachers work in, such as the level of community engagement in school activity, recognition of teachers, rewards from parents and government and sufficient teaching materials. If you combine those factors, there no hesitation that learners' academic performance can be high depending the objectives (Ololube, 2006).

So many researchers described that there is relationship between community engagement in financing teachers and learners' academic performance, because teachers are facilitator or guider even if currently education system is advising the world form knowledge based curriculum to competence based curriculum where teachers will work lesser than the student but teacher is always there for facilitating and guiding the learners about the contents and giving the instructional materials. Even in some schools, teachers cannot participate a lot but take an example in kindergarten school and primary one, two and three, learners are always still young, they cannot manage the situation without teachers' presence.

Research methodology

Study population was a group of person where a sample was taken from, means that when a researcher was explaining a study population, wanted to say that is a group of individual that share same characteristics or have something in common. For example study population this study were the all primary schools located in Rubavu District. Furthermore, the people who were in sample were head teachers, director in charge of studies, teachers, discipline masters, bursar because they had relevant information that can be used to find the good results on the problems. Sample size is a specific number of population which was selected to represent others, means are the individuals which was taken from targeted population for exemplifying them. In research a researcher has chosen both probability and non-probability samplings. Probability sampling is where all the items located in sample size have an equal chance for being selected while non-probability sampling is that all item is have no equal chance. Through this research purposive sampling was used to selected head teachers, bursars and directors in charge of studies since these respondents had specific information. Random sampling was used for the teachers depending on their big number. Cluster sample were used to select the schools from both

two sectors sectors, because studying all schools in district was not easy and their accessibility could be difficult. For calculating the sample size the researcher used Morgan sample size determination.

Findings

of more than two years. Only 10.6% are experienced of less than two years.

4.2. Presentation of the findings

The part below explain the variables statistically by utilizing mean, maximum, minimum and standard deviation

Descriptive Statistics on community engagement in school financing

| Statements | N | Min | Max | Mean | Std |
|--|----|------|------|--------|---------|
| In this school, family pays Regularly school fees | 66 | 2.00 | 5.00 | 4.0455 | .86703 |
| Community sending extra money to the school to finance different activities increase learners performance. | 66 | 2.00 | 5.00 | 4.2879 | .73934 |
| Community engagement in paying money for part time teachers increase learners performance | 66 | 1.00 | 5.00 | 4.1515 | 1.17986 |
| Community involving in giving the school different gifts to build the infrastructures. | 66 | 1.00 | 5.00 | 4.3788 | .97294 |
| Community participating in making school budget | 66 | 3.00 | 5.00 | 4.5909 | .55407 |
| In this school, parents are involved in making audit | 66 | 1.00 | 5.00 | 4.2273 | .83750 |
| In this school, community is involved in committee which give market | 66 | 2.00 | 5.00 | 4.1667 | .83359 |
| In this schools, family contribute in giving bonuses to the teaching and administrative staff. | 66 | 1.00 | 5.00 | 4.1364 | .94277 |
| In this school, family send transport and communication fees | 66 | 1.00 | 5.00 | 4.2727 | .90376 |
| In this school, there are donors who finance school budget | 66 | 1.00 | 5.00 | 4.3030 | .85880 |
| Valid N (listwise) | 66 | | | 4.2560 | 0.86896 |

Note: Strongly Disagree = [1]= Very Low mean; Disagree= [1-2]=Low mean; Neutral= [2-3] =moderated mean; Agree= [3-4]=High mean; Strongly Agree= [4-5]= Very High mean

As indicated by the table, most of the respondents strongly agreed that community engaging in school financing has significant effect on learners academic performance as indicated below: In this school, family pays Regularly school fees (mean=4.0455 and STD=.86703), Community sending extra money to the school to finance different activities increase learners performance (mean=4.2879 and STD=.73934), Community engagement in paying money for part time teachers increase learners performance (mean=4.1515 and STD=1.17986), Community involving in giving the school different gifts to build the infrastructures (mean=4.3788 and STD=.97294), Community participating in making school budget (mean=4.5909 and STD=.55407), In this school, parents are involved in making audit (mean= 4.2273and STD= .83750),In this school, community is involved in committee which give market (mean=4.1667 and STD=.83359), In this schools, family contribute in giving bonuses to the teaching and administrative staff. (Mean= 4.1364and STD=.94277),In this school, family send transport and communication fees (mean= 4.2727 and STD=.90376),In this school, there are donors who finance school budget

EFFECT OF COMMUNITY ENGAGEMENT

(mean=4.3030 and STD=.85880). Overall mean indicated that most of the respondents confirmed that community engagement in school financing affect learners academic performance as indicated by statistics (mean=4.2560 and STD=0.86896).

Descriptive Statistics community engagement in teachers' motivation

| Statements | N | Min | Max | Mean | Std. |
|---|----|------|------|--------|---------|
| Community engagement in rewarding teachers increase learners academic performance | 66 | 3.00 | 5.00 | 4.3485 | .69043 |
| When community give teachers voice, leads to the increase of learners academic performance | 66 | 3.00 | 5.00 | 4.5455 | .66058 |
| Community Provision of incentives and bonuses to the teachers increase learners' academic performance. | 66 | 2.00 | 5.00 | 4.3030 | .84069 |
| Community involvement in giving performance appraisal to the teachers increase learners academic performance. | 66 | 2.00 | 5.00 | 4.3030 | .82219 |
| Community engaging in public work for building teachers building increase learners academic performance | 66 | 1.00 | 5.00 | 4.3485 | .83191 |
| In this school, teachers are given transport fees from parents | 66 | 1.00 | 5.00 | 4.2424 | .87812 |
| In this school, teachers are given communication fees from parents | 66 | 1.00 | 5.00 | 4.1212 | .92012 |
| In this school, community participate in sponsoring teachers training. | 66 | 1.00 | 5.00 | 4.1364 | .90955 |
| In this school, teachers make field trip to visit community and for studies | 66 | 1.00 | 5.00 | 4.5000 | .82741 |
| In this school, teachers are who best performers get incentive and motivation fees. | 66 | 1.00 | 5.00 | 4.2273 | .98910 |
| Valid N (listwise) | 66 | | | 4.3075 | 0.83701 |

Note: Strongly Disagree = [1]= Very Low mean; Disagree= [1-2]=Low mean; Neutral= [2-3]=moderated mean; Agree= [3-4]=High mean; Strongly Agree= [4-5]= Very High mean

As indicated by the table, most of the respondents strongly agreed that community engaging in teachers motivation has significant effect on learners academic performance as indicated below: Community engagement in rewarding teachers increase learners academic performance (mean=4.3485 and STD=.69043), When community give teachers voice, leads to the increase of learners academic performance (mean=4.5455 and STD=.66058), Community Provision of incentives and bonuses to the teachers increase learners' academic performance (mean=4.3030 and STD=.82219), Community involvement in giving performance appraisal to the teachers increase learners academic performance (mean=4.3030 and STD=.82219), Community engaging in public work for building teachers building increase learners academic performance (mean= 4.3485 and STD=.83191), In this school, teachers are given transport fees from parents (mean=4.2424 and STD=.87812), In this school, teachers are given communication fees from parents (mean= 4.1212 and STD= .92012),In

this school, community participate in sponsoring teachers training (mean= 4.1364 and STD= .90955), In this school, teachers make field trip to visit community and for studies (mean= 4.5000 and STD= .82741), In this school, teachers are who best performers get incentive and motivation fees (mean=4.2273 and STD=0.98910).

Overall mean indicated that most of the respondents confirmed that community engagement in teachers' motivation affect learners academic performance as indicated by statistics (mean= 4.3075 and STD= 0.83701).

Discussion

The findings from the objective number one which was to examine the effect of community engagement in school financing on learners' academic performance in primary schools of Kanzenze and Mudende sectors, the results revealed that there is positive and significant effect of school financing and learners' academic performance in primary schools of Kanzenze and Mudende sectors as ($p\text{-value}=0.000$, $\beta=0.862$). This signifies that null of hypotheses was rejected and alternative hypotheses were approved. This was attained by distributing 10 statements or options about community engagement in school financial for which the participants were requested to tick appropriate box by Likert scales. Therefore, it was revealed that that community engagement in school financial has effect with overall mean and standard deviation (mean=4.2560 and STD=0.86896). This work was similar to the findings of Blank, Jacobson, Melaville & Pearson (2010) asserted that when parents are motivated to support school financially, school academic performance can be increased because school may have little money to run some of different activities but when community is engaged and support some activities can be build and developed. Schools need many things such teaching aids, feeding the students, making field trips and paying wages of part time workers, this indicated that when community support the school, those activities can be achieved easily.

The outcomes from the objective number two which was to examine community engagement in teachers' motivation on learners' academic performance in primary schools of Kanzenze and Mudende sectors, the results revealed that there is positive and significant community engagement in teachers' motivation on learners' academic performance in primary schools of Kanzenze and Mudende sectors as ($p\text{-value}=0.000$, $\beta=0.964$). This signifies that null of hypotheses was rejected and alternative hypotheses were approved. This was attained by distributing 10 statements or options about community engagement in teachers' motivation for which the participants were requested to tick appropriate box by Likert scales. Therefore, it was revealed that that community engagement in teachers' motivation has effect with overall mean and standard deviation (mean= 4.3075 and STD= 0.83701). The research is similar to the findings of Gitonga, (2012) disclosed that community engagement in teacher

motivation is very crucial because teacher motivation it is not the responsibility of government only but also the responsibility of community apart from the salaries which granted by government community must provide bonuses, incentives and other fees which can contribute in teacher motivation at school.

Conclusion

By emphasizing on the results from data analysis, revealed that community engagement has significant effect on learners' academic performance in Rwandan primary schools. As all objectives indicated that there is significant effect of independent variable as they are namely community engagement in school financing, community engagement in teachers motivation and community engagement in home-based coaching and dependents variables (learners' academic performance). This was approved by statistics from chapter three that all null hypothesis provided negative, means null hypotheses were rejected while alternative hypothesis were accepted.

Recommendations

The study revealed that the stakeholders and other people who are involved in education system of Rwanda have to do the following as recommendation: Government should mobilize the parents to contribute in education of their children instead of letting education in the hands of teachers and government only as the main people who are in charge of education. Government must mobilize donors and other stakeholders to orient the grants in education system so that they should full participation in education.

Suggestion for further studies

The research was made on small areas because different factors such as financial, time etc, but other research can also make the research on the topic related to secondary schools, higher institutions. Such the effect of Parental participation on learning effectiveness in Rwandan secondary school.

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PROJECT MANAGEMENT PRACTICES AND
PERFORMANCE OF AGRICULTURAL
COOPERATIVES. THE CASE OF COTUMU
COOPERATIVE IN GAKENKE DISTRICT, RWANDA

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Abstract

Rwanda's economy is basically dependent on the performance of agriculture which contributes highly in the development of other sectors. However, the performance of many agricultural projects in Rwanda is still being low level in the sense that some projects remain hindered while others get accomplished late with low incomes. Indicate that a project performance is prejudiced by many management practices jointly then many studies fail to provide a holistic assessment of all the project management practices jointly that influence performance agricultural projects. This study, therefore, sought to investigate project management practices and performance of agricultural cooperative. The specific objectives of the study were; To explore the relationship between monitoring and evaluation and performance of agricultural cooperative in Gakenke district, To examine the relationship between the influence of stakeholders and performance of agricultural cooperative in Gakenke District and to analysis the relationship between project leadership experience and performance and agricultural cooperative in Gakenke District.. The study was based on five theories which included the theory of constrains, management theory of project management, resource based theory. The study used descriptive research designs. It targeted 1122 of COTUMU. The study used Random sampling to COTUMU and Yamane method was used to select 295 respondents. Primary data was collected using a self-administered questionnaire. Interviews were also conducted on 10 staff members. Descriptive statistics such as frequency, percentages, mean and standard deviation were used to describe the characteristics of the variables whereas multiple correlation model was used to establish the relationships between the variables. All the analysis was done using SPSS version 22. Qualitative data were analyzed through content analysis. The results showed that all the variables, monitoring and evaluation, influence of stakeholders and project leadership experience were significant performance of agricultural cooperatives. The study recommended that in order to have the desired project performance the government should ensure that there is well outlined planning, implementation, monitoring and evaluation, and communication methods. The study also recommended that 1) Government and donors should improve the services to support in providing continuous professional development to the famers in their society based institutions for good production, they must augment contact time with the cooperatives members and put them through baseline survey and situation of merchandise marketing by making advertisement apart from field trips and providing professional development. This will alarm farmers and expose them to learning for better cooperative learning.

Keywords: *Cooperatives, COTUMU, monitoring, project management practices and stakeholders.*

Project management was developed as the use of skills, knowledge, materials, and technology to attain the planned objectives (Project Management Institute, 2008). Worldwide project management has become the most predominant strategy that is frequently used by many projects and cooperatives to achieve their planned activities or make a successful performance of their activities. Monitoring and evaluation which is among the most important stage of project management are highly recommended to be well done to evaluate if what the project is doing, is highly matching with an objective, they have enumerated before starting the project World Bank, 2008). Many other researchers such as Mwangi (2015) indicated that doing monitoring and evaluation is very important in any given activities of an organization or cooperatives because it indicated where the project is going and also can help in discovering gap or other weaknesses which can hinder the organization to achieve its mission, this explains that after monitoring and evaluating, one can make a revision and bring a possible solution for released an expected issues. Cooperative can be explained as a venture that is managed and administered by the people who utilize its service and their income or profits are shared by the members basing on regulations they have decided while founding that business (USDA, 2002). Cooperatives are indeed like tools that bring people together and improve socio-economic living conditions for the people who are members.

Cooperatives can generate employment opportunities, social welfare, and reduction of hunger and the problem of food insecurity. But even if cooperatives benefit its members direct but also it has indirect benefits to the external world in terms of economy, it means that the people who are not the members of it can experience a major change in their life (United Nations, 2009). In the last decade, many countries of the world started putting more attention on the issue of food security, during that period countries developed strategies of abolishing hunger and food insecurity. The 1992 international conference and world food summit put more effort into the issue of world hunger and food insecurity (Babatunde, Omotesho & Sholotan, 2007). Cooperative has a long historical background which has a relationship with agriculture and non-urban community. Cooperative was expanded in the USA during the period of making a republic and then it expanded all over the world especially in European countries but in northern Europe. On 21st December 1844 Rockdale pioneer which was a cooperative of weavers in England started a group of food cooperatives. This group of people becomes the source of what is called cooperation till now; they developed the principles that became the foundation stone for every successful cooperative. Nowadays all the cooperatives are benefiting from those principles (Barraket, 2001).

In less developed countries agriculture occupies a large portion of countries' GDP and this indicates how many people are employed in the agriculture sectors of those countries. In most less developed countries their economy

is based on the products that are from agriculture (Fulton & Ketilson, 1992). Many writers indicated that cooperatives play a big impact on the community's high development in rural areas such as socio-economic development, education development, and also in sharpening human capital working forces.

For adjusting harmonizing and putting into practice different actions that could take place in project management different strategies have been invented by associations like International Project Management Association (IPMA), Association for Project management (APM). A new movement of knowledge is rising that indicates principles, rules and regulations, standards that can enhance knowledge, seminars, and workshops for managing different projects (Morris et al., 2006). Projects in recent years are being tools for fighting against routine poverty, food insecurity, hunger, and the problem of high unemployment which are dominant challenges in rural areas in less developed countries. Many less developed countries are putting more effort into investing in agricultural projects (World Fisheries Trust, The World Bank, and International Development Research Centre, 2004).

Smallholder agriculture is among the important sector that plays a significant role in the economic development of less developed countries and minimization of poverty in those countries but they have many problems that hinder its development like insufficient use of technology, innovation and creativity, and failure to win market at the international level (Hazell, Poulton, Wiggins & Dorward, 2010). Government, stakeholders, and researchers as important organs are renovating smallholder agriculture so that it will become productive and this is being implemented by enhancing this sector to participate in markets (Bernard & Taffesse, 2012). According to Chandra & van Hillegerberg (2018) indicated that project management is an important discipline that enhances the development and the preferment improvement of any given project. In different sectors such as infrastructure development, rural and urban development. Project management practices have a significant effect on the performance of agricultural cooperatives around the world because every successful project requires different tools that are designed by good project managers. In previous years, Rwanda was making great progress in developing the agriculture sector. It contributes to 32.7% of the national GDP (2015). Agriculture contributes to the development of the national economy (7.6, 2000-2015). Agriculture plays a significant role in poverty reduction, this was indicated by different research, which means that agriculture contributes 35% to poverty reduction. This indicated that project management practices can be among the most important tools that can help to increase this contribution. Rwanda is making progress to develop project management practices through making monitoring and evaluating different cooperatives operating in different places because agriculture in Rwanda is

among the sectors which are developed, majority of Rwandans are engaged in that activity but a problem which is still in the agriculture sector is that they practice substance agriculture which can be on small scale.

Management theory of project management

This theory can be subdivided into three theories which are a theory of project and the theory of management. The project theory seems to transformational activities of the operation. It consists of transforming inputs into finished outputs that can generate profits for the owner of a project. They are severe rule and regulation which can explain how a project can be managed, which is transforming everything into smaller things like assigning works and minimizing tasks, making the system that can minimize the cost.

Management Theory of project Management

In 2002, Koskela & Howell (2002) brought a new theory that explains the management theory of project management which indicates that project management practice is made by three subsections: they are namely: planning theory, execution theory, and control theory. Planning theory consists management section which highly emphasis on human resources and their activity. Planning works as an organizing activity that management utilizes as tools to bring together all required resources for accomplishing assigned tasks in a project.

Conferring to (Koskela & Howell, 2002), the theory of execution stated that managerially, execution is a distribution of tasks to the workplace. So that everyone should have and know his/her assigned tasks. For execution to be successful, the classical communication theory should be combined with effective language that is mostly used to communicate tasks. This means that communication should be understandable by the workers. They must be feedback provision to the workplace. Explains that assigned activities should put into practice by informing the implementers of their tasks and responsibilities. It means that everything is ready, workers, tasks to be assigned to each and everyone and resource, finally people are authorized to start the activities

A third theory is a theory of control which consists of two theories: they are namely: thermostat model and scientific experimental model (Koskela & Howell, 2002) theorized that in the production stage, there is a process of control, Performance measurement, performance standard while another model which complement this one is a scientific experimental model as it was explained by Shewhart and Deming (1983) quoted in Koskela and Howell (2002) emphasis on discovering the reason for the deviation and trying to work on that cause of deviation.

Hypothesis

There is no significant relation between monitoring and evaluation and performance of agricultural cooperatives in Gakenke District 2014/2019

and there is no relationship between project stakeholders and performance of agriculture cooperatives in Gakenke District.

Research methodology

This study used quantitative approach for making analysis and during the journey of search collecting the information. These approaches were used while investigating relationship between project management practices and performance of agriculture cooperatives. A descriptive research design was used to study the relationship between the independent variable (project management practices) and dependent variables (performance of agricultural cooperatives). Population study refers to a group of people that research is going to target. This means that the study population is a set of people from who sample size were taken from research (Bertram and Christiansen, 2014). This study was targeting COTUMU (Cooperative Twihangire Umurimo) agriculture cooperatives that locate in Gakenke District..Researcher decides to use these respondents from this cooperative because of the information they have that were related to the research objectives. Especially helpful information that was relevant to project management practices and agriculture cooperatives. The sample size was a group of people who were selected to represent others in the study and the information provided by selected people represented others population (McMillan &Schumacher, 2014). The selection of COTUMU was made by using simple random sampling. A sample size of members of the cooperative was using Yamane sample size determination as it is a scientific method that is always used in research (Louangrath, 2014).

$$n = \frac{N}{1 + (0,05)^2}$$

$$\text{Sample size } n = \frac{1122}{1+1122(0,05)^2} = 295$$

During this study, the researcher used stratified sampling techniques while selecting cooperatives members. Through this technique, the researcher stratifies the population into subgroups according to the people who share something in common. Then after each subgroup particular sample was taken randomly. The researcher selected a sample from each group according to the years of members (Creswell, 2012). For presidents, vice presidents and accountants by using the census technique (total enumeration), this was where the entire population is taken as sample because it is too small in number (Creswell, 2012).

Findings

This parts consists of interpretation of the findings which was from field every variable is interpreted statistically while interpreting the results the researcher used percentage, mean, and standard deviation. The variable are statistically interpreted and analyzed as follow:

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Table 1: descriptive statistics on Monitoring and evaluation and performance of agricultural cooperatives

| Statements | N | Mean | Std. |
|--|-----|---------|----------|
| The cooperative has a well-documented plan for evaluating and tracking projects/service delivery. | 295 | 3.8983 | 1.35896 |
| Internal and external audit are done frequently in your cooperatives. | 295 | 4.2339 | 1.11096 |
| Feedback from stakeholders are considered to make some of change in production of your product. | 295 | 4.2203 | 1.21593 |
| Your project managers make regular evaluation of project improvement | 295 | 4.1525 | 1.23461 |
| Processes are documented and data is used to inform management decisions. | 295 | 4.2102 | 1.20792 |
| There are clear records on farming activities kept in the project group | 295 | 4.2373 | 1.09325 |
| Any member who miss appropriate funds or farm materials is reported to management for disciplinary action to be taken against him/her as given in the constitution | 295 | 4.2373 | 1.09636 |
| There are always ways in which the management saves on expenditure e.g. bringing management offices closer to farmers. | 295 | 4.1864 | 1.16459 |
| The supervisors ensure that the planned farming activities are all done at the planned time | 295 | 4.5119 | .86053 |
| The project coordinators regularly report the progress of the project to senior management | 295 | 4.3898 | .94791 |
| Valid N (listwise) | 295 | 4.22779 | 1.129102 |

Note: Strongly Disagree = [1]= Very Low mean; Disagree= [1-2]=Low mean; Neutral= [2-3]=moderated mean; Agree= [3-4]=High mean; Strongly Agree= [4-5] = Very High mean

The findings from the table above indicated that majority of respondents strongly agreed that the following factors influence performance of agricultural cooperatives, include: Internal and external audit are done frequently in your cooperatives ($\mu=4.2339$ and $\sigma=1.11096$), Feedback from stakeholders are considered to make some of change in production of your product ($\mu=4.2203$ and $\sigma=1.21593$), Your project managers make regular evaluation of project improvement ($\mu=4.1525$ and $\sigma=1.23461$), Processes are documented and data is used to inform management decisions ($\mu=4.2102$ and $\sigma=1.20792$), There are clear records on farming activities kept in the project group ($\mu=4.2373$ and $\sigma=1.09325$), Any member who miss appropriate funds or farm materials is reported to management for disciplinary action to be taken against him/her as given in the constitution ($\mu=4.2373$ and $\sigma=1.09636$), There are always ways in which the management saves on expenditure e.g. bringing management offices closer to farmers ($\mu=4.1864$ and $\sigma=1.16459$), The supervisors ensure that the planned farming activities are all done at the planned time ($\mu=4.5119$ and $\sigma=.86053$), The project coordinators regularly report the progress of the project to senior management ($\mu=4.3898$ and $\sigma=.94791$), while the remaining one respondents agreed that this factor influence learners academic performance: it is namely: The cooperative has a well-documented plan for evaluating and tracking projects/service delivery

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($\mu=3.8983$ and $\sigma=1.35896$). Final decision that there is very high mean and strong evidence of the existence of the fact ($\mu=44.22779$ and $\sigma=1.129102$).

Table 2: Descriptive statistics: Involvement of Project stakeholders and performance of agriculture cooperative

| | N | Mean | Std. |
|---|-----|--------|---------|
| Stakeholders are actively engaged in brainstorming 69 challenges and way forward | 295 | 4.3254 | 1.09538 |
| There is constant and effective communication between cooperatives and stakeholders. | 295 | 4.1661 | 1.28421 |
| Stakeholders always are informed about cooperative performance regularly. | 295 | 4.2644 | 1.10868 |
| Involvement of stakeholders promotes their satisfaction, ownership and sustainability of outcomes | 295 | 4.4068 | .92800 |
| The management team of cooperatives involve stakeholder in decision making process | 295 | 4.4339 | 1.01093 |
| The government help in giving regular information from metrological department to alert farmers on weather conditions | 295 | 4.1763 | 1.24381 |
| The Country government has helped to promote projects through use of community policing like and erecting security lights in centers to ensure security | 295 | 4.0068 | 1.23441 |
| The stakeholders like residents help to donate land for growing crops as the sponsors provide farm inputs like seeds and fertilizers | 295 | 4.1797 | 1.15981 |
| Government built the roads are accessible for quick transportation of crops | 295 | 3.9356 | 1.33220 |
| Stakeholders provide regular training to the members of cooperatives | 295 | 4.2034 | 1.24785 |
| Valid N (listwise) | 295 | 4.2098 | 1.16452 |

Note: Strongly Disagree = [1]= Very Low mean; Disagree= [1-2]=Low mean; Neutral= [2-3]=moderated mean; Agree= [3-4]=High mean; Strongly Agree= [4-5] = Very High mean

The findings from table above indicated that majority of respondents strongly agreed that the following variables influence performance of agricultural cooperatives: Stakeholders are actively engaged in brainstorming challenges and way forward ($\mu=4.3254$ and $\sigma=1.09538$), there is constant and effective communication between cooperatives and stakeholders ($\mu=4.1661$ and $\sigma=1.28421$), Stakeholders always are informed about cooperative performance regularly ($\mu=4.2644$ and $\sigma=1.10868$), Involvement of stakeholders promotes their satisfaction, ownership and sustainability of outcomes ($\mu=4.4068$ and $\sigma=.92800$), The management team of cooperatives involve stakeholder in decision making process ($\mu=4.4339$ and $\sigma=1.01093$), The government help in giving regular information from metrological department to alert farmers on weather conditions ($\mu=4.1763$ and $\sigma=1.24381$), The Country government has helped to promote projects through use of community policing like and erecting security lights in centers to ensure security ($\mu=4.0068$ and $\sigma=1.23441$), The stakeholders like residents help to donate land for growing crops as the sponsors provide farm inputs like seeds and fertilizers ($\mu=4.1797$ and $\sigma=1.15981$), Stakeholders provide regular training to the members of cooperatives ($\mu=4.2034$ and $\sigma=4.2034$), while remaining one respondents agreed that it influence performance of agricultural

cooperative: Government built the roads are accessible for quick transportation of crops ($\mu=3.9356$ and $\sigma=1.33220$). Final decision that there is very high mean and strong evidence of the existence of the fact ($\mu=4.2098$ and $\sigma=1.16452$).

Discussion

The first objective was to explore the relationship between monitoring and evaluation and performance of agricultural cooperative; the study through correlation revealed that monitoring and evaluation when jointly correlated influenced performance of agricultural cooperative in Rwanda. As indicated by indicated correlation analysis null hypothesis was rejected and alternative hypotheses is accepted According to Uitto, J. (2004) point out that monitoring and evaluation has significance impact on assessing the project performance, means that is the most important components of project management practices in any given cooperatives. Performance of agriculture cooperative is determined by management team, how they make monitoring and evaluation, their level of experience and expertise. M&E gives the information of how implementation of project is being done and at which level their planned goal and objectives are being approached. According to Claudia and Oleg (2011) indicated project managers are the one who are eligible and obliged to conduct monitoring and evaluation of project in term of making reports, progress of activities and measuring performance of cooperatives. This monitoring and evaluation must be done qualitatively and qualitatively to individual, group level and whole company in general (Claudia & Oleg, 2011).

Second objective was to examine the relationship between the influence of stakeholders and performance of agricultural cooperative. This objective was approved by correlation analysis which was made by the researcher where null hypotheses was rejected and alternative hypotheses was accepted. According to Fontaine, Haarman and Schmid (2006) indicated that Participation of stakeholders in decision making have relationship with project activities and future planning strengthens them and make their awareness of project objectives. From this involvement, relationship and collaboration with stakeholder goal of cooperative become reality and the board of members should have capability to adopt the change with interconnection between them and stakeholders (Chinyio & Akintoye, 2008). Jeffry (2012) Brought methods of involving stakeholder that make the strategies of dealing with situation between stakeholder and institution or cooperative where information, comments and ideas might be from either side. As an outcome of this involvement, an institution or cooperative must modify its regular practice of controlling its project to adopt new modification that will enrich their performance.

Conclusion

As the above findings, the researcher concluded that project management practices has significant relationship with performance of agricultural

cooperatives in Gakenke district. Means that this this is important topic which could be discussed by different organs such as government agencies, non-governmental organization, private sectors, and other important stakeholders who have where related with agricultural cooperatives. As disclosed in this researcher, Monitoring and evaluation is a very important variable which cannot be ignored by any cooperatives because it goes hands in hands with measurement of performance in every cooperatives. Making internal and external audit, asking repots of performance or assigned tasks and provision of feedback among employees and employers is an important activity which must be reinforced by each cooperative. As the researcher continued analyzing and interpreting the results which related to the influence of stakeholders in enhancing performance of agricultural cooperatives. Stakeholders was seemed to influential in any given cooperatives because stakeholders participate in decision making, provision of continuous professional development to the cooperative members, in case there is a problem of inputs such as capital, hiring the officials and other staffs the stakeholders can take in charge that problem. There is no hesitation that in influence of stakeholders has significant relationship with performance of agricultural cooperatives in Gakenke.

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**PROJECT MANAGEMENT PRACTICES AND EFFECTIVENESS
OF PRIVATE RADIO STATION'S PROJECTS
A CASE OF SELECTED PROJECTS OF ENERGY RADIO,
IN MUSANZE DISTRICT, RWANDA (2017-2020)**

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Abstract

The study aimed to examine the influence of project management practices on the project effectiveness of private Radio station Projects in Rwanda. Specific objectives are: (a) to examine the influence of project planning on the project effectiveness of Energy Radio, (b) to investigate the influence of financial management practices on the project effectiveness of Energy Radio, (c) to evaluate the influence of project monitoring procedures on the project effectiveness of Energy Radio. The study adopted a descriptive research design and targeted 926 employees and key stakeholders of Energy radio from which a sample size of 90 respondents was selected using stratified and purposive sampling techniques. Data were collected by structured questionnaires and documentary reviews and were analyzed by both descriptive and inferential statistics. Findings showed that there exists a project planning policy and the project plans have clear objectives and goals (Mean=3.94), identified risks and measures to reduce their impacts (Mean=3.88), time, costs, and scope were specified at the beginning of the project started (Mean=3.99). However, Project Managers did not adopt the work plans and GANT charts for planning purposes (Mean=3.97, SD=1.241). There was a positive and significant correlation between project planning and the project effectiveness of the selected projects of Energy Radio ($r = .367, p=.009$). Findings demonstrated that funds of every project phase were disbursed on time to perform project tasks (Mean=3.98), the project budget was properly determined and allocated to activities (Mean=3.99), budgeted funds were enough to finalize the entire project on time (Mean=3.71), and the costs of every project phase were maintained in all project phases (Mean=3.87). However, the project personnel failed to maintain accurate books of accounts (Mean=3.88, SD=1.324) and report the yearly financial statements of every project phase (Mean=4.04, SD=1.251). There was a positive and significant correlation between financial management practices and the project effectiveness of the selected projects of Energy Radio ($r=.309, p=.001$). Energy radio has a well-documented plan for assessing and tracking projects (Mean=3.78) and the project progress reports are produced regularly (Mean=3.97). Besides, There was a positive and significant correlation between risk management practices and the project effectiveness of the selected projects of Energy Radio ($r=.439, p\text{-value}=.000<.05$). Findings also indicated that there exists a plan for reporting uncertainties in the projects (Mean=4.01) and potential and identified problems are communicated to stakeholders (Mean=3.97). Project managers effectively manage and evaluates identified uncertainties (Mean=3.68), there is a review process after the application of the mitigation measures for the identified uncertainties (Mean=3.87), and monitoring procedures on progress against project plans to identify variances (Mean=3.98). There was a positive and significant correlation

($r=0.673$, $p\text{-value}=0.000<.05$) between project monitoring procedures practices and the project effectiveness of selected projects of Energy Radio. The study concluded that project management practices are an important factor in enhancing the project effectiveness of every project phase and ensure the establishment of clear objectives and goals to make sure all employees and project partners are working towards common goals to achieve the desired results and enhanced effectiveness and recommended that managers should adopt the use of project planning tools such as Gantt charts and time plans that assist in running a project successfully achieve the project effectiveness of their projects.

Keywords: stakeholders, project management and energy radio, monitoring and evaluation

The current competitive landscape has led all companies, both public and private, to look for superior ways to become competitive, and the deliberate pursuit of success has led some companies to adopt different management practices and processes on their projects. Commercial Operations (Wachira & James, 2018) Project management is the procedure of creating a plan and implementing project actions to achieve set objectives. Ocharo and Kimutai (2018) noted that project management practices are the fundamental aspects of every project phase that must be maintained for teamwork to be carried out efficiently and effectively, requiring daily attention and performing regular tasks throughout the project, which make up the project management phases of initiation and planning, implementation, monitoring, and control as well as phase-out (PMI, 2017). Atkinson *et al.* (2007) showed that the essential constructs of project management include planning, risk management, monitoring, and control as well as the involvement of stakeholders in all phases of every project phase to achieve project results according to limits of risk, time, and scope, budget, and quality.

Project planning establishes a basis for the execution of activities by providing a roadmap that guides the project team. During the planning process, an initial schedule is created that lists the activities to be performed, the time in which each task must be completed, the people responsible for completing each task, and the expected results (PMI, 2017). Risk management seeks to identify, analyze, and respond to risk management principles and processes (Smith & Jagger, 2010).

Marren (2016) mentioned that risk identification includes risk identification through reflection, market benchmarking, and scenario analysis, as well as risk assessment workshops that may affect the project. Designing a response to risk involves putting in place proactive procedures in the face of risk threats, and identifying and appropriately mitigating the risks that affect road infrastructure to the performance of projects. Moreover, every project must have a system that constantly monitors the project's progress and measures the completed work on the plan, and warns of possible problems in the future (Shapiro, 2011). This happens in project monitoring procedures and is important in projects as it enables the project manager and the project personnel to fully assimilate the project progress and therefore appropriate corrective actions are taken if the performance of

every project phase deviates significantly and deviates from the plan and in this way it is ensured that the project meets all requirements. Besides, project monitoring procedures can help identify problems and their causes and suggest possible corrective actions for these problems, which in turn improve the performance of every project phase.

Stakeholders' engagement and management are part of project management practice in many organizations to deliver high-quality products and services and plays a crucial role in the performance of every project phase (Karlsen *et al.*, 2008). Kezner (2009) suggested that in the environment, in which projects are carried out, there are many parties directly or indirectly involved and they differ in the extent to which they can influence the project inputs, initial project expectations, exchange of project information, advice and decision-making. Baroudi *et al.* (2016) point out that the involvement of the user in the execution of every project phase leads to the use of every project phase and the satisfaction of customer needs. Project effectiveness, on the other hand, would then be the degree to which the final goals of every project phase are achieved with certain restrictions. Many scholars have also suggested that the nature of effectiveness is multidimensional and needs to be defined by a complex of stakeholders who may have different and incompatible perspectives (Cameron & Whetten, 2013).

Scientists around the world recognize that adopting effective project management practices leads to improved project effectiveness. For example, Wideman (2011) evaluated the project management practices of Capital Projects in Canada and indicated that project management differs from operating a manufacturing facility or other institution. Berssaneti and Monteiro (2015) analyzed the relationship between project management practices and the project.

Success in projects in Brazil and showed that project management practices were significantly related to all vertices of the iron triangle (time, cost, and technical performance) dimensions of success. Frimpong *et al.* (2013) in Ghana and on the project management practice in Africa revealed the causes of overruns for the delay and cost in Nigerian construction projects. At the regional level, Rogito (2010) examined the influence of monitoring on YEDF projects in Kenya and indicated that projects are poorly implemented because few implementers are trained in M&E, a poorly conducted baseline study that led to the failure of every project phase. Gathoni and Ngugi (2016) examined the drivers of effective performance of every project phase in projects funded by the development of constituencies of the national government in Kiambu County, Kenya, and indicated that stakeholders are barely informed about the progress of various CDF projects.

Locally, Benegahutu *et al.* (2015) assessed the influence of project management practices on effectiveness of the projects in Rwanda in the

case of the Girinka project in the Kamonyi district of Rwanda and indicated that project planning, project implementation, project monitoring, and evaluation practices contributed to the success of the Girinka project in general. Kanyago *et al.* (2017) assessed the role of project management skills in executing construction projects: a case of selected construction companies in Kigali and showed that projects are limited by insufficient planning skills necessary for effective planning for effectiveness of the projects; project planning is complex and risky and requires different skills for successful project implementation and management; the increasing complexity of projects with time and cost pressures has led to the introduction of high-quality software and hardware that requires skillful planning so that most studies place little emphasis on the projects of the radio station. This study was conducted to examine the influence of project management practices on the project effectiveness of radio projects and to fill this gap in the literature.

Research questions

To what extent does project planning influence the project effectiveness of Energy Radio projects? What is the influence of financial management practices on the project effectiveness of Energy Radio projects? And how do project monitoring procedures affect the project effectiveness of Energy Radio projects?

Methodology

Bailey (2004) defined a research design as a plan for conducting research. According to Ackoff (2003), a research design is the plan and structure for conducting research with the purpose of obtaining answers to research questions. Mugenda and Mugenda (2003) defined a research design as a framework for research that directs and specifies how a research project will be conducted. According to Kothari (2008), research design lays out a strategy for data collection, measurement, analysis, and presentation.

The research problem was best explored in this study through a descriptive research design. A descriptive survey creates an accurate portrait of individuals, events, or circumstances (Ackoff, 2003). According to Sekeran and Bougie (2013), a descriptive survey is a method for gathering information about a group of people through interviews or the distribution of a research questionnaire. This method was chosen due to its cost-effectiveness in reaching a large group of people.

Study population

It is critical for the success of the research project to define the target population precisely, taking into account the researchers' logic and judgment. However, the study population must be defined in relation to the research objectives. Mugenda and Mugenda (2003) define a population as an exhaustive collection of relevant data or analytical units. According to Chandran (2004), a population is a collection of elements, people, events, objects, or individuals that are sampled for measurement. Bartlett *et al.* (2001)

defined a study population as the collection of elements about which the study wishes to draw a conclusion. The target population for this study consisted of 926 individuals, who are classified and stratified in the table below.

Table 1 : Distribution of the target population

| Population category | Population size |
|---|-----------------|
| Energy Radio Employees | 14 |
| Management Team (Director, DAF, PO_1, PO_2, PO_3) | 5 |
| Stakeholders | |
| Loyal audience (Ab'Icyitegererezo) | 887 |
| RMC | 1 |
| RURA | 2 |
| District Partners representative (Musanze, Gakenke &Burera) | 3 |
| MINALOC (MHC) | 2 |
| Civil Society Organizations | 9 |
| Main Clients/ | 3 |
| Total | 926 |

The sample size is determined by the Sloven Formula of sample size determination as shown below:

$$n = \frac{N}{1 + Ne^2}$$
; Whereby: n=Desired sample size; N=Target population; E=error margin; By using this formula, the sample size is obtained as
$$n = \frac{926}{1 + 926 * 0.1^2} = 90$$
; Hence, the sample size of this study was composed of 90 respondents.

Discussion

Energy Radio's selected projects ($r = .367$, $p = .009$) showed a positive and significant correlation between project planning and project effectiveness (Table 4.11). A project's success is closely linked to the careful planning at every stage, so a high score on the project effectiveness scale is a sign that your team is doing a good job planning. Results indicated that there is positive and significant correlation between the effectiveness of selected Energy Radio projects and effective financial management ($r = .309$, $p = .001$). Both Kioko's (2014) and Mkutano's (2018) findings that the housing market in Kenya has a positive and significant relationship with project planning, as well as the effectiveness and performance of each project phase in Kenya, are supported by the current findings. The current findings confirm that successful project implementation relies heavily on monitoring. Besides, a positive correlation was found between project monitoring procedures and the success of selected Energy Radio projects in Table 4.11 ($r = 0.673$, $P\text{-value} = 0.05$). This means that as the company implements project monitoring procedures, the more successful and effective the selected projects will be. Mkutano (2018) found that in Kenya, there was a statistically significant link between project monitoring procedures and project implementation. Furthermore, a negative but insignificant correlation exists between the risk management processes and the success of specific Energy Radio projects ($r = .428$ $p\text{-value} = .211$, 05).

Findings

The study's primary goal was to determine the impact of project planning on the successful implementation of selected energy radio projects. There is a project planning policy that directs all projects and project plans to have clear objectives and goals (Mean = 3.94), identify risks and risk mitigation measures (Mean = 3.88), project duration and scope are defined before the start of the project (Mean = 3.99), and project costs are determined at the start of the project and maintained over time (Mean = 3.78). While project managers used GANTT applications and charts (Mean = 3.97, SD = 1.241), the project planning phase did not include participants before the start of the entire project (Mean = 3.89, SD = .357). Therefore, the findings show that the project staff and management have established clear objectives to ensure that all staff and partners work towards achieving common goals based on global consensus and intended outcomes like project planning and designing outcomes for program success.

The effectiveness of Energy Radio as a project was also evaluated in terms of the impact of financial management practices. According to the results of the study, mean budgeting accuracy (Mean = 4.01) and timely distribution of project funds (Mean = 3.98) have been found. In addition, the project budget was properly determined and allocated to activities (Mean = 3.99) and the budget *allocated* was sufficient to complete the entire project on time (Mean = 3.71), project costs were kept for all project phases (Mean = 3.87) and cash and bank accounts were regularly updated. And project finance management (mean = 3.97) as well. Findings, however, show that project personnel failed to keep accurate accounting records (Mean = 3.88, SD = 1.324) and to report the annual financial statements of every project phase (Mean = 4.04, SD = 1.251). It was thus possible to complete the project in a short period of time and on schedule thanks to existing financial management practices, which ensured the proper use of funds and the proper allocation of resources, which ensured that there were no project stoppages due to lack of resources or resources. Correlation studies show that the efficiency of some Energy Radio projects and the efficiency of their financial management are linked in a positive way ($r = .309$, $p = .001$).

Energy Radio's project monitoring procedures are examined in the third phase of the study. There was a high degree of confidence in the findings that Energy Radio has a documented project monitoring system (Mean = 3.78) and regular project progress reports (Mean = 3.97). It is possible to keep track of the progress of a project (Mean = 3.88) and make adjustments based on the feedback received from that process (Mean = 3.99). In the same way, procedures and data are recorded and used to provide feedback and help make informed decisions (Mean = 3.77), project monitoring procedures help minimize project risk (Mean = 3.89), and general project analysis and feedback are provided to participants (Mean = 3.57). In order

to help with monitoring activities and provide the best lessons to do when things don't go as planned, an effective system, tools, and procedures for project monitoring are critical decisions. Project monitoring procedures, on the other hand, have been found to play an important role in supporting effective management decisions because they provide information that is both effective and efficient for the project. Risk management processes and effectiveness of the projects were found to be linked in a correlation analysis of Energy Radio projects.

Recommendation

Project managers should use project planning tools such as Gantt charts and timetables that help run the effectiveness of the projects fully. Project managers need to incorporate the use of project monitoring procedures into their tools to ensure maximum performance of every project phase. This would ensure that activities are followed up as they are done, and in the event of a deviation, problems that cause deviations are identified and corrective actions are taken. Energy Radio must develop and adopt effective communication throughout the organization. The project team, employees/organizations, and stakeholders should be allowed as many ways as possible to express their views and opinions and be part of the decision-making process. This ensures that diverse and equally good decisions are made for the betterment of the organization.

Suggestion for further studies

Energy Radio's project management and effectiveness were examined in this study. In the future, researchers may want to conduct a similar study in a different industry or sector to see if there are any differences in responses and to determine how generalizable the findings of this study are. There were five independent variables that contributed to 78.3 percent of the effectiveness of every phase of the selected projects, which included: project planning, financial management and risk management, project monitoring procedures and practices, and stakeholder involvement. The other 22.7% of the people who play a role in the success of the chosen projects haven't been found yet, so this score means that more research is needed to find them.

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NOTATIONAL STUDY OF THE MUSICAL FORMS OF PENA IN KANGLEI HARA OBA

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Manipur is a small polyglot state which is more of length than breadth located in the north eastern corner of India. It lies in the north eastern frontier of India between latitude 23.50" and 25.30" North and longitude 93.10" and 94.30" East. The state is surrounded in its north by the state of Nagaland, in the south by Mizoram, in the east by Myanmar and in the west by the state of Assam. The present boundary of Manipur is with an area of 22,327 Sq. km more or less remained fixated since the controversial transfer of Kabaw Valley to Burma in 1834. Manipur which had its own written constitution and well defined internationally recognized boundaries had entered into agreements, treaties etc., with foreign powers in the past. The 1470 agreement between King Kiyamba of Manipur and Choupha Khekhomba of Pong in upper Myanmar, under which the boundaries of the state had once extended up to the present Kabaw Valley in upper part of the neighboring country, was considered as the first of each kind in the annals of the state. But, after contracting its boundaries which had once extended up to the present Kabaw Valley in the upper Myanmar in the east and losing some territories in other directions, the size of Manipur was remained at 22,437 Sq. Km. in 1901. In view of the official records say that the territories of the state fluctuated at 22,334 Sq. Km. in 1961, 22,356 Sq. Km. in 1971 and finally remained at 22, 327 Sq. Km. in 1981. Variation in the territories of the state although the record did not cite any reason, had been attributed to frequent missing of boundary pillars and encroachment of the land by the neighbouring country at Manipur- Myanmar border. Above this in the long history of Manipur there were not such types of tribal groups i.e Naga and Kuki. In this tiny state, the tribals were known as Tangkhul, Kabui, Mao, Maram, Rongmei, Liangmei, Chiru, Khongjai, Thadou, Paite, Simte, Hmar, Maring, Moyon, Monsang etc. According to some scholars have pointed out that the generic terms such as Naga and Kuki were introduced only the advent of the British in this state less than two centuries ago to identify the different tribes in the hills for their own convenience in administration (Bleeding Manipur, by Hijam Tarapot Singh, page 16 & 17). As per Aadhar statistics, Statistics Department, Government of Manipur, the population of Manipur 2022 is estimated as 3,436,948 (population of male in 2022 1,731,460 and female 1,705,488). compared to last census of 2011 which was 2,855,794, with the growth rate of 5.35 percent of population.

In the field of sports Manipur becomes the powerhouse of sportspersons of the country. There are many sports personalities in various fields of sports like football, hockey, martial arts, weight lifting, boxing and fencing

etc, in the national and international level. Manipur is the motherland of Polo, according to Manipuri chronical in the mythological time it was played by Gods. Polo is the national game of the Manipuris. The game is said to introduced during the reign of king Kangba (1600 A.D).

Religion magnifies goodness so much so that a good life is the only religion. It is nothing else but love of God and man. Religion in fact means the whole attitude of man to God. Clans and lineages played a significant part in the Meitei society thereby forming the basis of the various stages of development of Meitei philosophical thought resulting in the emergence of the cult of ancestor worship. Thus, religion has been a constant factor in the growth of human civilisation, religion is still alive as can be seen in the tradition of lai Haraoba.

Script: According to chronicle “Cheitharol Kumbaba” (1985:2) the old Manipuri script is said to have been introduced in (1616 A.D) by Khagemba the then reigning king of Manipur. Here, a question naturally arises as to whether writing was totally unknown to the Manipuris before this important event. But from traditions that have been collected it is said that before its introduction there were two different scripts that were used in the land.

Music in context of Manipur: According to great philosopher Aristotle music is a source of harmless pleasure, it provides recreation.

Music is needed for forming human character because it habituates the mind to the love of that which is good and noble. It also provides intellectual enjoyment in leisure. Music is firmly interwoven with social fabric and no social or religious assembly is complete without it.

Manipuri culture- specially in Meitei culture tradition, the folk musical instrument Pena has its uniqueness. It's a very highly developed stringed instrument. Pena has retained its original shape and structure since early times. Pena's origin can be trace back to the reign of Nongda Lairen Pakkhanga. Any ritual ceremony observances are incomplete without Pena music.

Lai: According to Saroj Nalini Arambam & John Parratt deities in Manipuri Lai which is generally used for both male & female (1918:2} Lai is known as a shortened form of umang lai, which means literally forest deities, according to Hodson (2016:96) & Shakespear (1980:9}

According to Naorem Joykumar Singh (2021:12) Umaang Lai is almost quite at par with the concept of paganism, the term is derived from the classical Latin word paganus means rural, rustic and later civilian. The main lais of Meitei religion are not connected either with trees or forests and there is only one place in the Lai Haraoba ritual where such a connection is possible.

Lai Haraoba: The festival is held in honour of Umanglais, it's an act of worship. According to Rema Laisram (2019:172) the Meities are worshipping Lainingthou and Lairembi, their divine ancestral parents. The greatest single key to Meitei community is their history and culture. The Umanglai

Haraoba or Lai haraoba in short is a ritual festival or performance of ceremonial rites to appease the Umanglai (sylvan deity). The main part of Umanglai culture is counted as the unique contribution of the Meitei to the domain of world culture. Today the people of Manipur are very much indebted to their forefathers for inheriting such a rich cultural heritage.

Lai Haraoba depicts numerous activities which will go on taking place as long as the sun and moon exist, starting from the creation of the world. Lai haraoba is a derivative from the origin Lai Hoi Laoba. Lai stands for deities; Hoi means the inner vibration and Laoba is a loud utterance. The term means the utterance of inner vibration by the deities and also the utterance of inner vibration by human beings for showing their appreciation of the deities. Generally, both meaning is relevant with respect of Lai Haraoba. (R.K. Danisana, 2012:2). Lai haraoba means literally “Pleasing of God” and the essence of the ritual is that it’s performed to call the Lai and to give him pleasure, merry making of Gods and Goddess. Here Shakespeare’s phrase “the pleasing of God” is preferable. The Lai Haraoba mirrors the entire culture of the Manipuri people. It’s a seasonal festival of Manipuri’s with lots of rituals, dance and music. Haraorols (ritual hymns of haraoba) observing the Ikouba rite exists in three forms:

Kanglei Haraoba- It is performed in the greater valley of Imphal, Manipur; Moirang haraoba- Moirang Thangjing Haraoba; Chakpas haraoba- It is performed at Andro, Phayeng, Sekmai, Leimaram, Khurkhul and Kaching. In Manipuri music several instruments are used and one of the original characteristic instruments is Pena. Penakhongba is religious functionary person in Lai Haraoba.

Research Objectives: I. To study the genesis of Traditional Musical Instrument and the origin of the Pena; II. To study the various platforms of performing and using pena in cultural activities (ceremonies & festivals) in Kanglei Haraoba, Moirang Haraoba, Chakpa Haraoba; III. To study the views and opinions of pioneers and popular Pena Artists, Pena Singers, Pena Gurus and Maichous (scholars) of Manipur; IV. To study the notational musical forms of Pena in Kanglei Haraoba; V. To study the different types of notations of Pena singing styles as musical instrument in various cultural occasions; VI. Comparative statement of various musical forms of Pena in Kanglei Haraoba, Moirang Haraoba, Chakpa Haraoba; VII. To find out the problems faced by Pena artistes, performers in their survival as a professional and to understand the changing forms of Pena and its impact in the society; VIII. To offer suggestions for promoting the popularity and significance of pena in cultural platform to the younger generation.

Research Questions: I. Examine the internal relationships of Traditional Instruments of Manipur; II. State the ritual and philosophical concepts embedded through traditional instruments; III. How the Traditional Instruments are changing its originality and forms due to social and cultural

changes; IV. How to preserve the identity of Traditional Instrument Pena by the younger generation.

Other remedial measures.

Research Methodology: I. Historical research design as it requires historical findings through various traditional musical instruments of Manipur for better description; II. Multi method perspective will also be used for further observation; III. Primary as well as secondary data will be applied to reach the conclusion.

Data collection and analysis: I. Secondary data will be collected through archival documents (i.e., Audio and Audio- Visual means) and through intensive review of literature; II. Observation method will be the source of Primary data collection of the Problem; III. In the proposed research study Tools for qualitative data analysis and content analysis will also be employed.

Scope and limitation of the study: The study will be strictly confined to Pena and its notation except some comparison statement with other folk musical instruments and musical forms of Manipur and outside the State. Considering to the timeline and human resources, the research study will have its limitation with the availability of materials covering the Ancient Period, Post Hindu Period and Modern Period of the State.

Concept of Musical Notation: Describing any musical ideas or forms in written characters is generally known as notation of music. If wordings of the song are written in swaras (notes) and tala (rhythm) it will be called as the notation of the song. In the same way if tala is written with its boles, matras (beats), tala symbols etc it will be called as the notation of that tala. Musical scholars gave the opinion that, in our country the notation system had been existing ever since the period of Panini (the famous Grammarian) 500BC. Sir William Hunter described that “A regular musical notation system has been working before the age of Panini and the seven notes were designated by their initial letters. This types of notation passed from the Brahmins through Persian to Arabia and was then introduced into the European music by Guido d’ Arezzo at the beginning of the 11th century.” ‘Imperial Gazetter of India’ by WW Hunter.

The Indian music system or Hindustani music system recourse to the three octaves known as Lower (Mamdra), Middle (Madhya) and Higher (Tara). Ancient Indian writers used various symbols to represent the notes of these octaves.

The famous musicologist of the 12th century Pandit Sharangadev, the author of the treatise “Sangeet Ratnakara” indicated the notes of the lower octave and higher octave by putting a dot (.) and a short perpendicular line at the top of the initial letters of the notes. For instance, the lower octave was indicated as Ga Ma Pa Dha and higher octave was indicated as Re Ga Ma Pa. But the ancient musicologist and writers did not need any symbols or marks to denote the sharp and flat note.

Later on, Pandit Vyankatamakhi (17 century) introduced certain new symbols and conventional letters to denote the Shuddha (sharp) and Vikrit (flat) notes.

As the principal of BHatkhande Notation System the sharp note excluding sharp or teevra Ma do not require any symbol to indicate them as a sharp note; The flat notes excluding the flat note Ma are symbolised by taking a small horizontal line below the notes, viz Re Ga Dha Ni and flat Ma does not require any such sign; The sharp Ma is symbolised by a short perpendicular line upon it Ma; The notes of lower octave are identified by a dot just below the notes viz Re Ga Ma Pa; The note of middle octave requires no sign to indicate; In the higher octave the notes are symbolised by putting a dot over the notes viz Sa Re Ga Ma; The notes which have the sign ८ below two or three notes indicates that it should be grouped to sing or play in between one beat (Matra) or one unit. Viz Ga Ma Pa, Ma Ga Re Ga; '-----' This symbol identified the pause. If this identification is written after a note then after singing the note pause will be made ie the note will be pronounced or sung in one unit of time and then a pause will be made for another one unit of time. For example 'G _ _'; 'S' This sign indicates that the wording is prolonged for as many units of time as there are such signs. For example 'Na S S' here it will be pronounced in one unit and then it will be prolonged for another two units; '----' This sign indicate the slar or meend. It is occurred gracefully or glided without silencing the voice. Viz Ga Ma Pa, Pa Ma Ga Re Pa; 'Dha' ---- While singing or playing, if a nearest note is attached to a particular main note, it is Pa called grace note. For example 'Dha'. Here Pa is the grace note of Dha with slight touch of pa before pronouncing Dha; (Ma) – The note within the brackets means that (Ma) will pronounced quickly touching its higher and lower nearest notes. For Example (Ma) will represent the notes of Pa Ma Ga Ma; (,) – Coma indicates a very slight stoppage of the note. Example Ga Ma Pa Ga Ma. There are five notes in one unit. So it will be pronounced Ga Ma Pa in ¼ unit of time and the another remaining Ga Ma in another ¼ unit of time; ' / \ ' – It is the sign Gamaks. For example "Dha Dha" these two notes will pronounced with forceful representations of sound modulation; ' X ' – It is the symbol of Sam or starting of any rhythm; ' 0 '—This sign zero indicates the khali or no beat of a tala or rhythm and 1,2,3,4 indicates the number of beat of tala.

Table 1 : Musical Notation:- Panthoibi Sheishak (Laimangda Shakpa) 16 Beats

| | | | |
|---|----------------------------------|----------------------------------|--|
| Pa --- ---- Aa S S S X | --- ---- S S S S 2 | Pa Pa -- Sa Aa Ha S Ha 0 | --- ---- S S S S 3 |
| --- --- <u>GaGa</u> Pa S S <u>Numi</u> dang X | Pa Pa --- Ga wai gi S na 2 | Pa --- --- Ga ma S S tam 0 | <u>GaRe</u> <u>SaRe</u> Sa --- <u>das</u> <u>s s</u> S S 3 |
| --- --- <u>GaGa</u> Pa S S <u>Numit</u> naga X | Ga (Re) --- Sa ching ya S na | Sa Re Sa --- thang lak le S | --- ---- S S S S |

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| | | | |
|---|-------------------------------------|--------------------------------------|---|
| | 2 | 0 | 3 |
| --- Ga Pa S S Ching gi X | Pa Pa --- Ga mei na S bu 2 | Pa --- Ga tam S S ya 0 | <u>GaRe</u> <u>SaRe</u> Sa --- <u>the s</u> <u>s s</u> ng S 3 |
| --- Ga Pa S S Tam gi X | Ga (Re) --- Sa mei na S bu 2 | Sa Re Sa --- khong mei nem S 0 | --- S S S S 3 |
| --- Ga Pa S S Ching gi X | Pa Pa --- Ga pa mel S na 2 | Pa --- Ga ning S S thi 0 | <u>GaRe</u> <u>SaRe</u> Sa --- <u>bi s</u> <u>s s</u> S S 3 |
| --- Ga Pa S S Tam gi X | Ga Re --- Sa pa mel S na 2 | Sa Re Sa --- na pung bi S 0 | --- S S S S 3 |
| --- Ga Pa S S Sha bi X | Pa Pa --- Ga man ja S na 2 | Pa --- Ga pa S S mu 0 | <u>GaRe</u> <u>SaRe</u> Sa --- <u>ba s</u> <u>s s</u> S S 3 |
| --- Ga Pa S S Thang len X | Ga Re --- Sa cheng lau S na 2 | Sa Re Sa --- u ba ra S 0 | --- S S S S 3 |
| --- Ga <u>GaGa</u> S S Man <u>jagi</u> X | Ga Re Ga --- kai S dong S 2 | --- Pa --- Pa S man S jagi 0 | Ga Ga Re Ga kai dong pham bu 3 |
| Ga <u>GaRe</u> Ga Re Tak <u>pi s</u> S yu X | Sa --- da S S S 2 | --- S S S S 0 | --- S S S S 3 |

Table 2 : Musical Notation: - Phibul Haibi Eshei -- 12 Beats (Nongthangleima Sheishak Chumkhong Eshei)

| | | | |
|--|------------------------------|--------------------------------|-----------------------------|
| Sa --- Sa Aa S S X | --- Pa --- S Ha 2 | --- S S S 0 | --- S S S 3 |
| Pa --- Pa Haa S Haa X | --- Sa --- S Haa S 2 | --- S S S 0 | --- S S S 3 |
| --- Pa S --- Thang X | --- Pa --- S thang S 2 | Pa --- Ga thang --- na 0 | --- Re --- S ro --- 3 |
| --- Pa S --- Thang X | --- Pa --- S thang S 2 | Pa --- Ga thang --- na 0 | --- Re --- S ro --- 3 |
| Sa Sa --- Ro So S X | Re Re --- thang na S 2 | Sa --- Ro S S 0 | --- S S S 3 |
| --- Ga S S Ri X | Re Ga --- Ri Haa S 2 | Pa --- Ri S S 0 | Dha Pa --- Ri Hei S 3 |
| --- Ga S S Noi X | Re Ga Re S noi S 2 | Sa --- noi S S 0 | Re Sa --- noi S S 3 |
| <u>Dha</u> --- Sa • Noi S S X | --- S S S 2 | --- S S S 0 | --- S S S 3 |

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| | | | |
|---|------------------------------|------------------------------|------------------------------|
| Ga ---- Aa S S X | Pa ---- Haa S S 2 | ---- S S S 0 | ---- S S S 3 |
| Pa ---- Pa Haa S Haa X | ---- Sa S Haa S 2 | ---- S S S 0 | ---- S S S 3 |
| ---- Ga S S Nong X | Ga Pa Pa mai jing da 2 | Pa ---- Sa U S ya 0 | --- Sa S li S 3 |
| Ga Ga Ga Khong da na X | Pa Pa ---- Yu har S 2 | Pa Pa Sa ha re S 0 | Sa ---- do S S 3 |
| Ga Ga Ga Thang ja ba X | Pa Pa ---- lei kai S 2 | Pa Ga ---- Khu rai S 0 | Ga Re ---- lei ma S 3 |
| Sa Sa ---- Ning thi S X | Re Re ---- Ka poi S 2 | Sa ---- nu S S 0 | ---- S S S 3 |
| ---- Ga S S Ri X | Re Ga ---- Ri Haa S 2 | Pa ---- Ri S S 0 | Dha Pa ---- Ri Hei S 3 |
| ---- Ga S S Noi X | Re Ga Re S noi S 2 | Sa ---- noi S S 0 | Re Sa ---- noi S S 3 |
| Dha ---- Sa • Noi S S X | ---- S S S 2 | ---- S S S 0 | ---- S S S 3 |

Wording of the song:

1. Panthoibi Sheishak {1&2 Laimangda Shakpa, (singing in front of God)}

Aa – Ha Ha Ha

Numidangwaigina matamda

Numitnaga Chingyana thanglakle

Chinggi meinabu tamyatheng

Tamgi meinabu Khongmeinem

Chinggi Pamela ningthibi

Tamgi Pamela napungbi

Shabi manjana pamuba

Thanglen chenglouna ubara

Manjagi Kaidong manjagi kaidongphambu

takpiyuda.

2. Phibul Haibi Eshei- 12 Beats(Nongthangleima Sheishak Chumkhong Eshei)

Thang Thang Thangnaro

Rosho Thangnaro

Nongmaijing da oo—yanle

Thongda Yuwaar Haaredo

Thangjiaba Leikai Khuraileima

Ningthi Kapoinu

Ri Ri Ha Ri Hei

Noi Noi Noi Noi Noi.

Table 1 & Table 2 are the Songs of Lai Haraoba.

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THE CONNECTION AND COINCIDENCE OF YOGA CULTURE WITH THE TRADITIONAL ECOLOGICAL CONCEPT OF ETHNIC MINORITIES IN SOUTHWEST CHINA WITH SPECIAL REFERENCE OF DALI

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Abstract

Yoga culture and the traditional ecological concept of Bai nationality in Dali have many connections in terms of basic cognition of natural things, the handling of the relationship between man and nature, and the philosophical thinking about the relationship between man and nature. Exploring the correlation between the two is conducive to finding cultural commonalities, promoting intercultural exchanges, and at the same time providing reference for human physical and mental health and healthy social development in the post-epidemic era.

Keywords: *yoga culture; ecological concept; ethnic minorities; southwest China*

The spread of yoga culture in Dali, Yunnan

The exchanges between Dali, Yunnan and Indian civilizations have existed since ancient times. As early as before Zhang Qian's mission to the Western Regions in the Han Dynasty, there was already a land route in southwest China from Chengdu, Sichuan, through Dali to Burma and India. This transportation line between China and the West was historically known as the "Shu-Hindu Road", and was also called the "Southern Silk Road" in academic circles.¹ In the interaction of regional civilizations, yoga is an important cultural symbol. Yoga, which originated in ancient India, was originally a practice technique and entered China with the spread of Buddhist culture during the Han Dynasty. In the early Tang Dynasty, Buddhist tantra was introduced to the Erhai region of Dali, Yunnan along the Sichuan-Yunnan- Indian- Burma Ancient Road (also known as the Overland Southern Silk Road).² The Yoga is not only a component of Yunnan Tantra, but also the main component of Yunnan Tantra.³ The Ming Dynasty's "Dali Honggui Zhao Gong Epitaph" once recorded:

“曾祖惠升，祖升海，率皆奉瑜伽，精秘密”

"great-grandfather Huisheng and the grandfather Shenghai all worship yoga, proficient in Tantra"

With the development of the times, the connotation of yoga has been continuously broadened and evolved into a complex life science. At present, there are various types of yoga studios and yoga studios in Dali.

¹ 段 渝：《古代中印交通与中国丝绸西传》，《天府新论》，2014 年第 1 期，第144页。

² 张锡禄：《大理白族佛教密宗》，昆明，云南民族出版社，1999年版，第45页。

³ 张锡禄：《大理白族佛教密宗的特点及其在国际佛学界的影响》，载林超民等《南诏大理历史文化国际学术讨论会论文集》，北京：民族出版社，2006 年，第 341~342 页。

The types of yoga experience have developed from traditional sections such as asana teaching and meditation to a series of new projects such as yoga travel, yoga culture, and yoga management. The spread and influence of yoga in the southwest China, in addition to its own cultural attraction, its cultural connotation and the relevance of the traditional ecological outlook of the ethnic minorities in the southwest region also provide a fertile cultural soil for its development.

Yoga Culture and the Traditional Ecological Concept of the Bai Nationality in Dali

The traditional ecological concept of ethnic minorities originated from the thinking of the ancient human ancestors on the relationship between man and nature, and is a valuable cultural wealth formed through continuous practice and summary. The Bai people are the main ethnic group in Dali, Yunnan. During the historical development of the Bai people, through the exploration and cognition of their own environment, the Bai people have formed a complete set of traditional ecological concepts with systematic and connotation. Although the form and connotation of yoga are constantly changing in the process of development, it always contains the Indian people's thinking and answer to the relationship between man and nature. Yoga culture and Bai's traditional ecological concept have great similarity in the basic cognition of natural things, the handling of the relationship between man and nature, and the philosophical thinking of the relationship between man and nature.

Basic understanding of natural things

The concept of "equality of all things" in the creation myth: The creation myth is the explanation of the origin of species by various nations, and it reflects the most primitive thinking of human beings on the relationship between man and nature. Both the Bai people's creation myth and yoga creation myth embody the idea of "equality of all things". In the ancient Indian Manusmriti, it is said that the invisible master of the universe first created water from his own body, and then put his own seeds into the water. The seed became a golden egg, and he appeared in the form of Brahma, who then created people, animals, plants, etc. It can be seen that in the logic of the Indian creation myth, people, animals, non-animals, etc. are all created by Brahma and have equal characteristics. In the Bai people's creation literature Lao Gu and Lao Tai, the heaven, the earth, the sun, the moon, and the stars were all born in the vast sea. A golden dragon at the bottom of the sea explodes because it swallows the blazing sun, and its flesh is transformed into humans, animals, and plants. In the creation myth of the Bai nationality, human beings, animals and plants are all created in the same subject and method, which reflects the simple and natural concept of "equality of all things" of the ancestors of the Bai nationality.

"Animism" in the belief system: In primitive society, due to the limited cognition of natural things by human beings, many natural phenomena are

attributed to mysterious forces. As a result, faith and worship of the alien force of nature emerged, and then the nature and natural forces were personified as gods and worshipped, thus forming the earliest religion with nature worship as the core.⁴ In the Bai belief system, the concept of "animism" is deeply rooted in the hearts of the people and presented through a series of belief activities. In addition to the historical figures, the Bai people's unique Benzhu worship also includes natural gods such as mountain gods, river gods, wind gods, rain gods, and sun gods. These abstract natural elements have specific personalities such as images, titles, birth dates, etc. in the Bai belief system. For example, the ninth day of the tenth month of the lunar calendar is considered the birthday of the sun, and the sixth day of the first month is the birthday of the moon. In yoga culture, the idea of "animism" is also reflected. First of all, in the creation myth, the saying that "all things are sentient" is clarified. Brihadaranyaka Upanishad said: "He (the Lord) transformed Himself in accordance with each form and each form of His was for the sake of making Him known."⁵

Manu Dharma specifically mentions when expounding the characteristics of all things, "These [plants] which are enveloped by Tamas, the result of their acts [in former existences], possess internal consciousness and experience pleasure and pain." At the same time, in the construction of a series of mythological systems derived from this, the "non-animal" is also fully given its due position. The personification of the main god is an important feature in the Indian mythology system, which has the following characteristics: a specific image is drawn for the god; the god uses the same name as the objective existence it represents in reality. For example, the yoga asana "सूर्यनमस्कार" (Suryanamaskar). Here, "सूर्य" (Surya) means the sun, and the name of the sun god in Hindu mythology is also called "सूर्य". He is depicted as a god who travels through the universe in a carriage. There are also a series of animal-shaped gods in yoga mythology, such as Ganesh, the elephant-trunk god, Hanuman, the monkey god, and Shesha, the snake god. These explanations in the beliefs of the Bai people and the myth of yoga all express their worship and reverence for all things in nature. Although this emotion has a great religious color, it is indeed conducive to ecological protection in reality.

The concept of "ecological balance" in the myth of animal salvation: In ancient times, natural disasters occurred frequently, which caused great losses to the people's production and life. There are myths related to natural disasters in both yoga myths and Bai nationality myths. Although the types of disasters are different, these stories have a similar ending, that is, the

⁴ 朱西周：《论宗教产生和发展的根源》，《长春师范学院学报》，2004年9月，第23卷第5期，第32页。

⁵ *The Upanishads - A New Translation*, Swami Nikhilananda.
www.vedantaioowa.org/Upanishads_PDF/BrihadaranyakaUp.pdf.

gods incarnated by animals saved the human beings in disasters. For example, the legend of the most famous golden-winged Dapeng bird in Dali area. Dali was called Zeguo in ancient times, and it was inhabited by the dragon tribe. Suddenly one day, a golden-winged Dapeng bird fell from the sky, feeding on the dragon clan, and after several fights with the dragon clan, the flood receded, and the people regained peace. In Indian mythology, whenever the universe encounters difficulties, Vishnu, the god of protection, will appear in the form of an incarnation to save the people from water and fire. Among his ten incarnations, there are four animal images: Matsya, the spiritual fish, Kurma, the spiritual turtle, Varah, the wild boar, and Narsinh, the human lion. The stories of animals saving human beings in Bai mythology and Indian mythology actually reflect the use of nature to prevent and control disasters, and contain the ecological wisdom that biological balance can lead to a happy life for human beings.

Dealing with the relationship between man and nature: After forming a basic understanding of the nature of the universe, the ancient ancestors began to explore and explain the relationship between man and nature. In this process, the content of the traditional view of nature has been further enriched. The handling of the relationship between man and nature in Bai culture and yoga culture has been better reflected and inherited through customs, customary laws and classic laws.

Customs: Water, as the source of all things, has customs related to it in yoga culture and Bai traditional culture. Both the Bai people's creation myth and the Indian creation myth have the expression that life is born in water. Whether in Bai traditional culture or yoga culture, water represents life and cleanliness, and is an indispensable element for the survival of all things. The Bai people around Erhai Lake have always had the custom of offering sacrifices to the god of water. The ancestors of the Bai people around Erhai Lake have believed that rivers, lakes and seas are as indispensable as sunlight and air since ancient times. Water is the source of life and happiness. This thirst for water leads to the worship of water, which is linked with ancestor worship and deity worship. This coercive or binding force is greatly strengthened or even deified. Water played an important role in nurturing Indian civilization. The oldest yogic artefacts have been unearthed in the Mohenjo Daro area of the Indus Valley. With the migration of Indian ancestors, Indian civilization developed more rapidly in the Ganges Basin. The Ganges has also been gradually absorbed into the mythological system from an important natural resource for production and life, and has become a sacred river that falls from the sky. The custom of bathing in the Ganges has existed since the Vedic period. Today, bathing in the Ganges in the holy city of yoga, Rishikesh, is still an important part of yoga practitioners. In the Hindu holy city of Varanasi, Ganges rituals are still held every day. In addition, Bai traditional culture and yoga culture have customs and habits for animal protection. For example, in Zhoucheng, Dali, there is a release

festival held every year on the 23rd of the seventh lunar month. People puts loach back in the Erhai Lake, and they should not eat loach on this day. Yoga culture advocates non-killing and respects vegetarianism. On the one hand, vegetarian food is considered to be more beneficial to human health. Another important reason is that there are norms and requirements for non-killing in the The Eight-Limbs of yoga. As a recognized classic of modern yoga, Patanjali's Yoga Sutra refers to yama is not killing, honesty, not stealing, holy life and non-attachment. The book on the harm of killing and the benefits of not killing are also discussed in detail. The customs and habits related to the natural ecology formed through cultural interpretation not only help people to cultivate themselves, but also form an ecological model of harmonious coexistence between man and nature.

Customary Laws and classical laws: In addition to the customs and habits passed down from generation to generation, the Bai people and the Indian people have recorded a series of laws and regulations in the form of text, which fully reflects the traditional view of nature. A large number of ancient inscriptions have been preserved in the Bai area of Dali, covering water source protection, tree protection, land protection and so on. The inscription on the forty-eighth year of Emperor Qianlong's reign in Jinhua Mountain in Jianchuan records:

“禁岩场出水源头处砍伐活树”⁶

"it is forbidden to cut down living trees at rock fields and water sources". As a classic work of Hindu ethics, Manu Dharma not only expounds the creation of all things in the universe, but more importantly, it explains and regulates the laws of natural society. Among them, Articles 131 to 137 of Chapter 11 clearly stipulate the punishment for killing animals. For example: If you kill a wild boar, you should donate a jar of ghee; if you kill a partridge, you should donate a Derona sesame seed; if you kill a parrot, you should donate a two-year-old calf; if you kill a crane, you should donate a two-year-old calf. A calf. Similarly, destroying plants should be punished accordingly. If fruit trees, shrubs, vines, branches or flowering plants are cut down, one hundred hymns should be recited. It is worth noting that the punishment methods for killing in Manu Dharma are basically non-violent almsgiving or chanting hymns. This profoundly reflects the respect for life in traditional Indian culture.

Philosophical thinking on the relationship between man and nature: After the simple cognitive stage, both the yoga culture and the Bai culture's view of nature have achieved a higher level of philosophical thinking. There are still similarities and correlations in the philosophical level and content of the natural views of the two cultures. The philosophical thinking in Bai's traditional view of nature can be divided into three progressive realms: the

⁶ 孙菁亚, 张锡禄: 《从大理古代碑刻看白族传统的环境保护意识》, 《云南环境科学》, 第24卷, 2005年5月。

harmony between nature and human, the Identity about the Matter and human, Tian Ren He Yi (天人合一, the unity of man and nature). The three progressive states of the relationship between man and nature embodied in yoga culture are the harmony between nature and human, the Identity about the Matter and human, and Moksha. The first two realms in the two cultures are basically similar in content, while the understanding of the last level differs between the two cultures.

The harmony between nature and human: The first-level philosophical thinking about the relationship between man and nature in Bai's culture and yoga culture is based on the clear division of things and people, and takes harmony as its goal. The personification of natural objects presented in the Bai people and the mythological system of yoga, the folk customs, customary laws and classic expressions for the protection of animals and plants emphasize the coexistence of both human and nature, and the ultimate goal is to seek harmony between human and nature get along.

The Identity about the Matter and human: At the stage of the Identity about the Matter and human, people observe nature and summarize its characteristics, without describing differences and boundaries, emphasizing the connection between nature's attributes and human attributes, and pursuing the integration of the two. Through a series of aesthetic practices, the Bai people convey the idea of "the Identity about the Matter and human" in their traditional concept of nature. In clothing culture, Bai women's headdresses are embroidered with flowers. The top of the headgear is a layer of white lace, symbolizing snow of Cangshan mountain. On one side of the headgear is a long white fringe, which can visualize the presence of wind. The headdress is rounded as a whole, representing the moon. The whole headgear gathers the most representative natural scenery of Dali, wind-flower-snow-moon. In the clothing of Bai girls and children around Erhai Lake, there are also fishtail hats sewed in the shape of fish. In ancient times, some Bai people used fish as their totems, and they took "yu" (鱼, fish) as their surname (called "Wu Ci" in Bai language). Later, in frequent interaction with Han people, Bai people learned Han surnames, like Zhang, Wang, Li, Zhao, etc. So they changed "yu" (鱼, fish) to "Yu" (余). The clothing design and the evolution of surnames in Bai culture fully reflect the integration of man and nature in Bai's traditional ecological concept. As an important part of yoga culture, yoga asanas are based on the observation and imitation of nature and are named after natural things, such as Tadasana (Mountain Pose), Padmasana (Lotus Pose), Ustrasana (Camel Pose) and so on. These asanas imitate both animals and non-animals, both the observation of the static state of the object, and the dynamic observation of the object. Yoga combines pranayama, meditation and other methods in asana practice to guide people to realize the connection with the space and things outside the body.

"Tian Ren He Yi" and "Moksha": The difference between "The unity of man and nature", "Moksha" and "The Identity about the Matter and human" is that the former two embody a more comprehensive concept of the universe and the whole. But "The Identity about the Matter and human" only needs to satisfy a single connection between human beings and a certain thing in nature. As the ultimate philosophical thinking in Bai's traditional ecological view and yoga culture, "The unity of nature and man" and "Moksha" have different connotations in the philosophical sense, but there are still many correlations between the two in terms of ecological view.

Both "Tian" and "Brahma" can be understood as nature, that is, the unity of man and nature, and Brahma and I are one. Both believe that man and nature can and should be one. The unity of man and nature includes the unity of space and time. From the perspective of space analysis, the Bai people and yoga practitioners have similarities in the choice of living environment. Bai people grow flowers at home and paint all kinds of flowers, plants and animals on the outer walls of their courtyards. There are trees and rivers near the Benzhu temple of the Bai people. Yoga practitioners in India mostly choose to practice in a natural environment far from the city and surrounded by trees. Both pursue the harmony and unity of human beings and the overall natural environment in the space. From the perspective of time, Bai's farming culture attaches great importance to the astronomical calendar, and production and life strictly follow the characteristics of time and season. And yoga culture still emphasizes this kind of coordinated movement between human and natural time. For example, practice sun salutation at sunrise and moon salutation at night. Ashtanga yoga is not recommended to be practiced during the new moon and full moon.

The integration of yoga culture and Dali ecological culture: At present, there are various types of yoga studios and yoga workshops in Dali City. In investigations, it was found that Dali's natural environment and good ecological protection are the primary reasons for yoga practitioners and practitioners to choose Dali. At the same time, Dali culture is extremely inclusive, and its own historical and cultural connotations are profound, which echoes the heavy feeling of yoga culture. The traditional ecological view of the Bai people in Dali is strongly related to yoga culture, which provides a cultural gene for the promotion of yoga in Dali. In addition, in the continuous development, yoga has become a life science covering philosophy, art, medicine, psychology and other elements. Experience projects in the yoga industry have also developed from simple asanas and meditation to more cultural sectors such as yoga philosophy, yoga travel, and yoga health care. As a famous historical tourism and cultural city, Dali fully meets the new development requirements of the yoga industry.

Inspiration from the integration of yoga culture and the traditional ecological concept of the Bai people

Ecological development and human physical and mental development complement each other: The national traditional ecological concept originated in the primitive society with low social development level, but the cognition and processing of the relationship between man and nature still have advanced ecological value today. With the rapid development of science and technology, human beings are less dependent on nature, and their perception of nature has declined. At the same time as environmental pollution is increasing, people have various physical and mental problems. In the context of the era of new crown pneumonia sweeping the world, human beings have once again carried out a profound reflection on their own health problems and the relationship between man and nature. In the post-epidemic era, the wisdom-filled yoga culture and the traditional ecological view of the Bai people in Dali have richer value of the times for the physical fitness of people, the solution of psychological problems, and the pursuit of a higher spiritual life.

The combination of ecological protection and health care projects should become the trend of future development: In the background of the post-epidemic era, the social attention and demand for the health care industry are increasing. Southwest China is rich in ecological resources and has an excellent ecological environment. At the same time, the ethnic minorities in the southwest have profound cultural heritage, and each ethnic group has formed its own unique traditional ecological view in the process of historical development. In the future, the organic integration of yoga, Tai Chi and other health-care cultures with the health-care industry and the effective use of natural resources will make more contributions to human well-being.



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