STUDENTS' PERCEPTIONS ON THE EFFECTS OF IMPLEMENTATION OF INFORMATION STRATEGY ON THE PERFORMANCE OF SOCHE TECHNICAL COLLEGE

MASTER OF BUSINESS ADMINISTRATION DISSERTATION

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UNIVERSITY OF MALAWI

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MASTER OF BUSINESS ADMINISTRATION DISSERTATION

By

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DECLARATION

I the undersigned hereby declare that this thesis is my own original work which has not been submitted to any other institution for similar purposes. Where other people's work has been used, acknowledgements have been made.

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CERTIFICATE OF APPROVAL

We, the undersigned, certify that we have read and hereby recommend for acceptance by the University of Malawi a thesis entitled '*Students' perceptions on the effects of implementation of information strategy on the performance of Soche Technical College'*

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Co-Supervisor : _____

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Date : _____

Head of Department : _____

Signature : _____

Date : _____

DEDICATION

This research work is dedicated to my late father Ali Josaya Mtila in honour of his wisdom, support and advice on his children. Father, you were always a great hero with no fear or words to hide, and that is why we always remember you as the ‘Patron’. We miss you!

Also, this is also dedicated to my wife Wonani, my daughters Nirla and Nerlie; and my entire family for their love and consistent support and encouragement**.**

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ABSTRACT

The main objective of the study was to investigate the students' perceptions on the effects of implementation of information strategy on the performance of Soche Technical College, a national Technical, Entrepreneurial and Vocational Education and Training (TEVET) institution in Blantyre, Southern Malawi. In this cross-sectional study, the main data collection tool was a structured self-administered questionnaire which was mainly used to collect data from 93 sampled students of Soche Technical College.

The researcher used both qualitative and quantitative research approaches. Firstly, the primary data was solicited, grouped, and coded according to the common themes as part of data preparation process prior to actual data analysis. Thereafter, data was analysed both qualitatively by making expressive descriptions and elaborated general statements, and in part quantitatively analyzed by using Statistical Package for Social Science (SPSS) and Microsoft Excel Software to answer the research questions in order to achieve research objectives.

The findings showed that students have positive perceptions of the information strategy as implemented by Soche Technical College. The study also showed that information strategy determinants at Soche Technical College positively affect the performance of students with regard to annual goals, information access, availability of information, timeliness in information giving, availability of teachers, accessibility of facilities and teacher information from other teachers.

Students showed positive perceptions of the information strategy implementation on the performance of Soche Technical College. However, basing on students' comments, the study recommends that TEVET institutions should strive at increasing their efficiency and effectiveness in information strategies in line with defined goals through developing a culture of capturing, storing and disseminating accurate information timely, that they should continuously invest in the training of their staff and their information strategy by identifying which potential strategy improvements are likely to yield the greatest returns and that data should be held in a few locations and systems; ideally in a single logical location with appropriate backups for security and resilience. Institutional facilities also need to be inclusive and top level management should spearhead the strategy in use.

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ABBREVIATIONS AND ACRONYMS

ACCA	Association of Certified Chartered Accountants
CTCs	Community Technical Colleges
DTVT	Directorate of Technical and Vocational Education and Training
FUs	Facilitation Units
GIZ	German Corporation for International Cooperation
MALDEF	Mexican American Legal Defence and Educational Fund
MDGs	Millennium Development Goals
MGDS	Malawi Growth and Development Strategy
MoEST	Ministry of Education, Science and Technology
MoLYSMD	Ministry of Labour, Youth, Sports and Manpower Development
MSCE	Malawi Schools certificate of Education
NGO	Non-Governmental Organisation
NTCs	National Technical Colleges
SPSS	Statistical Package for Social Science
SSA	Sub-Saharan Africa
SSDCs	Satellite Skills Development Centres
STC	Soche Technical College
TEVET	Technical, Entrepreneurial and Vocational Education and Training
TEVETA	Technical, Entrepreneurial and Vocational Education and Training Authority
TVET	Technical Vocational Education and Training
UNDP	United Nations Development Programme

UNESCO United Nations Education, Scientific and Cultural Organisation

VET Vocational Education and Training

APPENDICES

CHAPTER 1

INTRODUCTION

1.1 Background information

In developing countries, Malawi included, technical education has been viewed to have a significant impact towards socioeconomic growth of the countries. For instance, in South Africa, technical education contributes over 40% of the labour force; a factor which increases greatly towards the country's economic growth (Reddy, Bhorat, Powell, Visser, & Arends, 2016). In West Africa, technical education has been the major contributor in the formal labour force as the institutions do provide labour that is well qualified to developmental needs of the countries (Godwin, 1990), and comprehensive technical education has resulted in mushrooming of small scale entrepreneurs in the areas of construction, engineering and auto-mobile industries (Tanzania, 2003). As such, at an African scale, technical education has a multiplier effect in that human resources that have technical skills and are practicing in the labour force, have an impetus of recruiting others who did not have an opportunity to pursue formal technical education, and assist in economic progress of their economies (German Corporation for International Cooperation [GIZ], 2013).

In Malawi, Technical, Entrepreneurial and Vocational Education and Training (TEVET) in technical colleges is regulated and controlled by Technical, Entrepreneurial and Vocational Education and Training Authority (TEVETA) which has a policy aimed at establishing and operationalizing effective technical training and information in order to enhance labour market needs and strengthen dissemination of technical information in order to improve the country's development (Technical, Entrepreneurial and Vocational Education and Training [TEVET] Policy, 2013:9). It is because of this fact that Technical Vocational Education and Training (TVET) deals with more comprehensive concepts of related information, as information become a centre piece that spurs developmental needs. Additionally, such information is paramount in supply side as it becomes a guiding principle towards promoting innovation from the programmes and products derived from the technical education systems (Stewart, 2015). As the country recognise the need for technical labour force, numerous technical institutions do exist in the country. In order to increase the pace of technical operations, the government guided that each technical college embrace and have a strategic plan document with the aim of ensuring that the operations of the colleges have informed

strategic information which is well documented to guide operational performance. In supporting this call, Soche Technical College (STC), under the Directorate of Technical and Vocational Education and Training (DTVT), in the Ministry of Labour, Youth, Sports and Manpower Development (MoLYSMD) implemented some of these initiatives in shaping a high quality and productive workforce for the benefit of the general population of the country. As such, the college's information strategy emphasizes the development of TVET to ensure attainment of high quality, health and productive workforce in Malawi. Yet, despite this development, there have been scant literature and research in the country to explain the contribution of information strategy in enhancing the operations of technical education in the country.

According to World Bank, (2010), the availability of the common challenges along TVET institutions in Malawi exists and these include; inadequate capacity in the form of human, financial and material resources, inadequate polices and responsive organizational structures to foster information development within the institutions. In Nigeria, South Africa and Kenya, such challenges are partly curtailed from availability of information strategy that is capable of providing information to both the administrators, students and other supporting stakeholders, a situation which increases the performance of the technical and vocational centres and support government efforts in socio-development agenda.

However, there are a lot of implications in strategy implementation in technical colleges with regard to performance. These include focusing on goals, objectives and targets, increasing capacity and broadening unbiased access, mobilizing employees' capacity and potential, increasing high quality standards in teaching and learning, improving governance and management, enhancing efficiency and effectiveness and also improving quality and relevance of programs and facilities. This also means that the public service in Malawi has to be redefined to meet these demands (Dzimbiri, 2009).Yet in the country, that development is not linked to technical and vocational training institutions.

1.2 Study setting

The study was conducted at Soche Technical College (STC) in Blantyre district, Malawi. STC is the oldest government technical institution in Malawi. In 1950 a bill was passed in the Legislative Council for government to start offering technical education. This resulted into STC opening in 1956 under the name "Artisan Training Centre" in Kanjedza; where Police Training School is currently located and in 1960, the school was opened at its present site as Soche Trade School. In 1963 the school changed its name to Soche Technical School and

after passing the Apprenticeship Act in 1964, Soche Technical School became part of the Apprenticeship system and it enrolled its first pre-apprenticeships in1965 (Soche Technical College [STC], 2015).

From 1970 to June 1974 Soche Technical School had been working jointly with the Polytechnic board of governors and in 1982 World Bank through IDA project built structures which enabled the school to enrol its first students in Secretarial studies and Bookkeeping and Accounts courses in 1984. In 1985 Plumbing and Painting & Decoration were introduced at the institution and in the same year the school was elevated to college status, hence the name changed to STC as it is known to date. In 2010, Brickwork was transferred to Nasawa Technical College while Carpentry & Joinery was moved to Salima Technical College. Currently, the college has four departments namely construction, engineering, commercial and administration and enrols on average a total of 950 students per year.

The development of a strategic plan at STC is assigned to the Strategic Planning Committee which comprises management and some members from various departments. The first strategic plan covered the period 2010 – 2014, and to achieve a focused plan, the 2015 – 2020 Strategic Plan realigns its strategies with current global initiatives such as the Millennium Development Goals (MDGs) and national policies.

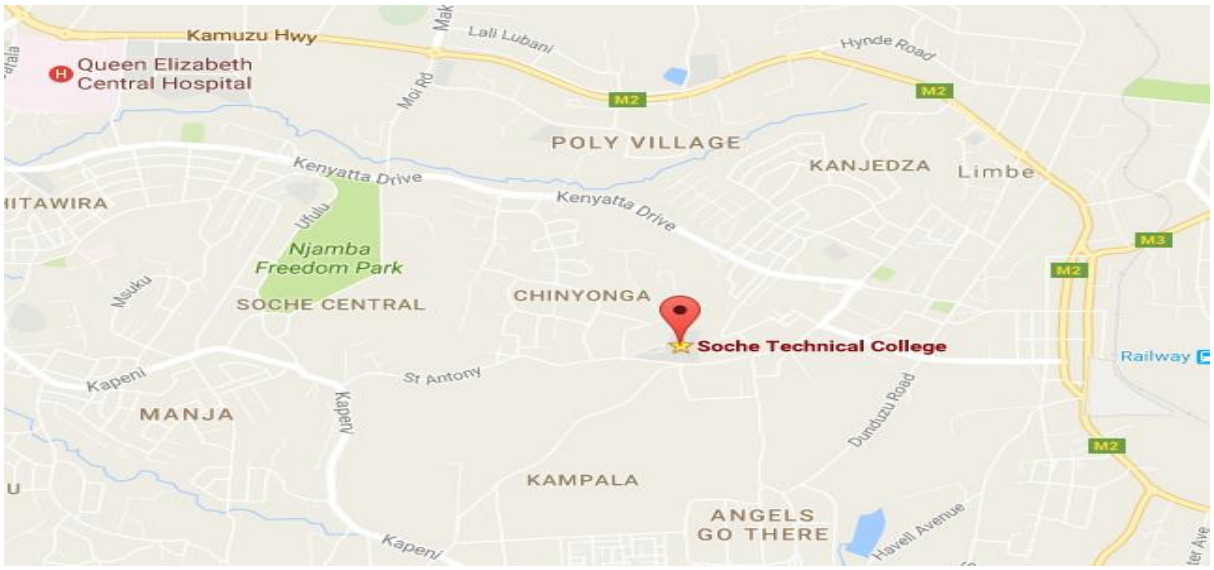

Figure 1: Map of Soche Technical College, Southern region, Malawi

Source:**https://www.google.com/maps/place/SocheTechnical+College,+Blantyre,+Malawi**

1.3 Statement of the problem

This study reviews the implementation of information strategy at STC. Knox (2014) states that when we look more closely at information, its certainty disappears; information then need to be put to its intended use. He further states that formulating an information strategy as a mechanism for managing information becomes problematic and ambiguous because an information strategy becomes either a placation (where the strategy is seen to be written) as opposed to implementation (where the strategy is written to be seen).

Being a continuous process, the implementation of information strategy at STC is seen to be compromised because information in the well-crafted strategic document is rarely referred to in its implementation process. This then cascades to the end product –'the student'. Yet, in the country such as Malawi, there is little that is known on the notion of information strategy and its impact on technical education enhancement and performance.

1.4 Study objectives

1.4.1 General objective

The main objective of the study is to investigate students' perceptions on the effects of implementation of information strategy on the performance of Soche Technical College.

1.4.2 Specific objectives

a. To explore perceived socio-economic factors of students that are affected by the implementation of information strategy of technical colleges.

b. To examine students' perceptions on the effects of information strategy on the performance of students' quality of service delivery within the college premise.

1.5 Research questions

Based on the ensuing problematical issues, the following research questions are posed:

a. What are the perceived socio-economic factors of students that are affected by the implementation of information strategy of STC?

b. What is the perceived effect of information strategy on the performance of students' quality of service delivery within STC premise?

1.6 Significance of the study

The findings of this study contribute to the body of knowledge with regards to information management and implementation and this is significant as it will not only enhance management of technical college's performance. Additionally, the findings will also help policy makers in order to improve their understanding on how best they can support information science related to TVET in order for the country to meet theme 4 (goal 2- Information and Communication) of Malawi Growth and Development Strategy (MGDS), using technical colleges as the major contributors of development - theme 1 (goal 3- labour and employment). The effective use of the required knowledge, skills and competencies will lead to improved service delivery which will in turn lead to institutional growth and stakeholder satisfaction. Also, Levy and Ellis, (2006) point out that research creates the body of knowledge that serves as the foundation upon which the study is built. Therefore, the study will enrich research in this area.

1.7 Chapter layout

Chapter one introduces the study by presenting the research background, research problem statement, research objectives, research questions, rational of the study, justification of the study, limitations of the study and structure of the study. Chapter Two is literature review that critically reviews the research literature which is pertinent to the study. Chapter Three is research methodology which devotes to discussing the research methodology which includes research design, research philosophy, research approaches, sampling techniques, data collection tools and ethical consideration. Chapter Four is data analysis; it discusses and presents the research findings in tabulations such as graphs, tables, and figures. Chapter Five is conclusion and recommendations and discusses the research conclusion and potential areas of future study. The chapter determines if research objectives are attained or not.

1.8 Chapter Summary

Chapter one has introduced the study by presenting research background and the rationale of the study, research problem statement that prompted the researcher to conduct the study research objectives, research questions, justification of the study, and structure of the study. The aim is to investigate information strategy as used by STC and the socioeconomic factors that affect students' performance. The next chapter is chapter two which is literature review.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In this literature review, the main areas considered are the theoretical framework for informational strategy and performance of technical institutions. The literature began with the broad understanding of performance management of TVET around the world and the relationship between information strategy and performance of technical institutions. It then looked at the socio-economic factors of students pursing different programmes and their effect on the performance of technical institutions and also at revenue investment, market share and the effect of information strategy on the students' quality of service delivery. It also looks at the strategic plan implementation and its influence on technical institution performance. Further, the study also looked at the theories associated with the performance of technical institutions.

2.2 Performance management of TVET around the world:

Given that information is an important part of business performance and its operations, Stahl (2006:83) argues that more and more information is often seen as a prerequisite for better management practices. This implies that organisations will achieve competitive advantage if an appropriate information strategy is put in place.

According to Djik and Thornhill, (2003:15), performance management aims at developing a culture of an organisation with reference to the strategies that would bring positive effects to the entity and be used to accomplish organizational goals and priorities, enhance continuous improvement and development and also identify development needs during the assessment process. The following are some of the notable Vocational Education and Training (VET) performances around the world:

2.2.1 Asia and the Pacific

The Bangkok report on the regional development of TVET in Asia and the Pacific (Grainger, Jenny, Bowen-Clewley, & Maclean, 2016) identified a progress towards strategic alignment of TVET with national socioeconomic goals in terms of expansion of government TVET strategies and a movement from a supply-driven to a demand-driven TVET system.

The World Bank (Powell & Lindsay, 2010) confirms that certain economic conditions such as macroeconomic stability, sustained growth in productivity, significant investment in technology and continued investments in human resources development should be present for a country's economic development.

2.2.2 America

The strength of the US economy contrasts to the overall performance of its VET system in that the capacity of industry to generate the necessary levels of skills for a highly advanced economy has been positive. Recently, the government has intervened enormously to strengthen the link between the education sector and the industry.

2.2.3 Europe

In Europe, VET system is based on the principal of voluntarism despite state interventions. Recently, the improvements in the economy have been associated with a commitment to training. For example, Germany has a dual flexible, industry-based VET system which has enabled it to channel up to 60% of young people into vocational training pathway at a relatively early age.

2.2.4 Sub-Saharan Africa (SSA)

VET in SSA is delivered through school-based training along with non-formal training. Apprenticeship occur either through informal settings between workplaces and prospective workers or through the formal programs. Within training there are deficiencies in instructional tools; for example, in Nigeria the national expenditure on education is less than 26% of the United Nations Education, Scientific and Cultural Organisation (UNESCO) recommendation (Ejili, 2014). There is lack of funding, poor infrastructure, improper teaching and use of out-dated curricula, problems with the general working conditions, wages and gender imbalances. VET also faces a general lack of acceptance among employers and young people in most countries (Sandirasegarane, Sutermaster, Gill, Volz & Mehta, 2016). Governments play a crucial role in enhancing skills development but they continuously struggle to gain necessary funding and collaboration.

2.2.5 Government policy on education in Malawi

The second Malawi education development plan prioritized on primary education with the objective of increasing access, equity and relevance of primary education; this led to the introduction of free primary education in 1994 which led to the growth of the number of

school going pupils to 4.2 Million from 1.4 Million. In turn, this led to over 200,000 young people to leave general education system each year to go into the labour market without employable and survival skills (Kadzamira & Rose, 2001).

It is therefore the challenge of technical colleges to provide life skills in technical training, entrepreneurship and sustainable livelihood through TVET just as Lungu (2011) affirms that such initiatives are undertaken to develop the capacity of the public sector so that in the long run, it can become the national instrument for the attainment of the vision of a democratic, highly developed and socially, economically and politically just Malawi.

2.2.6 VET in Malawi

TEVET system in Malawi is diverse with many private and public providers, and is administered by TEVETA, a regulatory body that was established in 1999 by an Act of Parliament to promote and regulate sustainable provision of TEVET for the Malawian workforce in a socially responsible manner (Technical, Entrepreneurial and Vocational Education and Training Authority [TEVETA], 2013).

The quality of TEVET is negatively affected by many factors, including inadequate equipment and facilities, shortage of training material, a high trainee to teacher ratio, deficient practical competences of TEVET teachers coupled with the absence of TEVET teacher training colleges. There is also lack of clarity about the division of roles and responsibilities between the main actors: MoLYSMD, TEVETA, Ministry of Education, Science and Technology (MoEST) and the major stakeholders such as the private sector.

2.2.7 TEVET policy in Malawi

TEVET policy aims at mainstreaming TEVET in all sectors of socio-economic growth and development in order to enhance productivity and quality of products and services so as to turn Malawi from an importing and consuming to a producing and exporting country (TEVET Policy, 2013). This then calls for skills development with four priority areas namely access and equity, quality and relevance, research and development and governance and management. Each area provides policy statements on what is to be.

2.2.8 TEVET providers in Malawi

The most important provider types are the seven National Technical Colleges (NTCs), Community Technical Colleges (CTCs), Satellite Skills Development Centres (SSDCs), and Facilitation Units (FUs) which are under MoLYSMD. There are also self-managed Non-

Governmental Organisations (NGOs) and private commercial schools, sector specific training schools, special target groups, company based trainings and the traditional apprenticeship training system.

2.2.9 Role of the private sector on TEVET in Malawi

TEVETA in Malawi communicates and involves the employers, in particular with private firms in both formal and informal sectors and their representation in associations. Apart from sitting on TEVETA's Board and contributing through TEVET levy, companies are also involved in standards setting and the implementation of programs that are tailor-made, apart from placing students on industrial attachments.

Based on the afore mentioned discussion, the study of information strategy on the performance of tertiary institutions that offer technical and apprenticeship training cannot be understated.

2.3 Information strategy and performance of technical institutions

2.3.1 Strategy

The term strategy derives from the Greek strategos, translated as a general in command of troops or the art of general or plan to destroy enemies through effective use of resources. According to Thompson and Strickland III (1995), a strategy is a set of competitive changes and business approaches that managers perform to achieve the best performance of the institution or company. It is the managerial plan to enhance the organisation's position in the market, boost customer satisfaction and achieve performance targets.

In relation to the concept of strategy, Mintzberg (1987) offered five definitions of strategy, which have become the well-known five Ps for strategy. He defined strategy as (1) a plan - an intended course of action, (2) a ploy - a specific manoeuvre to outwit a competitor, (3) a pattern - a stream of realized ploys, (4) a position - a means of matching an organization with its external environment to find the right market niche, and (5) a perspective - a shared view of the organization that is ingrained among its members. However, Lo (2012) states that while these Ps compete, they also complement each other. On the other hand, Harrison and St. John (1998) define strategic management as a process through which organizations analyse and learn their internal and external environments, establish strategic direction, create strategies and execute these strategies. As a process, it consists of different phases which are sequential in nature (Kazmi, 2002). These phases include: - establishing the hierarchy of

strategic intent, formulation of strategies; including the information strategy, implementation of strategies and performing strategic evaluation and control.

2.3.2 Information strategy

The information strategy of an organisation aims at developing an information culture in which all members understand the importance of information in relation to their roles. The joint Information Systems Committee defined information strategy as a management tool linking the delivery of the organisation's mission to the overall performance resource. In addition, Chen, Mocker, Preston, and Teubne, (2010) agrees that it is a complex of implicit or explicit visions, goals, guidelines and plans with respect to the supply and the demand of formal information in an organisation, sanctioned by management, intended to support the objectives of the organisation on a long run, while being able to adjust to the environment. According to Orna (2004), an organisation's information resources should be managed using strategy in line with its objectives, a clear idea of its information needs and how staff should use that information. He further argues that this requires the commitment and understanding of senior managers from all departments, time, money and staff to manage and implement it.

2.3.3 Information strategy frameworks

The first framework under consideration is provided by Earl (2000). In order to accomplish the organisation strategy, Earl incorporates the information resource strategy by aligning information strategy with the three strategic elements of information technology, information systems and information management to realize the organisation strategy. See figure 1 below:

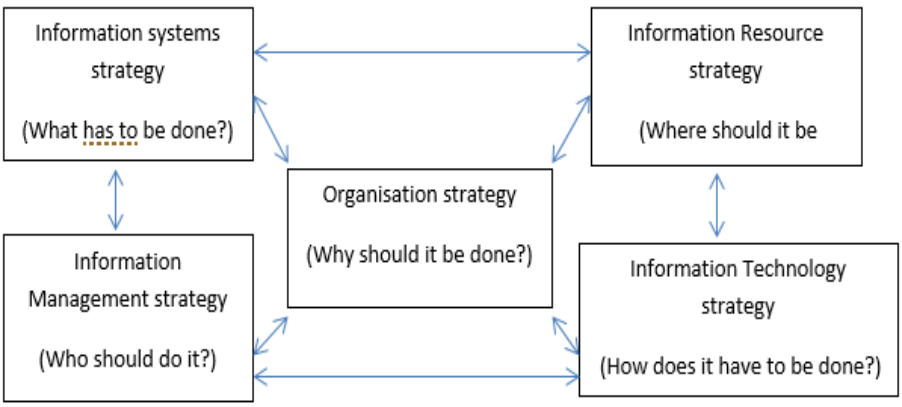

Figure 2: Earl's Information Strategy Framework –modified (Source: Earl, 2000, p. 21)

Firstly, the Information System strategy is the use of Information Strategy to support the business strategy by answering the question: in what way can information strategy help the business gain and sustain a competitive advantage? It suggests that information strategy must

be linked to an existing organisation strategy, which is the position of the organisation. As a plan, Lederer and Gardiner (1992) views an information system strategy as "a portfolio of computer-based applications that will assist an organization in executing its business plans and realizing its business goals" For a TEVET institution, management would provide infrastructure and systems which will make available appropriate and accurate information to its members of staff and to its external stakeholders; and information services that support research and teaching to the highest standard (United Nations Education, Scientific and Cultural Organisation [UNESCO], 1998). The Canadian Government (2008) adds that the physical environment would be appropriate for staff and students to use print based and electronic information in an integrated way.

The above entails that the information and communications infrastructure would be robust and reliable (always on), there would be access for anyone, anywhere, anytime and using any device. The information would also be on self-service and would assist in most aspects of the institution's core functions with tailor-made programs. However, security of information is paramount (Mulyanyuma, 2015). All this will depend upon appropriate funding.

Secondly, the information strategy "helps guide the organisation strategy based on information technology capabilities and determines its contribution towards achieving the business strategy" (Aaron, 2011). On the same note, (Kanungo, Sadavarti, & Srinivas, 2001:31) affirms that this element of information strategy may prove advantageous by contributing to the organization's overall performance.

The second information strategy framework is provided by Pearlson and Saunders (2013) through an information triangle, see Figure 2.

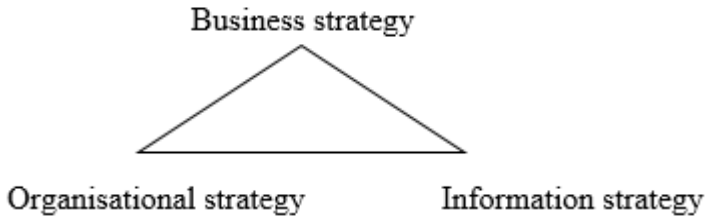

Figure 3: Pearlson and Saunders Information Systems strategy triangle (Source, Pearlson and Saunders, 2013:24)

To illustrate the above, typically, when all members of a department or when departments work together to support the institution's objectives, the resulting contribution to the institution's performance will be greater than the resulting sum of each member or department

respectively working towards its own purpose (Scholes, Johnson, & Whittington, 2009). To do this, all units of the organisation need to work with a common goal and modalities to monitor the implementation of the strategy need to be put in place. The information strategy should facilitate the provision of advice, guidance and support to individuals and enable departments oversee, review and revise the strategies at intervals and ensure that the strategy is cost effective (Association of Certified Chartered Accountants [ACCA], 2011).

Conversely, the disadvantage is that the information technology strategy must depend on the existence of a defined business strategy. It must be noted that the quality of the information strategy is contingent upon the quality of the institutions strategy, and it cannot be assumed that most institutions have a quality defined business strategy (ACCA, 2011)

The third information strategy framework is from Boddy, Boonstra and Kennedy (2002). Unlike the information systems and information technology strategies, the emphasis in this frame work is on information management. The advantage of this strategy is that it can be developed without reference to the business strategy just by determining who wants the information and where. However, Cash, McFarlan, McKenney and Applegate, (1992) regard this strategy as the 'business strategy' of the information strategy functional unit because the information strategy function is described as itself a business, that is, a "business within a business". See Figure 3.

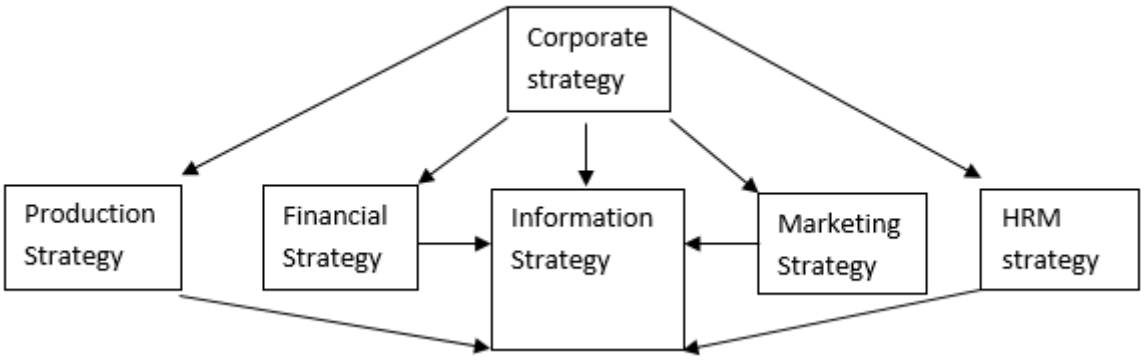

Figure 4: Boddy, Boonstra, and Kennedy: An information strategy (Source: Boddy, Boonstra, and Kennedy, 2000:94)

The information management strategy suggests that information strategy should be viewed as the master plan of the information system function as it is used to identify the assets, personnel, structures, funds, and technologies required to implement the strategy (Laudon & Laudon, 2014). However, Marchand (1997) points out that information allows you to express, transfer and convey knowledge and so all members of the institution should have appropriate skills to enable them access the information they need, use it effectively and

comply with their obligations in relation to the policies laid down. Management need to ensure that it is making available training and learning resources to acquire the necessary skills.

The fourth framework is provided by Wilson in Knox (2014). This framework points out that information strategy "deals with management of the entire information systems function" - the domain of information as a resource (Ragu-Nathan, Ragu Nathan, Tu & Shi, 2001). It points out that information need to be passed to those that need to use it. See Figure 4:

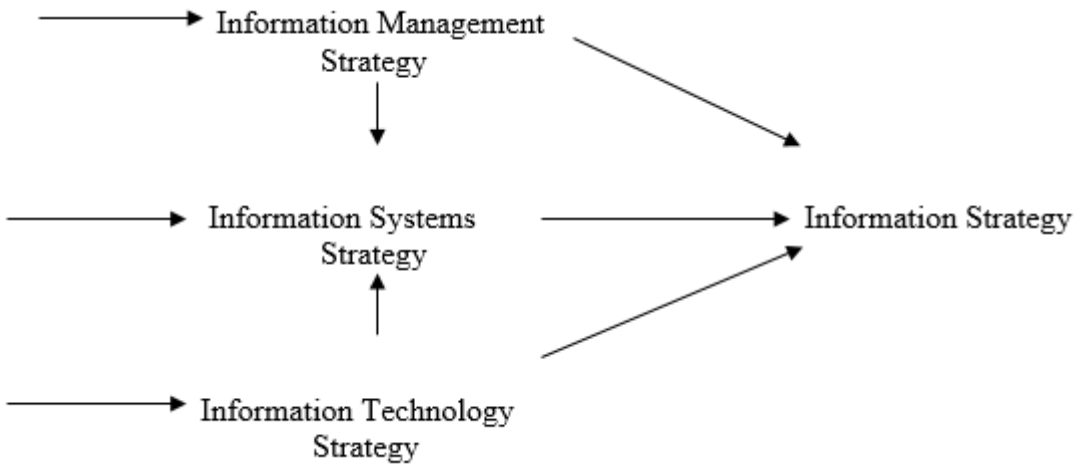

Figure 5: Wilson's Information Strategy (source: Knox: 2014)

Figure 4 indicates that the information generated in an organisation feed into one another and then through information and communication technology culminates into an information strategy. Thereafter, functional units demand this information but because it is a scarce resource, departments tend to compete for it. This requires provision of a web based interface to applications, integration of institutional information systems in one database and the provision of high speed links to enable easy access, distribution, manipulation and sharing of data.

However, it should be noted that while this strategy can be developed independently regardless of the existence of a well-defined business strategy, information strategy would be less able to contribute to the overall mission of the organization if its strategy was misaligned to the organization's business strategy.

With regard to strategy, it should be pointed out that organisational strategy is a higher level element that views information strategy as an organizational perspective guiding the top management on information related decisions (Lomash & Mishra, 2003). This shared view among top management ensures that all organizational members are headed in the same

direction (Reilly, 1998) and leads to general consensus among members regarding the role of information strategy in relation to the rest of the organization. It is therefore imperative for the senior management to monitor the implementation of the information strategy at both institutional and departmental levels, and ensure that the information strategy is fully aligned with the organisation's strategy.

The different aspects involved in strategy implementation cover practically everything that is included in the discipline of management studies (Kazmi, 2002). The strategic plan normally proposes ways of putting strategies into action. Strategies on their own do not lead to action, they are just statements of intent and implementation of tasks is meant to realise the intent. These tasks include: - allocation of resources, design of structures and systems, formulation of functional policies etc. Furthermore, a brilliant strategy that can't be implemented creates no real value hence effective implementation should begin during strategy formulation when questions of "how to do it?" should be considered in parallel with "what to do?" Effective implementation results when organization, resources and actions are tied to strategic priorities, and when key success factors are identified and performance measures and reporting are aligned (Deloitte & Touche LLP, 2003).

In this case, management need to be aware that it is always more difficult to do something (strategy implementation) than to say you are going to do it (strategy formulation) (David, 1997). Unlike strategy formulation, strategy implementation varies substantially depending on nature of the organisation and so calls for continuous changes of existing procedures and policies. This is why in most organizations, the task of strategy implementation shift from strategists to divisional and functional managers (Kazmi, 2002). The implementers of strategy should therefore be fully involved in strategy formulation so that they can own the process.

2.3.4 Performance and information strategy

According to Elger (2017), performance means 'to take a complex series of actions that integrate skills and knowledge to produce a valuable result'. Anthony (2011) articulates that the use of different performance criteria can produce conflicting results and suggests that to address performance issues, we must first address the fundamental question 'why do business exist'- the why in the information strategy. To this effect, Venkatraman and Ramanujam, (1986) offered three perspectives of performance namely financial performance; which focuses on profitability goals, operational performance; which checks internal performance factors that may lead to the success of an organisation and organisational effectiveness performances; which monitors and benchmarks on the selected performance factors which

must respond to the strategic goals of the whole organisation. However, despite the aforementioned argument, little is known as to the role of information strategy on performance of institutions of the nature of technical and vocation mode in most developing countries, Malawi included.

2.3.5 The relationship between information strategy and performance of technical institutions

Performance in institutions can be classified as institutional and employee performance (Otley, 1999). This is dependent upon the performance of workers and other attributes of the institution; and the assumption is that the organisation that accomplishes its objectives is viewed as using the right strategies. Ramlall (2008) adds that a good employee performance is necessary for the organisation, since an organisation's success is dependent upon the employee's creativity, innovation and commitment and yet Hunter and Hunter (1984) states that high job performance is the ability of the employee himself. In terms of employee performance, Borman and Motowidlo (1997) distinguished two types; task performance which represents those things that are typically on a job description and involve the transformation of inputs into outputs and contextual performance which is the behaviour that contributes to organizational effectiveness through its effects on the psychological, social, and organizational context of work.

According to Cheong and Lee (2016), today the ability to meet the competitive challenges of an economy is enshrined in TVET policies and technical institutions. However, despite the difficulty in explaining the contribution of information strategy to technical institution performance, a few studies have concluded on the importance of the alignment between information strategy and performance.

Firstly, performance in vocational institutions is evidenced when the initiatives implemented meet the desired outcomes (Asif & Searcy, 2014), which include successful completion of courses, completion of qualifications, students' progression to higher levels of study and students' retention in the institutions. These outcome measures enable institutions to know if there are disparities in policy intentions and helps in highlighting areas that need to be addressed and also benchmark the success of curriculum development.

Secondly, performance is noted when the processes and the environment foster continuous improvement (Al-Turki & Duffuaa, 2003). In essence, the participants' actual learning experience will be determined jointly by the individual and their environment by assessing the

congruence on a person– environment fit (P–E fit) theory (Edwards, Caplan, & Harrison, 1998). In educational settings, these indicators (referred to as learning environment instruments) have been created using P-E fit theory, and are developed with the formula, B=f(P,E) where behaviour (B) is considered to be a function of (f), the person (P), and the environment (E) .

2.4 Student's socio-economic factors that affects the information strategy of the colleges

Socioeconomic status can be defined as a person's overall social position to which attainments in both the social and economic domain contribute (Ainley, Brian, Michael, & Margaret, 1995). When used in student's achievement, it refers to the factors affecting parents or family as it is determined by an individual's achievements in: education; employment and occupational status; and income and wealth.

The American Psychological Association (2007:871) definition includes all the types of capital stating that: Socioeconomic status is the position of an individual or group on the socioeconomic scale, which is informed by a combination or interaction of social and economic factors, such as income, amount and type of education, kind of prestige and occupation, place of residence and in some society's even ethnic origin and religious background.

2.4.1 Family structure

Family structure is the reflection of the environment and develops interaction of family members, which in the end does influence behaviour in performing economic activities. On average, sole parent families have lower levels of income and children from these families are likely to have lower educational performance (Rich, 2000).

Other factors in sole parent families that are likely to adversely affect educational outcomes of children compared to those from two-parent families are said to include reduced contact between the child and non-custodial parent, the custodial parent having less time to spend with children in terms of supervision of school-work and maintaining appropriate levels of discipline, the lack of an appropriate role model, increased responsibilities on children such as childcare roles, domestic duties which impede the time available for school work; and in turn, the nature of parent-child relationships in sole parent families may cause emotional and behavioural problems for the child (Rich, 2000).

2.4.2 Educational background

In technical institutions, education is viewed as personal rather than occupational or institutional oriented and involves the acquisition of knowledge, skills and attitudes resulting from intellectual training. In VET, entry into higher levels of education is often restricted by prior-learning or prerequisite qualifications. Wise (1975) observes that persons are selected and certified based on their measures of academic aptitude or performance but the relationship between this and productivity is not known.

However, Hunter (1986) believes that educational background is an attribute towards positive performance if appropriately linked to task performance. He further argues that education level is positively related to creativity and citizenship behaviour and negatively related to on-the-job substance use and absenteeism. It is therefore generally perceived that students with better education background are likely to perform well as compared to those with poor background.

2.4.3 Marriage

According to Sparkes (1999), related to poor educational performance is the level of truancy or unexplained absence among students. Having high levels of unexplained absence at school has been found to be associated with poorer early adult outcomes. Also truancy is also viewed both as an educational outcome and as a causal factor in explaining educational performance as it is in many times higher among students from low socioeconomic backgrounds and is associated with poorer academic performance. For example, traditional concepts of marriage outside the education institution for women may promote absenteeism of married women compared to single women.

2.4.4 Gender

Educational performance has also been found to vary according to the student's sex (Horne, 2000). Horne believes that males value independence, achievement and are action oriented and so they take care of the business while females value intimacy, attachment and are people oriented and so they take care of others. One difficulty encountered from sex differences and performance among students in TEVET is the difficulty of comparing the performance of boys and girls carrying out exactly the same task owing to gender segregation in the allocation of work tasks (Rydstedt, Johansson, & Evans, 1998). For example, biological differences and gender biases on such occupations like brickwork are seen as masculine in nature, and in

particular, reviews of the evidence suggest that boys in TVET suffer an educational disadvantage in terms of institutional entry selection relative to girls.

In many countries, these differences cause government labour regulating agencies to regulate the employment of women. For example the employment of women on night work or underground is severely limited with exclusions in particular occupations. Hence, some of these restrictions among others mean that other things being equal, an employer who is faced with the choice of hiring either a male or a female for a job would choose the male. It is therefore not a matter of gender discrimination but one of economic logic.

2.4.5 Ethnicity

The ethnic background or immigrant status of parents also influences students' educational performance. Studies in the US have found that national background plays a significant independent role (Portes & MacLeod, 1996). The authors found that some Cubans and Vietnamese through the process of migration and subsequent incorporation in the host society come to see education as a key means of upward mobility for their children, despite their own low levels of education and income. Children from these communities do well despite coming from low socioeconomic backgrounds. Similarly in Malawi, northerners are believed to concentrate more on education when they have travelled to the South.

2.4.6 Geographical location

Students from rural areas are more likely to have lower educational outcomes in terms of academic performance and retention rates than students from urban areas (Cheers, 1990). A report by United Nations Development Programme (UNDP), (2009) views that people who leave the countryside to find better lives in the city often have no choice but to settle in rural areas where they lack decent necessities including education. Their rural background exposes them to strict attitude and as a result they take more time to change than people who have urban background. The urban people are exposed to different life styles such as the use of latest technology and the media as well as recreational and educational facilities within their schools hence easily adapt to changes. Issues affecting access to education in rural areas include costs, the availability of transport and levels of family income support.

2.4.7 Housing type

Lower educational attainment has also been found to be associated with students living in public housing compared to those in private housing (Sparkes, 1999). This may be due to the

effects of overcrowding, poor access to resources and a lack of social networks, and in this sense, housing type may also be a measure of neighbourhood influence which includes the level of neighbourhood income, the unemployment rate, an index of educational attainment, the percentage employed in professional fields, spill-over effects such as peer group influence, the presence or lack of job networks and role models.

2.5 Effects of implementing an information strategy on a technical institution

Various studies have been done to understand the implementation of information strategy in technical institutions. The initial studies include that done by Thune and House (1970) who studied 10 institutions employing strategic information and its impact on the performance of technical institutions. Each institution was evaluated both before and after the information strategy was initiated. The comparison showed that institutions implementing the planned information strategy outperformed those that did not have any strategy. Herold (1972) in an attempt to cross-validate Thune's study, surveyed 6 institutions, comparing performance of formal and informal strategies over a 2-year period. Based on the results, he concluded that formal information strategy planning and implementation outperform informal planning and hence, supporting the results of Thune and House (1970).

2.5.1 Revenue investment and technical institution information strategy implementation

According to Levisauskaite (2010), the term 'investing' could be associated with different activities but the common target is to 'employ' the money (funds) to enhance investor's wealth. Sears and Trennepohl (1993) add that, when one decides not to spend all current income, then that person is faced with an investment decision. According to Zvi, Alex, and Allan (2004), investment can also be defined as the current commitment of money or other resources in the expectation of reaping future benefits.

Firstly, McKinsey Quarterly (2006) states that for an institution to get its staff to do their jobs as expected, the institutions should invest their revenue in education and training to optimize their employee's potential for it is believed that improved capabilities of the workforce prove to be a major source of competitive advantage, and to develop this requires effective training programs. This in turn affects four types of personal capital: human, social, cultural and identity (Côté & Charles, 2002). Human capital is the stock of prerequisites to perform productive work. It can depreciate when knowledge, skills and competences become obsolete, for example, due to technological change. Social capital is the value of friendliness with

others. It can depreciate, for example, when one loses a job and in turn colleagues. Cultural capital comprises educational or intellectual advantages. Cultural capital is acquired through socialisation and affects character and ways of thinking. Lastly, identity capital is the intangible resource in which people 'invest' to become who they are and includes self-confidence, self-efficacy, self-monitoring, critical thinking and morals. It is formed by psychosocial skills necessary for intelligent strategies and decisions.

Secondly, while investment could be seen as the creation or acquisition of assets with the aim of earning benefits in the near future (Piana, 2004), technological investment within the firm can be classified as investment in information technology, operational technology, administrative technology, advanced manufacturing technology in the case of manufacturing firms, or investment in any form of technology. Wright (2008) defines technology as the knowledge and processes which individuals utilize in order to satisfy individual needs and wants. Information technology as already mentioned refers to the use of electronic machines and programs for the processing, storage, transfer and presentation of information (Zehir, Muceildili, Akyuz, & Celep, 2010) and administrative technology is the technology used to give administrative support to the firm and integrate its operations with the rest of the organization. Technology is linked to the expertise associated with mechanical or electrical equipment and software. Advanced manufacturing technology uses latest scientific or engineering versions to design operations and production processes. Investment in physical capital and information technology is associated with the adoption and diffusion of the latest technologies key to improving performance.

Thirdly, in today's business environment, whether public or private sector, the critical challenge is a continuing awareness to balance resources, skill and competencies to drive business efficiencies and effectiveness. From an organizational viewpoint, this means ensuring that the critical operational disciplines are identified, integrated and matured within the organization. This then demands investment in the business processes.

A business process is a set of linked activities that create value by transforming an input into a more valuable output. Both input and output can be artefacts and/or information and the transformation can be performed by human beings, machines, or both. There are three types of business processes namely management processes (the processes that govern the operation); typical include corporate governance and strategic management, operational processes (these processes create the primary value stream and are part of the core business); typical operational processes are purchasing, manufacturing, marketing, and sales and also

supporting processes (these support the core processes). Examples include accounting, recruitment and information technology support.

Investing in business processes aims at achieving excellence and performance in the processes. This then requires a systematic, structured approach to analyse, improve, control, and manage processes with the aim of improving the quality of products and services referred to as 'business process management' (Elzinga, Horak, Lee, & Bruner, 1995). Investing in business processes is viewed as taking a customer focused approach to the systematic management, measurement and improvement of all company processes through cross-functional teamwork and employee empowerment". In the same way, the investment should be in methods, techniques, and tools to support the design, enactment, management, and analysis of operational business processes involving humans, organizations, applications, documents and other sources of information and should enable management to solve many of its problems. The investment decision should focus on the improvement of strategy and the possible implemented changes to the processes for integrating the whole organisation and needs to be understood by all employees.

2.5.2 Market share and technical institution information strategy implementation

The rationale most commonly offered to explain the market share effect of technical institution performance is that higher market share enables institutions to utilize economies of scale and experience when appropriate information strategy measures are implemented which helps them reduce costs and give them market power that they use to extract favourable concessions (Buzzell, Gale, & Sultan, 1975). In turn, stakeholders use market share as a signal of brand quality as an indicator of superior service quality (Smallwood & Conlick, 1979). However, it must be noted that the economies of scale exist up to a certain minimum efficient size and beyond this point; an institution faces diminishing returns due to management and communication problems (Bain, 1956). Further, Schwalbach (1991) agrees that high market share may hinder performance because of the existence of various diseconomies of scale. Therefore, even businesses with relatively small market shares can be operating at levels greater than the minimum efficient scale.

The existence of economies and diseconomies of scale imply that small institutions suffer from lack of economies of scale and large institutions enjoy significant cost advantages due to economies of scale. At the same time, if the size of an institution gets too large, the institution may start suffering from diseconomies of scale which will tend to negate the benefits of its large size.

Apart from getting greater bargaining power, large institutions also increase their investment options due to larger financial resources. Nelson and Winter (1982) argue that larger firms spend proportionately more on research and development than smaller firms, increasing thereby their chances to innovate and grow faster than their smaller rivals. Gale and Branch (1982) also argued that large firms have a share-based differentiation advantage but at the same time note that the market share has little to do with market power; but it reduces costs. They further articulate that only large firms have the ability to participate in a tightly kit oligopolistic group and reap the benefits of high concentration.

Quality of management has also received attention as a major cause of higher returns for some institutions (Jacobson & Aaker, 1985). Superior management causes firms to operate at a higher level of effectiveness and efficiency than their rivals. Higher effectiveness and efficiency include the capability to design and execute better strategies and plans, better control of costs, maintain efficient operations, having innovative products and market strategies, meeting customer needs better than competitors as well as the ability to achieve higher productivity through training and motivation of employees.

2.6 Effect of information strategy implementation on the students' quality of service delivery

The importance of the relationship between information strategy in strategic planning and evaluation to make the institution efficient has been realized by the administrations of higher education institutions more and more each day (Holloway & Taylor, 1989). The departments supporting management and education are becoming more concerned with how they can achieve annual goals and objectives. However, efforts are not always in harmony with the goals and objectives of technical institutions (Sulivan & Richardson, 2011). Middaugh (2012) point out that evaluation of management effectiveness is much more difficult than maintaining efficiency of academic units. This is why today, tertiary education has a leading role in society's answers to challenges brought by globalization (Blenker, Dreisler, & Kjeldsen, 2006) and technical institutions are expected to produce and disseminate the required information and trainings.

In relation to information strategy, the term strategic planning has been defined in many ways. Hofer and Schendel (1978) define strategic planning as an evolution of managerial response to environmental change in a focus moving from internal structure and production efficiency, to the integration of strategy and structure and production innovation, multinational expansion and diversification. Wendy (1997) views strategic planning as the process of developing and

maintaining consistency between the organization's objectives and resources and its changing opportunities. Wendy further argues that strategic planning aims at defining and documenting an approach to doing business that will lead to satisfactory profits and growth. This entails developing detailed plans to implement policies and strategies to achieve objectives and basic organisational purposes (Steiner, 1979). From these views, strategic planning is seen as a process of selecting institutional goals and strategies, determining programs to achieve specific objectives and goals, and putting in place the necessary methods to ensure that the policies and programs are implemented.

Wendy (1997) explains that strategic planning process comprises of three main elements which helps turn an organizations vision or mission into achievable. These are the strategic analysis, strategic choice and strategic implementation. Strategic analysis sets the firm's direction in line with the vision, mission and goals. In this case, the institution should define its intent and direct its efforts towards its environment. Kotler (1996) argue that the primary goal of strategic planning is to guide the organization in setting out its strategic intent and priorities and refocus itself towards realizing the same. Strategic choice generates, evaluates and selects the right strategy; while strategy implementation places relevant policies that will assist in changing the selected strategies into actions.

It is believed that firms that have effectively embraced information strategy in its strategic planning process, records better performance as compared to those that have not. David (1997) argues that institutions report improved performance once they effectively embrace information strategy in strategic planning. This means that strategic planning provides direction to the organization and enhances coordination and control of activities relevant to the institution's mission. Further, Stoner (1994) argues that strategic planning helps in providing direction so that institutional staff know where the institution is heading and where to put more effort; it guides in defining the business the firm is in, the ends it seeks and the means it will use to accomplish those ends. Steiner (1979) adds that strategic planning maps the future on paper by documenting the strategy and at the same time motivates and allows managers to see, evaluate and accept or discard alternative courses of action.

Strategic planning allows managers to consider an organisation holistically by considering it as a system composed of subsystems with its varied divisions being interrelated. Viewing an organisation in this way improves coordination and control of activities and responsibilities of the managers. Steiner (1979) observes that strategic planning is inextricably interwoven into the entire fabric of management. It provides a framework for decision-making throughout the

company and forces the setting of objectives, which provides a basis for measuring performance. Managers are able to spend time, efforts and resources in activities that pay off.

On the other hand, it is argued that strategic planning scans and matches the firm with its external environment thereby enabling it to highlight market strategies, business opportunities and challenges, customer expectations, technological advancements and the firm's internal capacities. Kotler (1996) propagates that the strategic planning process can be used to reposition and transform the organization. According to Quinn (1992), well formulated strategies help an organization in appropriately allocating its resources based upon its relative internal competencies and shortcomings, anticipated changes in the environment, and contingent moves by intelligent opponents. This signifies that strategic planning is a tool used by an organisation to overcome its competitors. Greenley (1986) points out that a range of potential benefits to intrinsic values accrues to both the company and external stakeholders from the use of strategic planning.

It has been argued that although it is believed that strategic planning through information strategy improves organization effectiveness, if wrongly formulated, its value may not be realised. Steiner (1979) agrees that a wrong strategy or a wrongly formulated strategy may not translate into the anticipated value for the organization. Johnson and Scholes (2002), note that strategic drift occurs when the organization's strategy gradually moves away from relevance to the forces at work in its environment. Tourangeau (1987) postulates these views but warns that information strategy in strategic planning cannot address the entire shortcoming that management face but can best be seen as a partial solution to management problems. Information strategy is of limited value by itself and can be of value only if all the departments function as a synergy. Mankins and Steele (2005) observed that companies in many cases realize only about 60 percent of their strategies potential value because of defects in planning and execution. Therefore, each of the stages in the strategic planning process should be thoroughly considered.

2.7 Theories associated with strategy implementation

Theories of the firm try to explain why firms exist, what forms firm and market boundaries and why there are differences in their organisation and performance. With reference to firm's objectives, firms can be classified into those that are traditional or classical and believe that the sole survival of a firm is to make a profit and those that think of firms as multi-purpose organizations. However, despite many firms existing with the intention of making profits, other firms are forced to consider separation of ownership from managerial functions as a

behavioural theory. This entails that firms aim at maximising revenue, utility and growth and also assumes that manager's goals are likely to be different from owner's, resulting into the principal-agent analysis (Foss, Minbaeva, Pedersen, & Reinholt, 2009). Therefore, behavioural firms focus on the process of making business decisions to accomplish more goals than maximising profit. Individuals and groups in these firms have their own interests and aims at firm's performance as a result of conflicts and negotiations between the groups involved.

2.7.1 Ansoff growth matrix

Defining business strategies determines the way growth decisions in revenue and investment will go. The two key elements in businesses' determining growth strategies are product and market. A product is a value presented to customers by a business. Depending on time and changing market conditions, changes and upgrades are required on the product. Market is classified and assessed according to different criteria.

Igor Ansoff was a business manager and a mathematician. He developed the Ansoff market matrix in 1950. The matrix is a practical tool that plays an important role by helping the decision makers to decide their product and market growth strategy. Ansoff's Model suggests that a business' tries to grow depending on existing or new products and whether it markets in new or in existing markets.

Table 1: Ansoff Matrix (Source: Ansoff, 1970)

1. **Market Penetration Strategy**: Market penetration is defined as a business's growth in the existing market with its existing products. The strategy depends on predicting whether a business will be able to get a bigger market share in the existing market with its existing products and focuses mainly on customer needs, available competition and market growth and does not alter the shape or style of the product (Juma, 2003), the emphasis being on increasing customer loyalty.

Success in market penetration depends on existing customers' buying more products more frequently, gaining rival business's customers and persuading potential customers who haven't purchased from that business yet to do some purchasing (Kotler, 2001:75). If strong relations with customers are developed and these customers are buying frequently, the result is increased revenue; also, if the existing customers recommend the business and its products to their counterparts, new customers are obtained.

2. **Product Development Strategy** For a business to be competitive on the market, it is imperative for it to introduce new products or modify existing products to increase its market share in relation to market changes and requirements and hence gain competitive advantage. In this context, businesses' being able to form close relations with their customers enables the business to learn about customer expectations, determine the market trends and monitor the rival businesses' presentations. For product development, innovation strategies are required and this should be coherent with the business's aims and targets.

3. **Market Development Strategy:** This depends on the fact that customers prefer and purchase a business's existing product in new markets rather than the rival products (Kumar, 2010:96). Organisations try to introduce the current product into new markets by turning nonusers into customers of the business to increase market growth and profitability (Sarhan, 2005). Success of this strategy mainly requires an organisation to understand their customer's and products and then compare them with their rivals in the market. This is crucial because it enables an organisation to know its business targets and strategies for the market.

   Because there is danger that a product might not succeed on the market, it is important for an organisation to firstly assess the risk of introducing it on the market before it is commercialized.

4. **Diversification Strategy:** Efficiency of a business in market research is developing its market with new products (Kumar, 2010:96) and in this strategy; new products are introduced into new markets. For this to be a success, an organisation needs to use new techniques, new capabilities and qualities for original products and also, physical as well as organizational changes in the business structure which have different characteristics in relation to its past experience (Ansoff, 1970). The business should therefore decide which activities should be continued and which ones to discontinue.

Crosby (2012:12) characterized the strategies in Ansoff matrix in terms of risks. In doing this, he referred to market penetration strategy as “low risk”, market and production development strategies as “moderate risk” and diversification strategy as “high risk”. Amongst its uses, it should be noted that the Ansoff matrix can be used for planning and analysing products to meet customer needs and expectations.

Ansoff’s Matrix is one of the most widely used tools for conceptualizing the options available to an institution in assessing its markets in relation to the services offered. It can assist institutions in reviewing strategic options, which it may wish to consider, described in terms of the courses in which the institution operates. Other strategic development opportunities may require the development of new courses and modes of delivery, the extension into attracting new groups of students (new markets) or even diversification away from existing courses/students (Kotler & Fox, 1995).

Relative market share is a measure of market power. It is an institution’s share of a market segment in relation to its competitors. An institution needs to break down its market into market segments and examine its market share in each. Some segments could be more competitive than others, some segments could be growing whilst others may not, and some segments could be much bigger than others. The analysis of the institution’s market power by segment should provide insights into strategic positioning (Kotler & Fox, 1995). The institution has a choice of concentrating on a narrow, more specialist focus in one or more segments to customize education materials to meet the needs of individual learners, or to take a broader approach to a market.

2.7.2 The Value Chain

In his book of 1985, "Competitive Advantage: Creating and Sustaining superior Performance" Michael Porter used the term value chain to describe the activities the organization performs and linked the activities to the organization’s competitive position as they form a value chain (Porter, 1985:149). According to Porter, an organization’s value chain consists of five primary activities that directly provide value to its customers. Support activities allow the five primary activities to be performed efficiently and effectively.

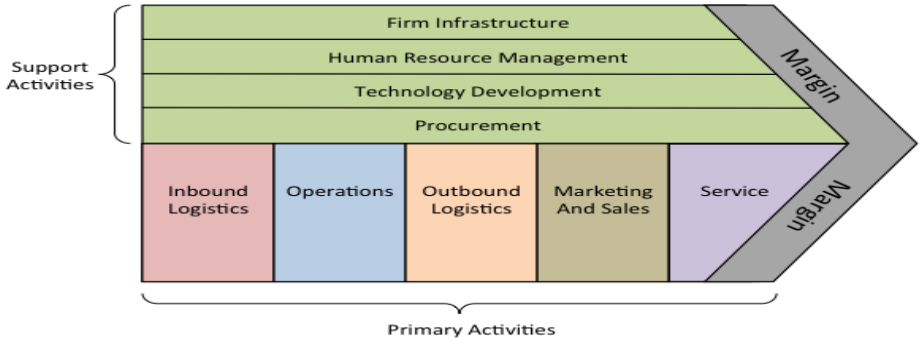

Figure 6: Michael Porter's Value Chain (source: Porter, 1985:37)

As from Figure 5, primary and support activity systems perform several functions and are subsystems of the value chain system. The organization's value chain is itself a part of larger system called a supply chain. In this regard, primary activities include: inbound logistics which consists of receiving, storing, and the distribution of materials an organization uses to create the services and products it sells; operation activities transform inputs into final products or services; outbound logistics activities distribute finished products or services to the customers; marketing and sales activities assist customers in buying the organization's products or services and service activities provide post-sale support to customers.

Under support services, firm infrastructure includes accounting, legal, information system, and general administration activities that allow an organization to function; human resources activities include recruiting, hiring, training, and providing employee benefits and compensation; technology activities improve products or services which includes investments in the information strategy, website development, and product design and purchasing activities procure raw materials, supplies, machinery, and the building used to carry out the primary activities.

When a technical institution realizes the linkages that exist within the supply chain, it can improve its performance by helping the other organizations that it deals with in the supply chain to improve their performance too. For example, the institution can improve its purchasing and inbound logistics activities by implementing a just-in-time inventory management system. When this is done, apart from reducing institutional costs, efficiency and effectiveness as well as links with suppliers in its new systems are enhanced just because less of its capital is tied up in inventory. Further, by giving the right information at the right time about the institution's stores requirements, institutions can help its suppliers to plan more efficiency their schedules to meet its needs. The result is reduced costs, and part of that

reduction is likely to be passed on to the institution in the form of lower product costs (Romney & Steinbart, 2006:11).

As a support activity, the information strategy adds value by providing accurate and timely information so that the five primary value chain activities can be performed more effectively and efficiently. A well-designed strategy can do this by improving the quality and reducing the costs of products or services, improving operational efficiency by providing more timely information, share knowledge and expertise, improving the efficiency and effectiveness of its supply chain and thereby increase customer or student retention rates, improving the internal control structure including privacy and security controls on issues such as fraud, errors, equipment and software failure, and natural disasters and also improving the decision making by providing accurate information in a timely manner (Romney & Steinbart, 2006:12).

Supply chains enable institutions to link with their supply chain management systems in terms of both suppliers and buyers enabling it to be part of the extranet which can be managed by one of its suppliers. This can enable an institution track orders and its students, as well as collect useful information for decision making on each supplier or student. In this regard, an institution's extranet become a marketplace for many sellers and a single buyer (Oz, 2006).

However, it should be mentioned that supply chain management encompasses all departments that uses information strategy to help support and manage the links between the institution's business processes and those of its stakeholders and because since process should add value to the products or services an institution offers, a supply chain is thus frequently called a value chain.

Importantly, the value chain assists an institution to deliver appropriate goods or services to the right people or place, at the right time, in the proper quantity and at an acceptable cost (O'Brien & Marakas, 2006). The objective is to ensure that the process is functioning as desired by anticipating requirements, monitoring stock; improving linkages with stakeholders and get feedback timely within the supply chain. Today many institutions are using the internet technologies to web so as to improve their supply chain process, decision making, and information flows. In addition, Electronic Data Interchange enables the electronic transfer of business documents over the internet and other network between the institution and their customers and suppliers which means that such documents as purchase orders, quotations and invoices are automatically exchanged through the use of computers.

When institutions invest in value chain activities, more benefits are reported. For example, the information provided helps decision makers determine their position in the market, investors and creditors are capable of deciding on whether to invest in an institution and how much to invest by assessing the risk and return they can expect from their investments and they can also determine whether managers of the institutions they invest in are meeting the terms of their contracts. On the other hand, the ministry or the directors can determine how well managers are performing.

On the other hand, employees have a major effect on an institution's risk and return and therefore, the investment in value chain activities can also assist managers assess employee performance and at the same time, employees can assess the risk and return of their employment contracts apart from the information helping the institutions to evaluate the abilities of their suppliers to meet their resource needs; while suppliers also evaluate the risk of not being paid for goods and services supplied. However, because of the limited resources available in technical institutions to invest in improving their information strategy, it is important to identify which potential strategy improvements are likely to yield the greatest return and making this decision wisely requires an understanding of the organization's overall business strategy.

2.8 Conceptual framework

Based on the theories above, the following conceptual frame work is going to be tested:

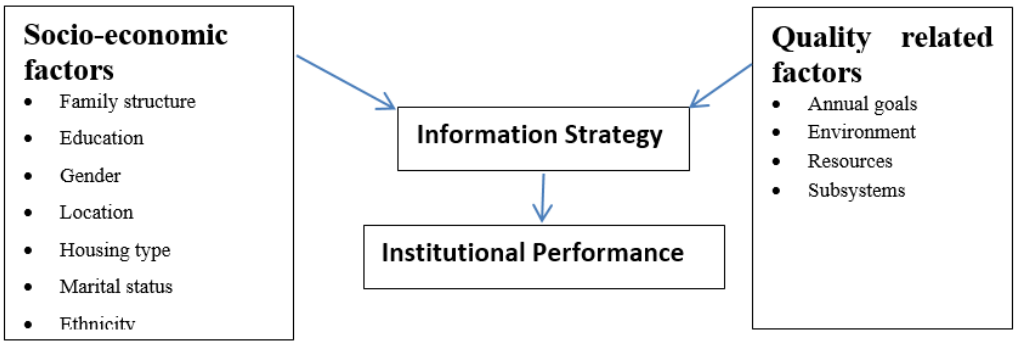

Figure 7: Conceptual framework

As is indicated in the literature, institutional performance is influenced by the different factors related to environment within which the institution is located, associated socioeconomic and demographic factors and other related factors to institutional performance and delivery of services which feed into an information strategy and thereby influencing the performance of

an institution. Therefore based on the theories given, the figure above provides a conceptual framework illustrating the relationship of information strategy and institutional performance.

It is now commonly agreed that information strategy as a process of management contributes to the effective management of individuals, teams and students to achieve high levels of institutional performance.

2.9 Summary of the chapter

The literature review and research on this topic states that the information strategy of an organisation should aim at developing an information culture in which all members of the institution understand the importance of information in relation to their roles. Information resources should therefore be managed based on an organisation's strategic objectives. To be successful, senior managers and all members should understand and commit themselves towards its implementation based on relevant strategic theories which emphasize on management interventions in particular situations to improve growth and survival of an organization.

The use of information strategy should be in line with the institution's strategic plan. In TEVET (including STC), information strategy will bring a lot of benefits including providing for a more proficient and efficient work unit through collaboration and coordination between groups resulting in greater productivity and increased organizational results. The employees' and students' work will be monitored and efforts will be directed toward critical organizational outcomes. Institutional gaps between intention and experiences will be explored leading to increased worker potential and managers will avoid the risks that occur from their strategy tools.

Other benefits include capturing large amounts of transactional information, improvement in the quality of work, greater degrees of worker empowerment, increase in relationships between individuals and departments within and outside the institution. The strategy will also allow people to change their place of work, improve working practices, reduce marketing and transaction costs, coordinate the flows of organisational information; have closer contact with stakeholders and in the long run there will be increased business volume, returns and investment and market share enabling the organisation achieve its goals. Therefore, future efforts of TVET institutions should focus on the use of information strategy if they are to perform positively.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter develops and identifies the overall research methodology that was employed during the study. It discusses the research design and data collection methods and processes. It begins with the research philosophy followed by sampling methods that were used in selecting the study sample. It also describes data collection and the statistical techniques to be used for data analysis. Actions that were taken in order to safeguard research ethics and maintain credibility of the study are also reported. Finally, the chapter presents assumptions and problems that were encountered during the study.

3.2 Research design

Research design provides a framework for the collection and analysis of data. It is further said that amongst the importance of the design is the understanding of that behaviour and meaning in its specific social context. Saunders (2007) makes a point that research timeframe or horizon denotes whether the research is a "snapshot" that is cross-sectional in time or a representation of events over a given period. For the purpose of this study, the researcher employs a cross-sectional study whereby the research data was collected once rather than periodically as of the case with longitudinal design time horizon.

To enable quick and easy responses from the students, a Five-Point-Likert Scale was adopted in the self-administered questionnaire. This means that before data analysis, values in terms of codes or numbers were systematically assigned to each option in the questionnaires as ratings. For instance, options such as "strongly agree" was coded as 5; "agree" was given a code of 4; "neutral" was coded as 3; "disagree" was given a code of 2; and "strongly disagree" was coded as 1. In terms of coding, Shao (2002) defines it as a process of systematically and consistently assigning each response a numerical score.

3.2.1 Research philosophy

Phenomenological approach to studying human experiences is based on the idea that human experience itself is inherently subjective and the approach seeks to describe, reflect upon and interpret experiences (Zikmund, Babin, Carr, & Griffin, 2010). According to Saunders, Lewis and Thornhill (2012), Phenomenology refers to the way in which we as humans make sense

of the world around us. Therefore, Phenomenology Research Philosophy was employed in the study as the purpose of this study is to understand an experience from the participant's point of view. According to Williams (2007), the focus of Phenomenology Philosophy is on the participant's perceptions of the event or situation and the study tries to answer the questions about the participant's situations and experience from the individual point of view. Phenomenological strategies are particularly effective at bringing to the forth experiences and perceptions of individuals from their own perspectives, and therefore, challenging structural or normative assumptions (Lester, 1999). As such, this study employed a survey strategy since it sought views about perceptions of students.

3.2.2 Research approach

In terms of research approach, Creswell (2005) defines qualitative study research approach as a type of research in which the researcher relies on the view of participants, asks broad, general questions, collects data consisting largely of words from participants, describes and analyses these words for themes, and conducts the inquiry in a subjective, biased manner and in a natural setting. The researcher becomes the instrument for data collection. Choy (2014) articulates that the strengths for qualitative approach to research are that there is a view of homogeneous exploration, discovery of more issues through a broad inquiry, use of open-ended inquiry and understanding behaviours of values, beliefs and assumptions.

On the same note, Bryman (2008) points out that qualitative research approach emphasizes words rather than quantification in collection and analysis of data. Creswell (2005) propagates that a qualitative approach is best suited to problems in which trends or explanations need to be made and qualitative problems are those that need to be explored to obtain a deep understanding. Fundamentally, this study leads to a deep understanding of the research phenomenon 'STC'.

On the other hand, quantitative research approach involves the collection of data so that information can be quantified and subjected to statistical treatment in order to support or refute alternate knowledge claims (Creswell, 2003). Similarly, Onwuegbuzie and Leech (2005) define quantitative research as research in which mathematical and statistical procedures are utilized to predict, and to control social and behavioural phenomenon. Saunders et al. (2012) explains that quantitative research examines relationships between variables, which are measured numerically and analysed using a range of statistical techniques and Zikmund et al., (2010) assert that Quantitative Research Approach addresses research objectives through empirical assessments that involve numerical measurements and analysis.

The Strengths for Quantitative Approach include: reliability by critical analysis, short time frame for administered survey, facilitated numerical data for groups and easy use of extents of agree or disagree from respondents.

In the study, the researcher adopted both qualitative and quantitative research approaches. The inductive (qualitative) approach was used because it emphasized on developing insights and generalisations out of the data that was gathered from the respondents while the quantitative approach involved changing data from views of respondents for easy analysis and employed the use of frequency charts, percentages and totals for easy tabulation, graphical and chart presentation.

On the significance of combining both approaches, Crowther and Lancaster (2009) explain and contend that increasingly it is recognized that there is much overlap between qualitative and quantitative data and that at the very least each type of data can make valuable contributions toward the development of knowledge or in the solving of specific problems. Creswell and Clark (2007) justify this and say that one method alone cannot answer all the questions that will emerge in the course of researching a topic. Trochim (2006) supports the use of both approaches and argues that both quantitative and qualitative data are virtually inseparable and cannot be considered to exist in a vacuum and for a worthy-while research, researchers need to make use of both approaches.

3.3 Study population

The study population or sampling frame was made up of students of STC. Sampling frame refers to the list of all items in the population from which the sample is selected (Creswell, 2003). This population was made up of students of diverse backgrounds in terms of education background, gender, marital status, cultures, et cetera. Their diversity meant that diverse views were solicited from their diverse backgrounds. According to the Registrar of STC, there were 990 students both on full time and continuing programs.

Each student on the frame was given a queue simple random number from 1 to 990 with names arranged in alphabetical order from all the three departments namely engineering, commercial and construction who registered with the institution during January to June 2017 semester. Every 3rd name was then selected giving the total number of selected students to 330. However, using Slovin's formulae as sourced from www.reference.com/math/slovin this figure was downsized to 305 (see data sample size calculation below). After that, a random number was generated using a random function on the calculator to generate a number

ranging between 1 and 9 in order to have a manageable sample in line with the sampling frame. The number was the first respondent. The second respondent was selected by adding that random number and the previously calculated interval and was repeated until the final respondent was selected. This process was then replicated by selecting every 3rd name at interval to be part of the respondents and this gave the systematically selected total number of students as respondents as 102 although the actual number of questionnaires used in the study was 93.

3.3.1 Sample size determination

The data sample size was determined by using Slovin's formulae of calculating the sample size as follows:

$$n = \frac{N}{1+ Ne^2}$$

Given, n = number of sample needed,
N = total population,
e = error tolerance,

Therefore for students:

N = 990 total students at STC at 5% error tolerance

$$n = \frac{990}{1+ 990(0.05)^2}$$

$$n = \frac{990}{1+2.2475}$$

$$n = \frac{990}{3.2475}$$

n = 305

n = 305

The total research sample size was 305 students with 5% error tolerance.

3.3.2 Random sampling

The researcher employed a multi-stage random sampling technique in the process of sampling research sample from the research population. Firstly, by definition simple random involves the researcher selecting the sample at random from the sampling frame. To this, each element in the population is given a unique number. Thereafter, the researcher selects the respondents

using either computer or random numbers. Random numbers allow the researcher to sample the sample without bias. Random sampling is also accurate and accessible (Saunders, et al., 2012). Similarly, Zikmund et al. (2010) defines simple random as the probability sampling technique used statistically meaningful as the elements in the sampling frame all have a known probability to be selected.

Therefore, as the process was done at repeated stages, a multi-stage simple random sampling technique was used to identify the respondents. Multistage sampling is the probability sampling technique in which sampling is carried out in several stages such that the sample size gets reduced at each stage.

3.4 Data collection tools

The researcher used both primary and secondary data. Primary data was collected using structured questionnaires while secondary data sources included review of official documents, reports, review of related literature and publications on information and related issues. In primary data, the structured questionnaire as data collection tool was chosen because it is quicker and cheaper than face to face interview and has high measurement validity (Saunders, et. al., 2012). Monette, Sullivan and Dejong (2011) regard a questionnaire as a way to collect data in survey research that contains recorded questions that people respond to directly on the questionnaire form itself, without the aid of an interviewer.

3.5 Analytical techniques

Three analytical techniques are going to be used to analyze data and these are; descriptive statistics, bivariate analysis and quantitative analysis.

3.5.1 Descriptive analysis

Descriptive research is designed to describe characteristics of a phenomenon (Saunders et al., 2012). It seeks to determine the answers to who, what, when, where and how questions (Zikmund, Babin, Carr, & Griffin, 2010). Further, Burns and Grove (2003), states that descriptive research is designed to provide a picture of a situation as it naturally happens. It may be used to make judgment and also to develop theories. Williams (2007) says that descriptive research involves identification of attributes of a particular phenomenon based on an observational basis, or the exploration of correlation between two or more phenomena.

For the purpose of this study, descriptive research design was used to create a picture and gain insights from data that was collected direct from the students and use that data to describe how information strategy is implemented at STC; STC being the phenomenon under study.

3.5.2 Bivariate analysis

In order to check the association between the socioeconomic attributes of students pursing different programmes guided by information strategy, Pearson chi-square test of association is going to be used. In this case a hypothesis is going to be tested for significance at 95% confidence limit.

3.5.3 Important variables

The study used the following socioeconomic variables: family structure, educational background, gender, location, marital status, ethnicity, housing type and quality related factors: annual goals, nature of environment, access to and availability of resources, and linkage within the subsystems.

3.6 Data quality and validity

In order to ensure data quality, the study ensured that every questionnaire was numbered and verified after being entered in the statistical software after entering in order to verify that the data was correct, perfect and complete. In order to ensure validity of the data, any entered data was checked in order to ensure that the data captured was correct.

3.7 Research ethical consideration

Saunders et al (2012) assert that a researcher should promise confidentiality and privacy of the collected data by saying that one should not share raw data with anyone as it may be recognised or identified. Similarly, Cooper and Schindler (2003) assert that the goal of ethics in research is to ensure that no one is harmed or suffers adverse consequences from research activities. In addition, Creswell (2003) states that the researcher has an obligation to respect the rights, needs, values and desires of the informants.

The informants were therefore informed about the purpose of the research study and the voluntary enrolment of each informant in the study was encouraged. Consents were sought from the respondents to avoid undue influence on the informants. Moreover, the collected data was treated confidentially and privately.

3.8 Limitations of the study

Every study has a set of limitations (Leedy & Omrod, 2001). A limitation is an uncontrollable threat to the internal validity of a study and research limitation is vital in order to allow other researchers to replicate the study or expand on a study and additionally, it can help other researchers judge to what extent the findings can or cannot be generalized to other people and situations (Creswell, 2005).

In this study, the limitations of the study were as follow:

- Reluctance of some respondents to participate in the study.
- Incentives demanded by some students to participate in the study.
- The study targeted only students of STC.

3.9 Chapter Summary

Chapter three has illustrated the research methodology that the researcher used as a roadmap or guide for the research process. The following topics have been discussed in the chapter: research design, research philosophy, research approaches, research strategy, research population, research timeframe, sampling technique, sample size, data quality and validity and research ethical considerations. The next chapter is chapter four which is data analysis where the captured data is critically analysed to identify the emerging themes for interpretations and discussions of findings.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the findings of the research and discussions follow. The main data collection tool was a structured self-administered questionnaire. Babbie and Mouton (2001) points out that preparing data a standard practice in a research study and should be done prior to its analysis. In line to this, the collected data was placed in accordance to common themes and patterns before fully analyzing. The analysis was done on "Question-by-question", meaning to say that each statement in the questionnaire was considered individually.

In addition, Statistical Package for Social Science (SPSS) was used in data analysis; mainly to generate essential descriptive statistics such as frequencies and percentages. Microsoft Word as well as Excel was also used for drawing graphs. The respondents' demographic data were presented in tables and figures to enable the researcher appropriately interpret and discuss the findings. In addition, students' self-administered questionnaires were supplemented through structured observations.

4.2 Background attributes of the respondents

There were 110 questionnaires in total that were administered among the students of STC. 93 questionnaires were returned by students (respondents) which represents 84.5% response rate. The researcher felt that such response rate entails good respondents' participation level in the study.

Normally for national technical institutions, students are admitted after completion of their secondary school level and so age is one the factors attributing to information strategy.

Table2: Ages of respondents

AGE	NO - N (%)	YES - N (%)	CHI-SQUARE	P-VALUE
<20	12(24.5)	12(27.3)		
20 – 30	36(73.5)	28(63.6)		
31 - 40	0(0)	3(6.8)	0.291	P>0.1
41+	1(2.0)	1(2.3)		

N(93=100.0))	49(52.7)	44(47.3)		

Table 2 shows that the sampled students of age distribution between 20-30 years are the major group of students who mostly patronized in the survey (63.6%) followed by students whose ages are 20 years and below and lastly those between 31-40 years (6.8%). The least represented age group was above 41 years (2.3%). In terms of the measure of association between ages of the respondents with respect to performance after implementation of the information strategy, the study found an association coefficient of 0.291 which is insignificant ($p>0.1$).

In technical institutions, students and courses are categorized based on departments. At STC, it should be noted that the Engineering Department has more sections than the other departments.

Table 3: Departments of respondents

DEPARTMENT	NO N (%)	YES N (%)	CHI-SQUARE	P-VALUE
Commercial	14(28.6)	10(22.7)	0.749	P>0.1
Construction	4(8.2)	5(11.4)		
Engineering	31(63.3)	29(65.9)		
N(93=100.0)	49(52.7)	44(47.3)		

According to the table 3, the representation from the Engineering Department was greater (69.5%) followed by those from Commercial (22.7%) and the least were from Construction Department (11.4%). As for the measure of association between respondents' departments and performance after implementation of the information strategy, the study found an association coefficient of 0.749 which is insignificant ($p>0.1$).

Generally, it is observed that in VET, female attendance to post-secondary schooling and employment options is low although it is gradually increasing as compared to male attendance.

Table 4: Gender of respondents

GENDER	NO - N (%)	YES - N (%)	CHI-SQUARE	P-VALUE
Male	32(65.3)	28(63.6)		
Female	17(34.7)	16(36.4)	0.867	P>0.1
N(93=100.0)	49(52.7)	44(47.3)		

As gender is dichotomous, table 4 reveals that the gender distribution of the sampled students favored males (63.6%) with the least being females (36.4%). This entails that there was an equitable representation in the sampled students as the population of students at STC is to the ratio of approximately 2:1 respectively though the female representation in the sample as per this ratio was slightly on the high side relative to male students. In terms of the measure of association between gender and performance after implementation of the information strategy, the study found an association coefficient of 0.867 which is insignificant (p>0.1).

Just as indicated under age, the majority of students entering technical institutions come straight from secondary schools.

Table 5: Employment status of respondents

EMPLOYMENT STATUS	NO - N (%)	YES - N (%)	CHI-SQUARE	P-VALUE
Employed	3(6.1)	4(9.1)		
Unemployed	42(85.7)	36(81.8)	0.845	P>0.1
Attached	4(8.2)	4(38.7)		
N(93=100.0)	49(52.7)	44(47.3)		

According to table 5, the majority of the respondents were unemployed (81.8%) followed by the attached respondents (38.7%) and the least were the employed (9.1%). In terms of the measure of association between employment status of the respondents with respect to performance after implementation of the information strategy, the study found an association coefficient of 0.845 which is insignificant (p>0.1).It could be implied that the unemployed are students that just graduated from secondary school hence represented a greater part.

Employers willing to engage in skills development have been observed to 'disengage' from the formal system through financing privately-organised, largely unregulated training courses and/or informal means at the workplace with the intention to reduce wage costs. This has an impetus on the education entry level of students in technical institutions. Currently, it is government policy that the appropriate entry qualification in national VET institutions is Malawi Schools certificate of Education (MSCE) unless if the applicant is already engaged elsewhere or is just seeking knowledge for other purposes and not employability.

Table 6: Level of education for respondents

LEVEL OF EDUCATION	NO - N (%)	YES - N (%)	CHI-SQUARE	P-VALUE
Junior Certificate	2(4.1)	1(2.3)		
MSCE	27(55.1)	24(54.5)		
Diploma	18(36.7)	18(40.9)	0.902	P>0.1
Degree	2(4.1)	1(2.3)		
N(93=100.0)	49(52.7)	44(47.3)		

Table 6 indicates that all respondents had formal education as there is an equal distribution (2.3%) at both extremes for Junior Certificate of Education and degree holders. The majority of students hold MSCE (54.5%) while 40.9% represents Diploma holders. In terms of the measure of association between level of education of the respondents with respect to performance after implementation of the information strategy, the study found an association coefficient of 0.902 which is insignificant (p>0.1).

Another factor of students attributing to information strategy is the household size.

Table 7: Household size

HOUSEHOLD SIZE	NO - N (%)	YES - N (%)	CHI-SQUARE	P-VALUE
<3 people	5(10.2)	6(13.6)		
3-5	22(44.9)	15(34.1)	0.557	P>0.1
5 and above	22(44.9)	23(52.3)		
N(93=100.0)	49(52.7)	44(47.3)		

Table 7 shows that the sampled students of household size 5 people and above is the major group (52.3%) followed by those from a household size of 3 to 5 people (34.1%) with the least having less than 3 people (13.6%). With regard to the measure of association between household size of the respondents as to performance after implementation of the information strategy, the study found an association coefficient of 0.557 which is insignificant (p>0.1).

Table 8: Household type

HOUSEHOLD TYPE	NO N (%)	YES N (%)	CHI-SQUARE	P-VALUE
Own house	27(55.1)	19(43.2)		
Tenant	19(38.8)	20(45.5)	0.438	P>0.1
Institutional	3(6.1)	5(11.4)		
N(93=100.0)	49(52.7)	44(47.3)		

According to the table 8, the majority of the respondents were from rented houses (45.5%) followed by those from their own houses (43.2%) and the least respondents were from institutional (11.4%). The measure of association between household type and performance after implementation of the information strategy is insignificant (p>0.1) as the study found an association coefficient of 0.845.

Table 9: Ethnicity

ETHNICITY	NO - N (%)	YES - N (%)	CHI-SQUARE	P-VALUE
Chewa	10(20.4)	7(15.9)		
Lomwe	11(22.4)	22(50.0)		
Tumbuka/Tonga/Nkhonde	11(22.4)	9(20.5)	10.357	P>0.1
Yao	7(14.3)	3(6.8)		
Sena	3(6.1)	0(0.0)		
Others	7(14.3)	3(6.8)		
N(93=100.0)	49(52.7)	44(47.3)		

Table 9 shows that the sampled students of Lomwe tribe represented half (50.0%) of the respondents and formed the major group of students who mostly patronized in the survey. The second group was categorized as Tumbuka, Tonga or Nkhonde (20.5%) followed by the Chewa (15.9%) with the least being the Yao and others (6.8%) each.

Table 10: Location

LOCATION	NO - N (%)	YES - N (%)	CHI-SQUARE	P-VALUE
Rural	11(22.4)	12(27.3)		
Peri-urban	11(22.4)	9(20.5)	0.863	P>0.1
Urban	27(55.1)	23(52.3)		
N(93=100.0)	49(52.7)	44(47.3)		

With reference to table 10, the majority of the respondents were from urban area (52.3%) followed by those from rural areas (27.3%) with the least from peri-urban areas (20.5%). In terms of the measure of association between employment status of the respondents with respect to performance after implementation of the information strategy, the study found an association coefficient of 0.863 which is insignificant (p>0.1)

4.3 Cross tabular results of dependent and independent variables

The variables in the questionnaire that were adapted and used to measuring 'Effect of information strategy implementation on the performance of STC' were: annual goals; information access; availability of information; timeliness in information giving; relevancy of information; support in information clarification; availability of material regarding training; provision of financial resources; availability of teachers; accessibility of facilities; resource sharing; collaboration of departments; teacher information; information from peer students; acquisition of information; use of internet and other technologies and expensiveness in accessing information. These independent variables were measured against a dependant variable 'performance' with annual goals being the dominant factor.

With reference to annual goals, the study shows that students have positive perceptions towards annual goals as there was an overall agreement with the statement in general that annual goals are achieved as a result of information strategy implementation at STC. Positive perceptions of students might imply that their expectations regarding their education were met during their training and that in most cases students tend to have a thorough understanding of

their expectations and perceptions. This requires utmost knowledge of teachers in order to focus on students' outcomes and as a result, teachers in tertiary education have high probability of producing the expected blueprints with regard to students' perceptions.

Table 11: Annual goals

Annual goals are always achieved as a result of information strategy	**NO - N (%)**	**YES - N (%)**	**CHI-SQUARE**	**P-VALUE**
Strongly agree	0(0.0)	15(34.1)	93.000	P<0.001
Agree	0(0.0)	29(65.9)		
Neutral	28(57.1)	0(0.0)		
Disagree	12(24.5)	0(0.0)		
Strongly disagree	9(18.4)	0(0.0)		
N(93=100.0)	49(52.7)	44(47.3)		

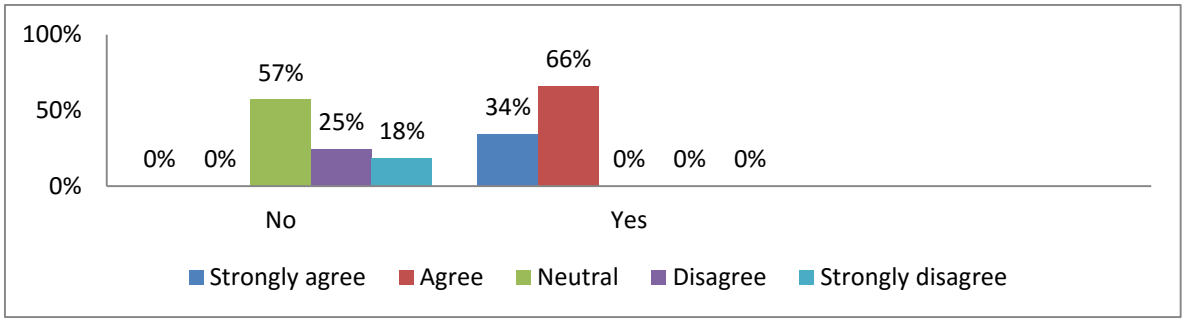

Figure 8: Annual goals

The results as shown in table 11 indicate that 34.1% and 65.9% of respondents strongly agreed and agreed respectively giving an association coefficient of 93.000 which is significant ($p<0.001$). The findings are concurring with what Zurita, (2003) reiterates that students perceptions are standards or referent points for the performance against which service experiences are compared and are often what the students believe should happen. In this case, with appropriate knowledge, employees are able to effectively understand and envisage what students' expectations and perceptions are and what should happen to efficiently to meet them. Proper implementation of good information strategy has a major effect on student performance.

On the contrary, if workers do not have the required knowledge, service delivery may then be compromised and annual goals may be stifled. This means that teachers tend to conduct themselves haphazardly as they interact with students and consequently they fail to meet students' needs; thereby frustrate them in the process. Today, students' expectations are higher and the knowledge of teachers portrayed as the training is taking place has an impact on the students' choices of the institutions in which they can attend training and whether they are to continue with the same institutions or make recommendations to their colleagues about such institutions in the future. It can therefore be argued that "Knowledge of employees" is a "human capital" and is a key resource that institutions rely on to better serve students. This might entail that employees' knowledge, to a greater extent has some bearings on their actions and reactions during interactions with the students and this can have a profound influence on the nature of training being offered to students.

Moreover, trainers' knowledge, skills and attitudes are particularly important in tertiary institutions as the institutions prime existence is to impart that. Therefore, appropriate balances of knowledge, skills and attitudes of the workforce including trainers is of positive outcome to VET institutions and the students alike as Teare, Furst, Peterson and Authier, (1992) agrees that to provide good service, employees need to have the appropriate competencies.

Based on the results, student's access to information greatly and significantly affects performance of the students.

Table 12: Information access

The college information access is always supportive	**NO - N (%)**	**YES - N (%)**	**CHI-SQUARE**	**P-VALUE**
Strongly agree	4(8.2)	11(25.0)	7.205	P<0.05
Agree	11(22.4)	12(27.3)		
Neutral	9(18.4)	5(11.5)		
Disagree	18(36.7)	9(20.5)		
Strongly disagree	7(14.3)	7(15.9)		
N(93=100.0)	49(52.7)	44(47.3)		

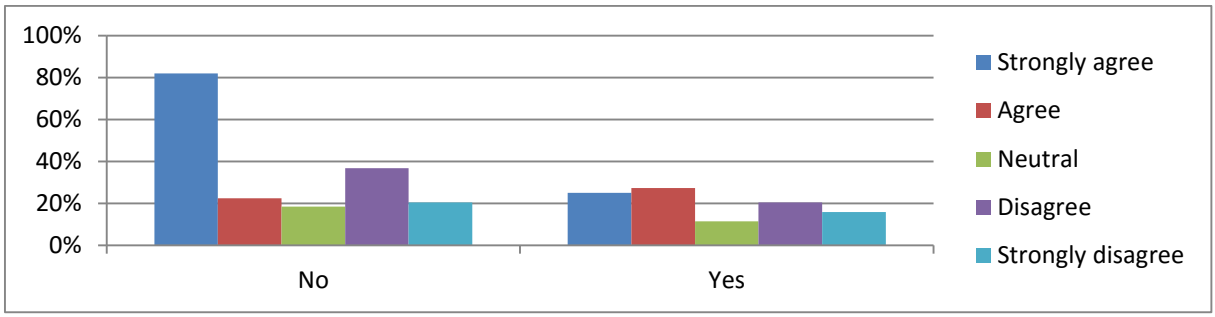

Figure 9: Information access

The findings in table 12 show that 25% strongly agreed while 27.3% agreed that college's information access is always supportive as a result of information strategy implementation at STC. Nevertheless, 20.5% of students disagreed while 11.5% were not sure leaving 15.9% strongly disagreeing. With regard to the measure of association, the study found an association coefficient of 7.205 which is significant ($p<0.05$). This finding is concurring with what Eyre (1989) reiterates that without access to information, an institution would come to a standstill. He articulates that accessing information is likened to lubricating a machine without which the machine would seize up and for students enhances students' knowledge. In this respect, students have valued enabling institutions that provides access to information as Zeithmal and Bitner (2000) assert that students' perceptions are beliefs about a service that serve as standards against which service performance is judged and access to information is just one of them. On the contrally, inadequate and weak policy formulation, implementation, funding and monitoring affect student performance amidst access to information implementation in Zambia which has in turn undermined the effectiveness and efficiency of education service delivery (UNESCO, 2016).

The study indicates that availability of information implementation strategy that the colleges implemented greatly and significantly affect performance of the students.

Table 13: Availability of information

Information is available whenever you need it	**NO - N (%)**	**YES - N (%)**	**CHI-SQUARE**	**P-VALUE**
Strongly agree	4(8.2)	13(29.5)		
Agree	11(22.4)	10(22.7)		
Neutral	13(26.5)	3(6.8)		

Disagree	14(28.6)	13(29.5)	11.196	P<0.05
Strongly disagree	7(14.3)	5(11.4)		
N(93=100.0)	49(52.7)	44(47.3)		

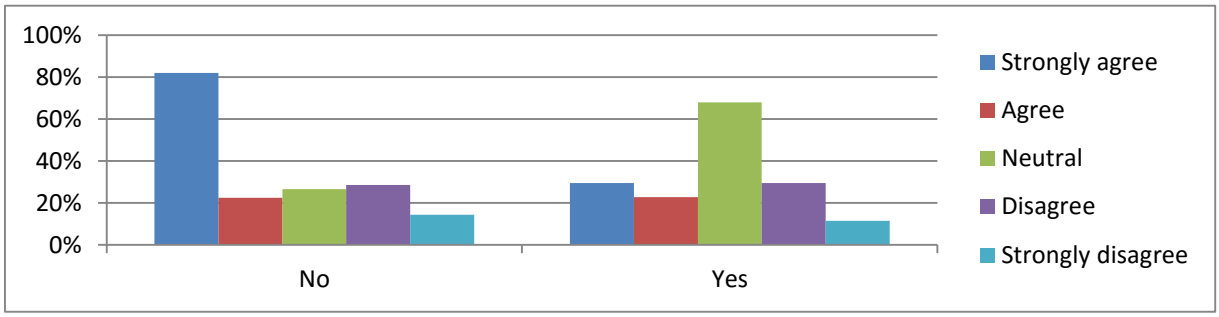

Figure 10: Availability of information

The results in table 13 demonstrate that there is variability in the availability of information whenever it is needed by students as a result of information strategy implementation at STC as 29.5% of students strongly agreed and similarly 29.5% disagreed. However 22.7% agreed while 11.4% strongly disagreed, with only 6.8% being neutral. As discerned from the measure of association; the study found an association coefficient of 11.196 which is significant ($p<0.05$).The findings concur with what Alvi, Qureshi, and Karim (2008) proclaims that for any business to grow successfully, the information availability plays a vital role leading to continuous uptime and minimum downtime, which is the mission of every successful business organization. On the contrally, the capacity to use and supply the information i.e. competency levels, ease of information access, cost of information and levels of interaction between the users and providers of information affect student performance with regard to information availability implementation in Malawi (Mataya, 2004).

At this point it can be argued that providing timely information to students has a major effect on student performance. Feedback on student's performance must be given regularly, constructively and meaningfully and those students whose performance is compromised must be given extra support.

Table 14: Timeliness in information giving

The staff gives me timely information that I need at the college	**NO - N (%)**	**YES - N (%)**	**CHI-SQUARE**	**P-VALUE**

Strongly agree	8(16.3)	12(27.3)		
Agree	8(16.3)	14(31.8)		
Neutral	11(22.4)	5(18.2)		
Disagree	8(16.3)	6(13.6)	8.507	P<0.1
Strongly disagree	14(28.6)	4(9.1)		
N(93=100.0)	49(52.7)	44(47.3)		

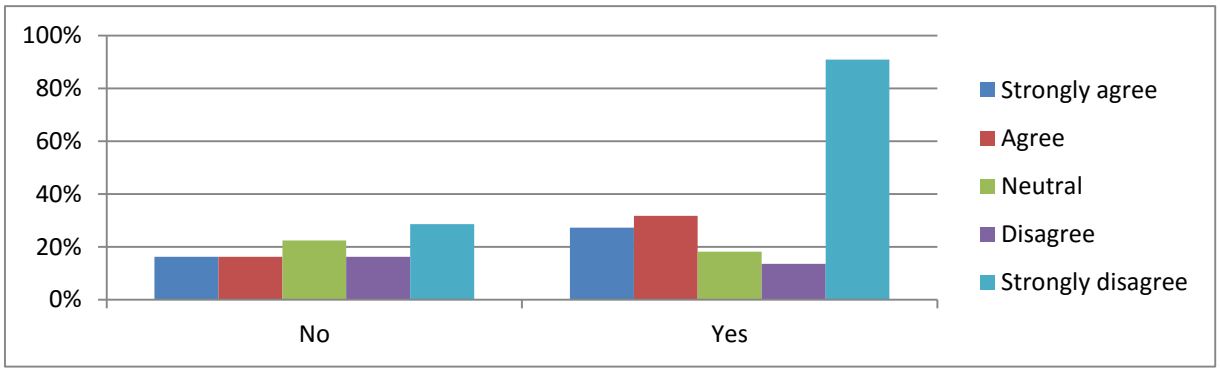

Figure 11: Timeliness in information giving

With reference to table 14, 31.8% of the respondents agreed, 27.3% strongly agreed, 18.2% were neutral while 13.6% disagreed that the staff gives timely information that is needed at the college. The study finds that this greatly and significantly affect performance of students as there is an association coefficient of 8.507 and $p<0.1$. This finding is concurring with what Stillwagon (2015) states that part of providing great customer service is resolving issues in a timely manner.

On the contrary, delays in service provision might frustrate students as some are in most cases time-conscious. For example, a delay in providing an exam feedback may frustrate most students and heighten their dissatisfaction which in turn may adversely affect their perceptions of training quality and their future trainings. McDougal and Levesque (2000) asserts that delivering poor service quality and having dissatisfied students are antecedents to a number of critical behaviours; the dissatisfied students might negatively influence others especially acquaintances about the bad experiences that the students had.

The provision of relevant information is critical in training delivery systems in pursuit to meet the institution's annual goals including the expected students' pass rate.

Table 15: Relevance of information

The information given is always relevant all the time	**NO N (%)**	**YES N (%)**	**CHI-SQUARE**	**P-VALUE**
Strongly agree	3(6.1)	6(13.6)		
Agree	16(32.7)	9(20.5)		
Neutral	18(36.7)	13(29.5)		
Disagree	6(12.2)	11(25.0)	5.074	P>0.1
Strongly disagree	6(12.2)	5(11.4)		
N(93=100.0)	49(52.7)	44(47.3)		

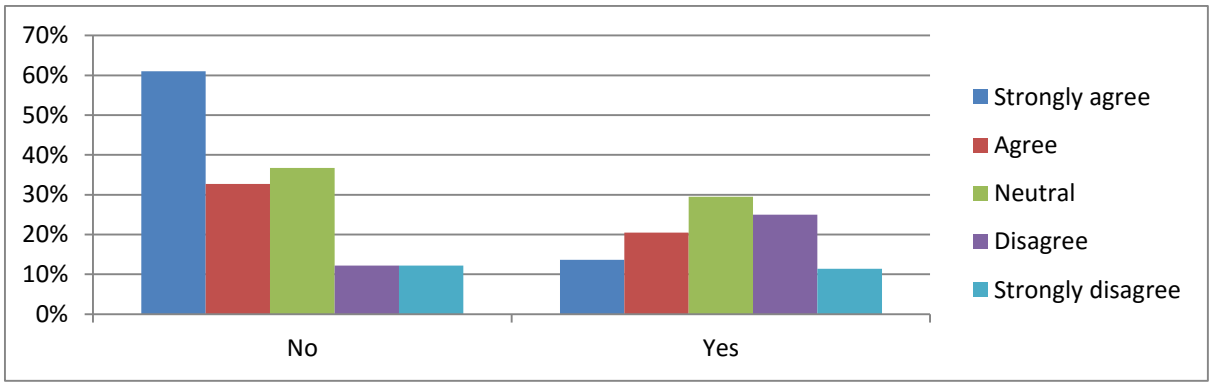

Figure 12: Relevance of information

Table 15 reveals that 29.5% of the respondents were neutral, 25% disagreed, 20.5% agreed, 11.4% strongly disagreed and 13.6% strongly agreed that information given is always relevant all the time. Overall, the results indicate that relevant information is not given always as there is an insignificant p-value (p>0.1) with an association coefficient of 8.507.

Provision of relevant information to students is a critical step to ensure student retention (Zeithmal, Parasuraman & Berry, 1990). This entails that relevance of information is one of the students' retention strategies as students become assured that the right information has been imparted to them which in turn gives them the confidence that they may pass their examinations and hence achieve their goals. On the contrally, irrelevancy of information brings confusion to students and leads to dissatisfaction which further leads to adverse reactions including discrediting the teacher, the institution and quitting the institution. It is

empirically believed that a student who is not satisfied tells an average of 19 other students about his/her bad experience with the service (Stevenson, 2005).

To ensure positivity in the students, teachers must meet or exceed student's expectations by giving them ampler support. Perceived satisfaction is the result of the student's comparison of expected results with perceived training delivery.

Table 16: Support in information clarification

There is always support whenever clarification regarding information is needed	**NO** **N (%)**	**YES** **N (%)**	**CHI-SQUARE**	**P-VALUE**
Strongly agree	3(6.1)	9(20.5)		
Agree	16(32.7)	13(29.5)		
Neutral	15(30.6)	12(27.3)		
Disagree	6(12.2)	4(9.1)	4.388	P>0.1
Strongly disagree	9(18.4)	6(13.6)		
N(93=100.0)	49(52.7)	44(47.3)		

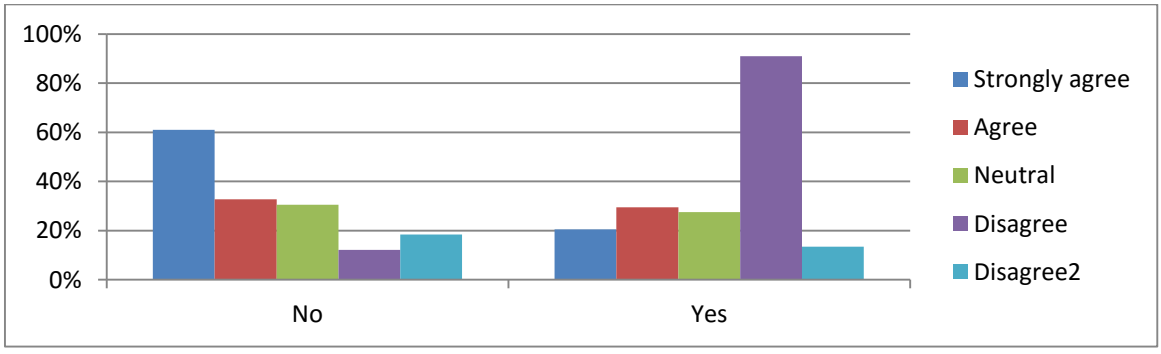

Figure 13: Support in information clarification

The findings presented in table 16 suggest that 29.5% agreed, 27.3% were neutral and 20.5% strongly agreed that teachers provide support in clarifying the information. The willingness of employees is highlighted by a chi-square of 4.388 which is insignificant (p>0.1). This suggests that there is mild support to students in terms of clarifying students. Parasuraman and Berry (1988) realized that the perception of students as institutional customers is a judgment that only a student can make.

In VET institutions in Malawi, funds which can be flexibly and independently used to buy training materials is from the PU but unfortunately these funds have multiple uses.

Table 17: Availability of material regarding training

Material regarding training are available	**NO** **N (%)**	**YES** **N (%)**	**CHI-SQUARE**	**P-VALUE**
Strongly agree	6(12.2)	4(9.1)		
Agree	6(12.2)	7(15.9)		
Neutral	8(16.3)	15(34.1)	5.222	P>0.1
Disagree	6(12.2)	5(11.4)		
Strongly disagree	23(46.9)	13(29.5)		
N(93=100.0)	49(52.7)	44(47.3)		

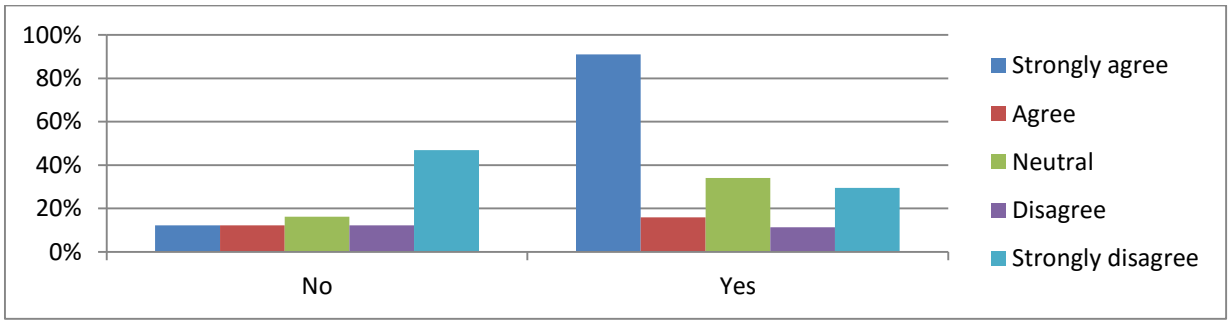

Figure 14: Availability of material regarding training

With reference to table 17, 34.1% of students were neutral, 29.5% strongly disagreed, 15.9% agreed, 11.4% disagreed and 9.1% agreed giving an association coefficient of 0.867 which is insignificant (p>0.1). This agrees with what the researcher observed that training material in VET institutions are provided by TEVETA, bought through government's Other Recurrent Transactions (ORT) or through institutional production units (PUs). However, funds from ORT are from time to time inadequate and that there is inflexibility in the public procurement system which causes delay in providing training materials. On the contrally, there was a time when propositions were made to grant technical institutions operational autonomy but up to now that has not been implemented (UNESCO, 2016).

In terms of the provision of financial resources in Malawi, funds in public VET institutions are classified into "operating revenues" and "non-operating" revenues (UNESCO, 2016). Operating revenues come primarily from:

1. Government public budgetary provision in the form of funding;
2. TEVET Levy Fund comprising of:
    (i) Subsidy for training materials of formal TEVETA sponsored apprentices
    (ii) Grants for capital investment and
    (iii) Bursary for students.
3. Student tuition and boarding fees from the private households
4. Income generating activities which occur when an institution provides some sort of a service to the community and charges for offering that service, and
5. Auxiliaries which are operations that generate revenue and are unrelated to the core mission of the institution such as running a student union, food service or running a cafeteria.

Non-operating revenues include state appropriations, gifts from companies indirectly co-financing through TEVET levy and offering apprenticeship places and investment income in the form of foreign donation.

Expenditure for public institutions' ORT funds is allocated based on the budget lines in accordance to standard formulas and historical budget figures. This entails that funds are not sufficiently allocated in line with their needs. Inaccuracies exist due the fact that budget allocations are prone to cuts with other months not being funded especially when the fiscal year is closer to an end.

Table 18: Provision of financial resources

Financial resources are given whenever available	**NO** **N (%)**	**YES** **N (%)**	**CHI-SQUARE**	**P-VALUE**
Strongly agree	2(4.1)	7(15.9)		
Agree	12(24.5)	8(18.2)		

Neutral	8(16.3)	8(18.2)	4.673	P>0.1
Disagree	15(30.6)	14(31.8)		
Strongly disagree	12(24.5)	7(15.9)		
N(93=100.0)	49(52.7)	44(47.3)		

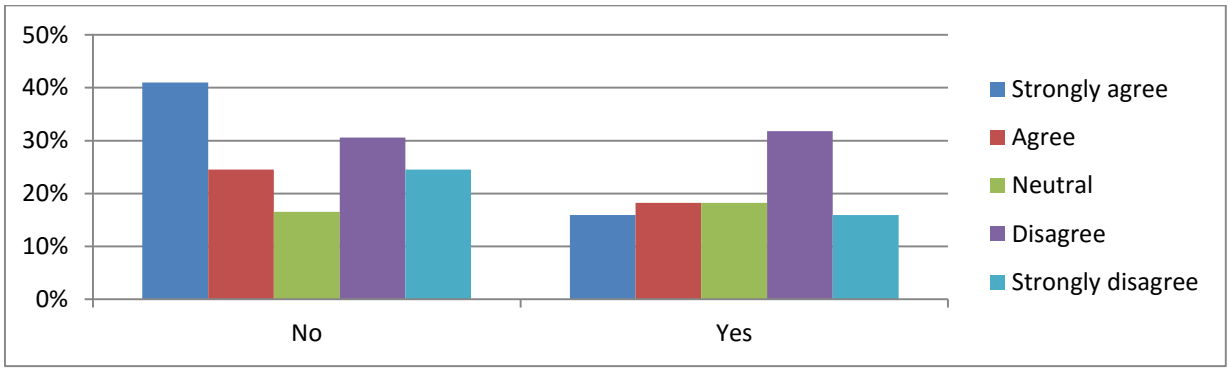

Figure 15: Provision of financial resources

Table 18 shows varied responses as 31.8% of students disagreed, 18.2% agreed and another 18.2% were neutral, 15.9% strongly agreed another 15.9% strongly disagreed that financial resources are given whenever available, giving an association coefficient of 4.673 which is insignificant (p>0.1). This concurs with the observation by the researcher above that funds are from time to time inadequate.

On the contrally, it is important to emphasize that due to the income and expenditure structure of technical institutions, it is difficult to perfectly budget actual costs for the academic year during the budgeting process. A major drawback is on the cost of providing meals to the students in boarding in view of rising food prices which claims too much of the revenue generated, apart from the spending on materials for parallel programmes students. Colleges therefore use other incomes to supplement their budgets (UNESCO, 2016).

Availability of teachers and their knowledge base has a great impact on the performance of students. Effective training therefore helps teachers to become more knowledgeable and thereby greatly enhance their competencies. On this note, Kotler (2001) argued that customers (students) look for services that are given by enthusiastic, attentive and knowledgeable people who take pride and pleasure in serving others.

Table 19: Availability of teachers

Teachers are always there to support our cause	**NO** **N (%)**	**YES** **N (%)**	**CHI-SQUARE**	**P-VALUE**
Strongly agree	15(30.6)	12(27.3)		
Agree	14(28.6)	19(43.2)		
Neutral	13(26.5)	5(11.4)	4.482	P < 0.05
Disagree	5(10.2)	6(13.6)		
Strongly disagree	2(4.1)	2(4.5)		
N(93=100.0)	49(52.7)	44(47.3)		

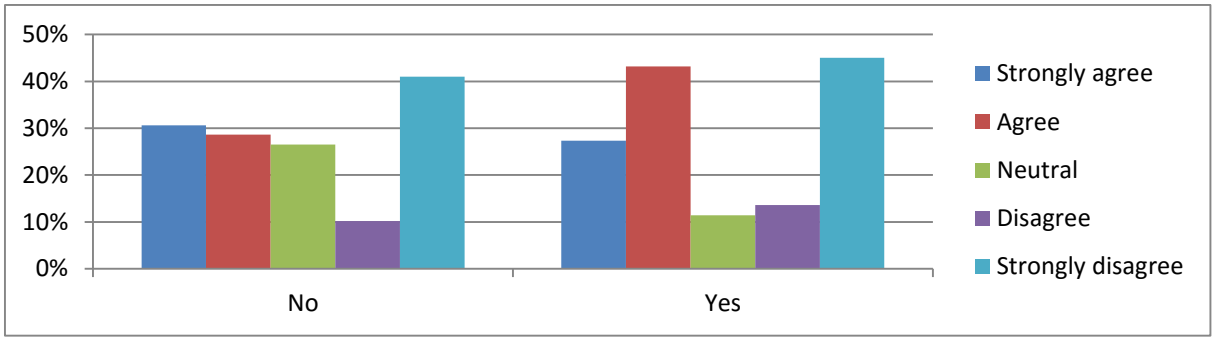

Figure 16: Availability of teachers

Table 19 shows that 43.2% agreed, 27.3% strongly agreed, 13.6% disagreed, 11.4% were neutral and only 4.5% of the students strongly disagreed. Availability of teachers greatly and significantly affect performance of students as noted from the measure of association coefficient 4.482 ($p<0.05$). Ormrod (2006) asserts that when teachers realise students' interest in them, they dispense their best efforts and show high performance on their job. On the contrary, without proper training teachers do not develop the right skills to enable them to maximise their potential.

In addition, accessibility of facilities entails everyone benefiting from the system. Wikipedia points out that accessibility refers to the design of products, devices, services, or environments for people who experience disabilities, special needs or enabling access through the use of assistive technology to bring benefit to everyone from some system or entity.

Therefore, the needs of the disabled students must be considered to ensure that there is total inclusion at the institution.

Table 20: Accessibility of facilities

The facilities to support learners are always accessible	**NO** **N (%)**	**YES** **N (%)**	**CHI-SQUARE**	**P-VALUE**
Strongly agree	2(4.1)	6(13.6)		
Agree	9(18.4)	9(20.5)		
Neutral	13(26.5)	10(22.7)	3.934	P<0.01
Disagree	12(24.5)	12(27.3)		
Strongly disagree	13(26.5)	7(15.9)		
N(93=100.0)	49(52.7)	44(47.3)		

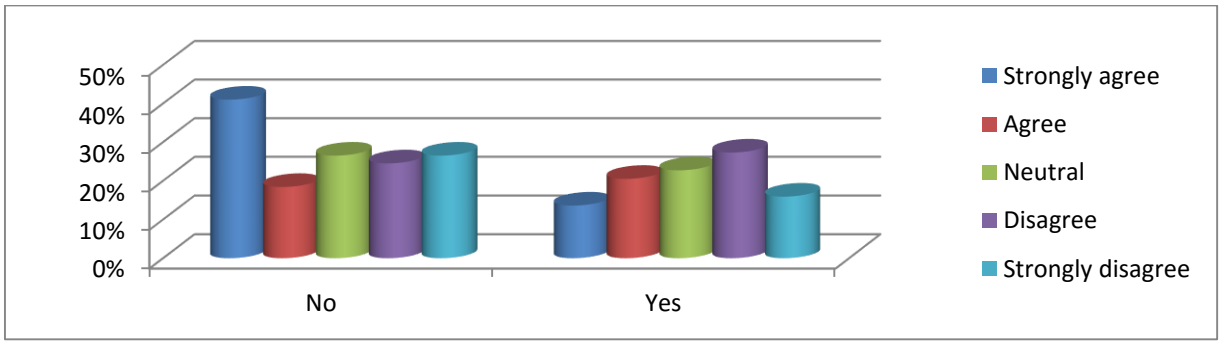

Figure 17: Accessibility of facilities

Based on the results in table 20, 27.3% of the respondents disagreed, 22.7% were neutral, 20.5% agreed, 15.9% strongly disagreed and 13.6% strongly agreed that facilities to support learners are always accessible. The results significantly affect performance of the students based on the p-value ($p<0.01$) with an association coefficient of 3.934. This finding concurs with the Canadian Human Rights Act of 1985 on Section 2 that institutions must ensure that the facilities to support learners are always accessible to support student's education and wellbeing (Canadian Government, 1985). On the contrary, in other countries like the United States, although the law covers what is required for accessibility, but it is not always enforced. Firstly, there are no inspectors to see whether facilities are accessible and secondly,

standards are not brought into play until someone challenges an institution in the courts (The Community Tool Box, 2017).

Improving efficiencies in VET via the sharing of resources is currently the source of much interest. With the development of multiple educational resource repositories, students need to share resources.

Table 21: Resource sharing

I always share resources with other students	**NO** **N (%)**	**YES** **N (%)**	**CHI-SQUARE**	**P-VALUE**
Strongly agree	15(30.6)	23(52.3)		
Agree	22(44.9)	12(27.3)		
Neutral	6(12.2)	7(15.9)	7.121	P>0.1
Disagree	2(4.1)	0(0.00)		
Strongly disagree	4(8.2)	2(4.5)		
N(93=100.0)	49(52.7)	44(47.3)		

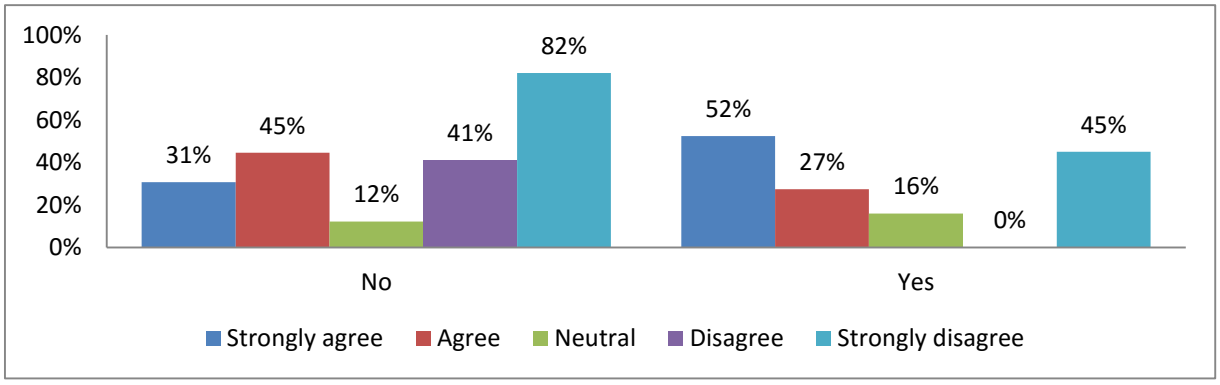

Figure 18: Resource sharing

The results as shown in table 21 indicate that 52.3% of respondents strongly agreed, 27.3% agreed, 15.9% were neutral, 4.5% strongly disagreed and no student disagreed that students share resources amongst themselves. The results insignificantly affect performance of the students based on the p-value (p>0.1) with an association coefficient of 7.121. Zurita (2003) agrees that students use referent points against which their experiences are compared; they share knowledge and effectively understand each other. On the contrary, students who do not have appropriate knowledge are segregated by their colleagues. This frustrates them and

therefore, teachers need to ensure that those that are undermined and below the expected performance standard are given extra tutorials.

For students to effectively achieve their goal, they must develop the quest for information literacy by having the appropriate knowledge of where they can get the right information.

Table 22: Sources of resources

I get resources from other sources than the college	**NO - N (%)**	**YES - N (%)**	**CHI-SQUARE**	**P-VALUE**
Strongly agree	18(36.7)	9(20.5)		
Agree	14(28.6)	17(38.6)		
Neutral	4(8.2)	5(11.4)	5.625	P>0.1
Disagree	5(10.2)	9(20.5)		
Strongly disagree	8(16.3)	4(9.1)		
N(93=100.0)	49(52.7)	44(47.3)		

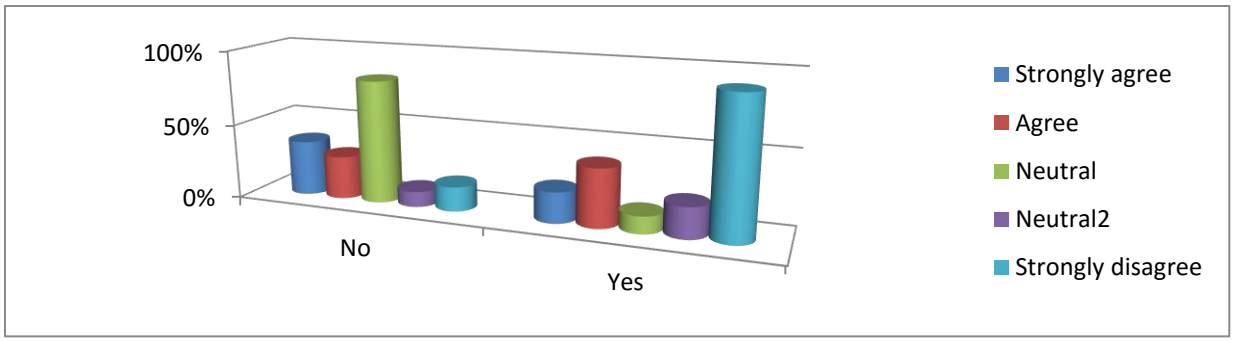

Figure 19: Sources of resources

The results in table 22 demonstrate that 38.6% agreed, 20.5% strongly agreeing and disagreed, 11.4% was neutral while 9.1% strongly disagreed that they get resources from other sources than the college as a result of information strategy implementation at STC. The results insignificantly affect performance of the students based on the p-value (p>0.1) with an association coefficient of 5.625. The findings concur with what the American Library Association (2006) proclaims that today teachers and students must become proficient in searching for possible sources of information due to the proliferation of resources. On the contrally, expediency and lack of training is making many students fail to explore different

sources of resources or information and use them appropriately; although there is a very wide spectrum from which resources can be generated (Thompson, 2011).

Information overload and information asymmetry leads to dsynergy and this is why departments need to collaborate if they are to become effective.

Table 23: Collaboration of departments

My department collaborate with others in terms of information need	NO - N (%)	YES - N (%)	CHI-SQUARE	P-VALUE
Strongly agree	10(20.4)	11(25.0)		
Agree	18(36.7)	17(38.6)		
Neutral	13(26.5)	8(18.2)	1.255	P>0.1
Disagree	5(10.2)	4(9.1)		
Strongly disagree	3(6.1)	4(9.1)		
N(93=100.0)	49(52.7)	44(47.3)		

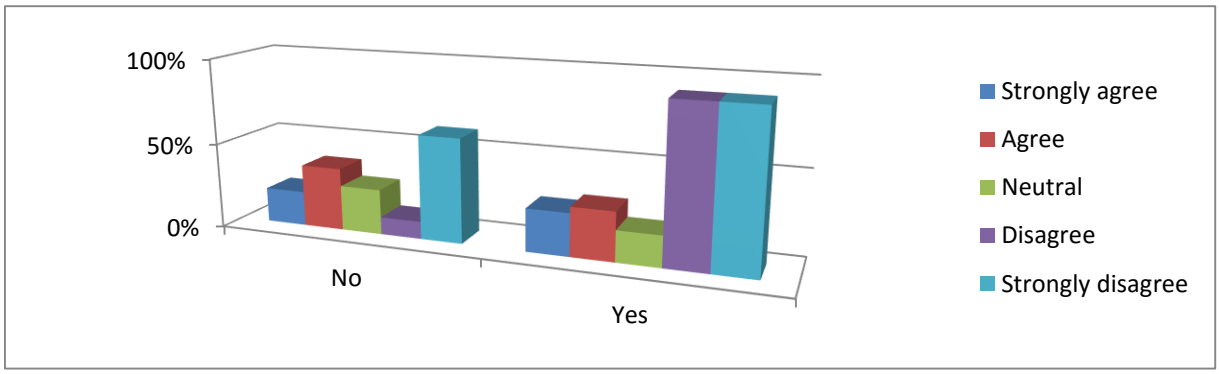

Figure 20: Collaboration of departments

With regard to table 23, 38.6% of students agreed, 25% strongly agreed, 18.2% was neutral, 9.1% disagreed and also another 9.1% strongly disagreed. This indicates that collaboration of departments with others in terms of information implementation strategy that the college implemented was insignificant with an association coefficient of 1.255(p>0.1).The findings concur with what Robbins and Coulter (2012) postulates that collaborative relationships among participants creates greater value in the form of synergy than if participants work individually.

Teachers as professionals need to ask for information from their fellow teachers in times of need. However, there is need for civic educate them on intellectual property rights in relation to using information which is generated from fellow teachers.

Table 24: Teacher Information from other teachers

My teacher asks for information from the fellow teacher in times of need	NO N (%)	YES N (%)	CHI-SQUARE	P-VALUE
Strongly agree	9(18.4)	2(4.5)	8.976	P<0.01
Agree	17(34.7)	22(50.0)		
Neutral	13(26.5)	7(15.9)		
Disagree	6(12.2)	4(9.1)		
Strongly disagree	4(8.2)	9(20.5)		
N(93=100.0)	49(52.7)	44(47.3)		

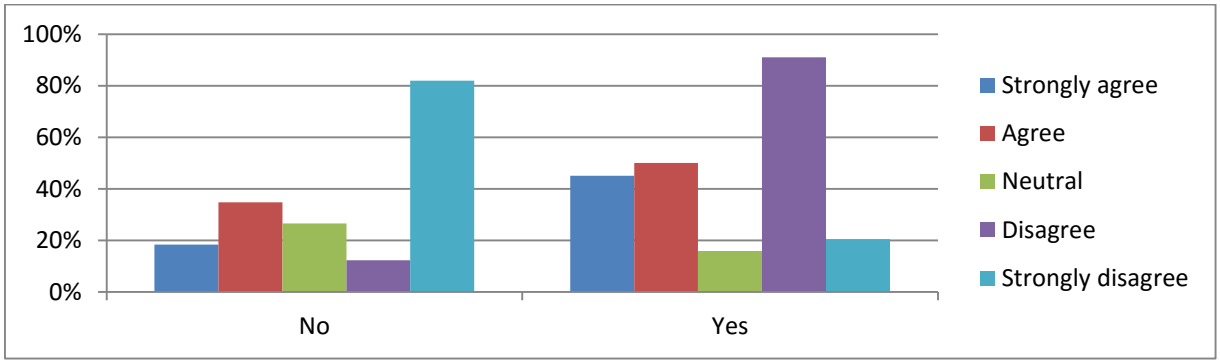

Figure 21: Teacher information from other teachers

Based on results from table 24, 50% of the respondents agreed, 20.5% strongly disagreed, 15.9% were neutral, 9.1% disagreed and 4.5% strongly agreed that teachers asks for information from fellow teachers. This shows that teacher information from other teachers greatly and significantly affect the performance of students with an association coefficient of 8.976 ($p<0.01$). The research conducted by Molony, Wang and Li (2013) confirms that teachers believe that inter-professional sharing of resources is of benefit and necessary. On the contrally, Molony et al., (2013) observed that in Australia, incorrect and low quality resources hinder sharing.

On the other hand, it must be noted that during the process of peer informal social interaction students who understood better what was taught in a formal setting assist those who did not understand.

Table 25: Information from peer students

I get information from my peer students	**NO** **N (%)**	**YES** **N (%)**	**CHI-SQUARE**	**P-VALUE**
Strongly agree	14(28.6)	9(20.5)		
Agree	24(49.0)	22(50.0)		
Neutral	5(10.2)	5(11.4)	2.111	P>0.1
Disagree	3(6.1)	6(13.6)		
Strongly disagree	3(6.1)	2(4.5)		
N(93=100.0)	49(52.7)	44(47.3)		

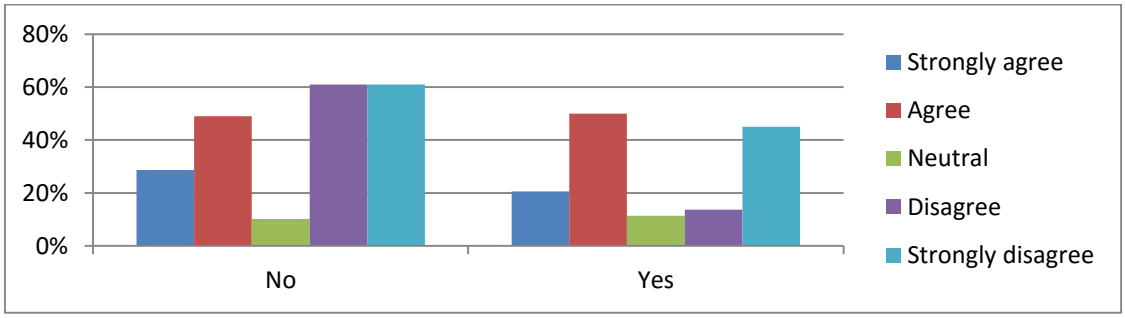

Figure 22: Information from peer students

From table 25, it can be observed that 50% of the respondents agreed, 20.5% strongly disagreed, 11.4% were neutral, 13.6% disagreed and 4.5% strongly agreed that some students get information from their peers; an association coefficient of 2.111 which is insignificant (p>0.1). The results agrees with what Aliyu (2016) asserts that peer informal social interaction is an effective way through which students share information. On the contrary, Topping (1996) states that when information is passed by inexperienced peer students, who in most cases lack confidence, they tend to apply concepts incorrectly.

Apart from acquiring information from within, students need to expand their information base by also considering sources outside the college.

Table 26: Acquisition of information

Information is sometimes acquired from outside the college	**NO** **N (%)**	**YES** **N (%)**	**CHI-SQUARE**	**P-VALUE**
Strongly agree	12(24.5)	5(11.4)		
Agree	15(30.6)	23(52.3)		
Neutral	11(22.4)	7(15.9)		
Disagree	6(12.2)	3(6.8)	6.296	P>0.1
Strongly disagree	5(10.2)	6(13.6)		
N(93=100.0)	49(52.7)	44(47.3)		

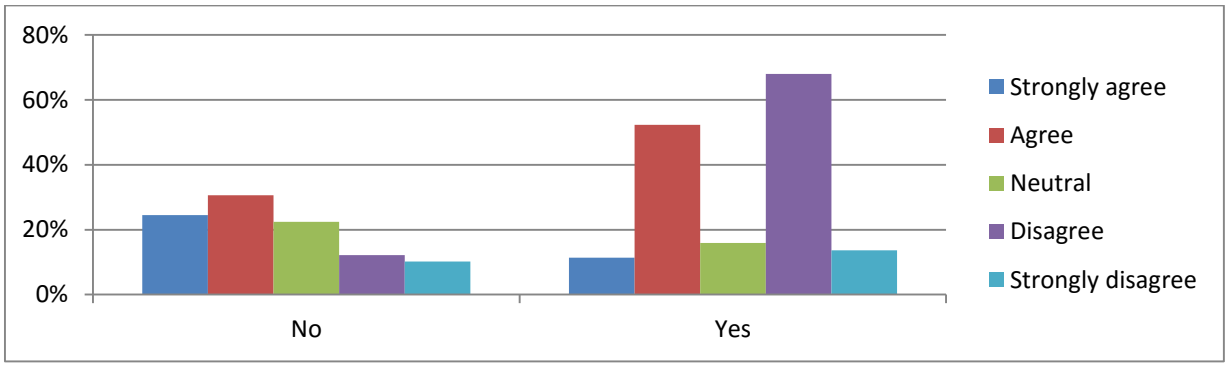

Figure 23: Acquisition of information

The findings in table 26 show that 52.3% agreed, 15.9% were neutral, 13.6% strongly disagreed, 11.6% strongly agreed and 6.8% disagreed that information is sometimes acquired from outside the college. With regard to the measure of association, the study found an association coefficient of 7.205 which is insignificant (p>0.1). This is in line with what Noel (1978) observed that learners use their personal discretion to assess whether they are contented with classroom instruction and tend to supplement it with information acquired from external sources in order to compare and verify. On the contrally, the US Government (2011) agrees that in education, standards and credibility of learning acquired outside training institutions are compromised.

As the learning environment goes digital and virtual, good use of the internet is a critical factor that determines students' academic success by enabling students to communicate with teachers and fellow-students and also enable teachers make their course materials accessible.

Table 27: Use of internet and other technologies

I use internet and other technological facilities in order to access information	NO - N (%)	YES - N (%)	CHI-SQUARE	P-VALUE
Strongly agree	13(26.5)	16(36.4)		
Agree	11(22.4)	15(34.1)		
Neutral	9(18.4)	5(11.4)	4.556	P>0.1
Disagree	7(14.3)	3(6.8)		
Strongly disagree	9(18.4)	5(11.4)		
N(93=100.0)	49(52.7)	44(47.3)		

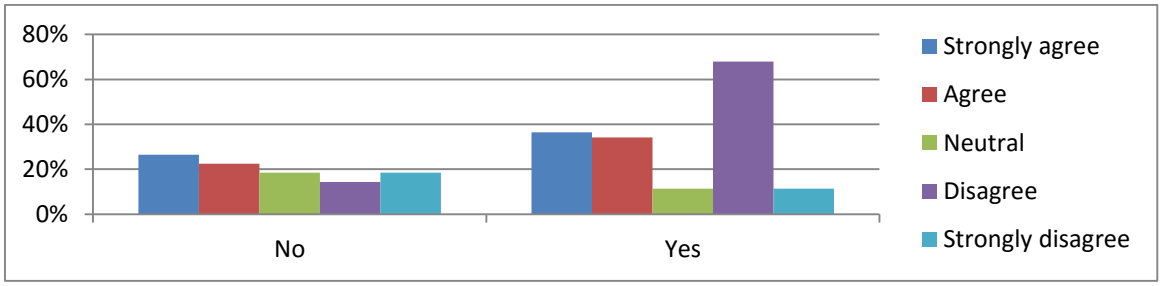

Figure 24: Use of internet and other technologies

The findings in table 27 show that 36.4% strongly agreed, 34.1% agreed, 11.4% were neutral, another 11.4% disagreed, 11.6% strongly agreed and 6.8% disagreed that they use internet and other technological facilities in order to access information. With regard to the measure of association, the study found an association coefficient of 4.556 which is insignificant (p>0.1). This finding is concurring with what Peppers, Rogers and M. Pew Research Center (2012) found in their study that in this new age, the use of the internet and other technologies has increased tremendously to an extent that 96% of 18 to 19 years olds use the internet. The study further articulates that 61 % of entrants in tertiary education use the internet and that up to 97% with diplomas and higher levels of education cannot do without the internet and other technologies as part of their social or academic life. On the contrally, Goode (2010) points out

that institutions should take responsibility by providing technical support and training to the minority who may experience the use of the internet and other technologies for the first time or otherwise there might be too much disparities in the use of these technologies.

Accessing information today is becoming expensive. The unfortunate part is that this affects students by forcing them to use of their own resources which in turn makes them use what is available and not what is required just because they cannot afford to access the appropriate information due to cost constraints.

Table 28: Expensiveness in accessing information

It is expensive to access information to support educational need	**NO** **N (%)**	**YES** **N (%)**	**CHI-SQUARE**	**P-VALUE**
Strongly agree	26(53.1)	22(50.0)	0.404	P>0.1
Agree	11(22.4)	10(22.7)		
Neutral	4(8.2)	4(9.1)		
Disagree	5(10.2)	6(13.6)		
Strongly disagree	3(6.1)	2 (4.4)		
N(93=100.0)	49(52.7)	44(47.3)		

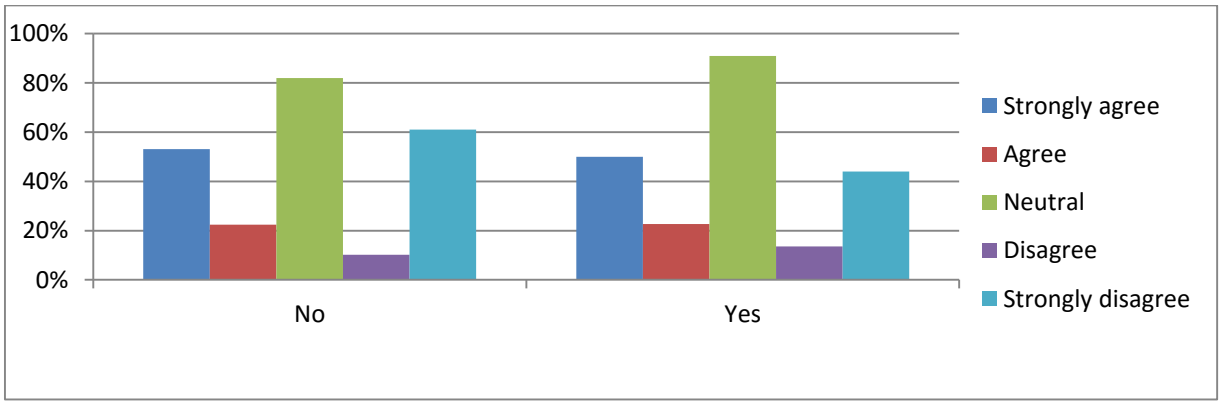

Figure 25: Expensiveness in accessing information

Basing on table 28, 50% strongly agreed, 22.7% agreed, 13.6% disagreed, 9.1% were neutral and 4.4% strongly disagreed that it is expensive to access information to support educational need. With regard to the measure of association, the study found an association coefficient of

0.404 which is insignificant (p>0.1). Thompson (2010) agrees that the cost of accessing academic information is on the rise even in those institutions that are well funded and the burden is passed to the student. Consequently, this affects the standard of students' performance. On the contrally, Argote (1999) points out that information will become less costly and fully utilised if it is shared. Information sharing is a critical process that enables members of a group to accomplish their task because it is a vital component of knowledge management.

4.4 Chapter summary

STC appears to have a large information base that could be well utilized to continue improving its service delivery. It is therefore important that STC optimally uses the available systems to improve its service delivery. Optimal use of the information can only be realised by promoting best management practices. This is one of the ideas that TEVET in Malawi endeavors to implement. Therefore, this research outlays how STC manages its information strategy against a background of providing solutions to any inadequacies and giving credit to what can be enforced in whatever is being done right. The result of best strategy implementation leads to achieving better levels of service delivery eventually culminating into increased propulsion for development.

The chapter has presented the results following discussion in triangulation with the work of other scholars to explain as to whether Malawi situation support or contradict previous scholars. In the succeeding chapter, the conclusions and recommendations are presented.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

Chapter five ascertains if the objectives of the research have been achieved. From the research findings in chapter four, conclusions and recommendations have been made. The study was conducted to attain one main objective "to investigate students' perceptions on the effects of implementation of information strategy on the performance of STC" and two specific objectives which were "to explore perceived socio-economic factors of students that are affected by the implementation of information strategy of technical colleges" and "to examine students' perceptions on the effects of information strategy on the performance of students' quality of service delivery within the college premise".

5.2 Conclusions

After assessing the students' perceptions on the effects of information strategy implementation on the performance of STC, generally, the study has revealed that information strategy greatly and significantly affects the performance of STC. This is reflected from the high percentages of the students that generally agreed in Chapter 4. Students' perceptions on the effects of implementation of information strategy on the performance of STC after data analysis are indicated below:

5.2.1 Annual goals

As regards annual goals, the study found that students have positive perceptions towards their mission. This implies that their expectations in relation to their education and training are met. This is supported by high percentages of respondents that generally agreed in table 4.2.1 in Chapter 4 and also the literature under review in 2.2.1and 2.2.2 which points out that strategies must be formulated with the intention to accomplish defined goals and outcomes; and that all the members of staff must work towards the attainment of those goals. In this regard, the focus is on student's outcome.

5.2.2 Information access

In relation to information access, the finding from the study indicates that students strongly agreed that the college's information access is supportive as a result of information strategy implementation at STC. Students have the confidence in their teachers and feel motivated

when accessing the information. The institution is enabling as it aims at developing an information culture in which all the staff understand the importance of information in relation to their roles as indicated in 2.2.2 and thereby passes it to students whenever it is needed.

5.2.3 Availability of information

The results have indicated that availability of information implementation strategy that the college implements affect greatly the performance of students. As a support activity, 2.2.5 of chapter 2 has stressed that information strategy adds value by providing accurate and timely information so that all parts of the institution can perform more effectively and efficiently and that for any business to grow successfully, the availability of information plays a vital role.

5.2.4 Timeliness in information giving

Regarding this information strategy determinant, the study has shown that more respondents agreed strongly that the staff gives timely information that is needed at the college. This is supported by high percentages of respondents that generally agreed in Table 4.2.4. Providing timely information to students has a major effect on student performance and must be looked upon as a perspective within the 5Ps of the strategy. Chapter 4 views this P as a strategy which reflects the organization's norms and values and how codes of behaviour become rooted in organizational members. It can therefore be said that students perform better when they are given the right information timely by all the concerned members including teachers.

5.2.5 Availability of teachers

From this study, the research findings have shown that teachers are always there to support student's cause at STC as agreed in Table 4.2.9 in Chapter 4. This implies that teachers are enthusiastic and give appropriate attention to their students. Chapter 2 has also alluded that formulating strategies alone is not enough as people, procedures and policies need to be put in place to implement these strategies.

5.2.6 Accessibility of facilities

With regard to accessibility of facilities to support learning, figure 4.2.10 indicates that this is a significant factor that must prevail at an institution if an institution is to be termed 'inclusive'. In order to prepare both staff and students access facilities as desired, institutions need to invest in the required facilities to optimize the institution's potential. Improved

capabilities, knowledge and skills at an institution prove to be a major source of competitive advantage as outlined in Chapter 2.

5.2.7 Teacher information from other teachers

With regard to this information strategy determinant, the study findings have indicated that teachers get information from other teachers to facilitate student's training. The literature has supported this by confirming that inter-professional sharing of resources is of benefit and necessary and table 4.2.14 affirms this.

The overall conclusion is that students' performance at STC is greatly dependent upon the way strategic information is implemented. In other words, students' performance expectations are high based on the determinants indicated in this Chapter.

5.3 Recommendations

Based on the research findings, the researcher has the following recommendations:

- TEVET institutions should formulate strategies in line with defined goals and outcomes; and that all the members of staff must work towards the attainment of those goals. In this regard, the focus should be on student's outcome.
- TEVET institutions should develop a culture of capturing, storing and disseminating accurate information and the strategy implemented should add value to the institution. This then requires that all the staff must understand the importance of information in relation to their roles and that information provided must be relevant to the users.
- It should be a norm for an institution that information should be provided timely and management must continuously monitor how it is disseminated. This then requires an open policy in information sharing at both individual as well as at group level.
- Student's facilities need to be inclusive and accessed as desired in line with the nature of trainees and courses offered. Institutions therefore need to invest in the appropriate facilities, teachers need to ensure that appropriate attention is given to students and management need to continuously supervise teacher activities and put appropriate strategies, policies and procedures in place.
- Management need to continuously invest in the training of its staff to ensure that they have the latest competencies and skills relevant to the changes of the industry and it should also invest in the appropriate infrastructures to support the information strategy. Technical institutions should therefore put appropriate mechanisms in place

to enable free flow of information to all. This then requires an understanding of the organization's overall business strategy by all stakeholders including teachers.

- TEVET institutions should continuously invest in their information strategy by identifying which potential strategy improvements are likely to yield the greatest return. Information should therefore be held in a few locations and systems; ideally in a single logical location with appropriate backups for security and resilience. Data should be captured or digitised from the source and then be stored in secure places. Electronic sharing, processing and storage should be facilitated by information system professionals and information and systems should be accessed remotely. The professionals should ensure that data and information is accessed and manipulated in a user-friendly environment and with a user-friendly interface.
- For the system to continuously perform as desired, top level managers and all stakeholders must understand the information strategy in place and the processes involved in line with the institution's mission. Heads of Departments and the Head of Academics should play an active role in identifying and understanding the flows of information involving their staff and students and should ensure that business processes are reviewed to improve efficiency and reduce information overload.

5.4 Potential areas of further research

As this study was cross-sectional, there is need for a longitudinal study at STC to ascertain the effect of information strategy implementation to thoroughly understand how strategic information is used and managed at different time intervals. A study is also needed to gather knowledge on how employees use information strategy bearing in mind that this study mainly targeted students. Also, the study need to be extended to private technical institutions as it has only dwelt on public technical institutions.

5.5 Chapter Summary

In this final chapter, conclusions and recommendations for the study have been made and suggestions for potential areas of further research have also been suggested.

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APPENDICES

Appendix 1: Student's questionnaire

Disclaimer:

Information requested is going to be used for academic purpose only. Please feel free to participate in the questionnaire filling. If any question pertaining to this questionnaire is not clear, please contact me for elaboration. The information collected will be synthesised and analysed in order to be used for an MBA programme tenable at the Polytechnic, University of Malawi.

Section A

Socio-economic characteristics of the respondents – *Tick where appropriate:*

i) Age of the respondents

a) <20 year ☐

b) 20-30 ☐

c) 31-40 ☐

d) 41+ ☐

ii) Department of study

a) Commercial ☐

b) Construction ☐

c) Engineering ☐

iii) Gender

a) Male ☐

b) Female ☐

iv) Household size

a) <3 people ☐

b) 3-5 ☐

c) 5 and above ☐

v) Household type

a) Own house ☐

b) Tenant ☐

c) Institutional ☐

vi) Work employment status

a) Employed ☐

b) Unemployed ☐

c) Attached to an institution ☐

vii) Level of education

a) Junior Certificate ☐

b) Secondary ☐

c) Diploma ☐

d) Degree ☐

viii) Ethnicity

a) Chewa ☐

b) Lomwe ☐

c) Tumbuka/Tonga/Nkhonde ☐

d) Yao ☐

e) Sena ☐

f) Others ☐

ix) Location

a) rural ☐

b) Peri -urban ☐

c) Urban ☐

Section B

Effect of information strategy on the quality of service delivery at the institution

Scale: *1=Strongly Agree, 2= Agree, 3=Neutral, 4= Disagree, 5= Strongly Disagree*

1) Annual goals

a)	Annual goals are always achieved as a result of the information strategy	1	2	3	4	5
b)	The college information access environment is always supportive	1	2	3	4	5
c)	Information is always available whenever you need it	1	2	3	4	5
d)	The staff gives me timely information that I need at the college	1	2	3	4	5
e)	The information given is always relevant all the time	1	2	3	4	5
f)	There is always support whenever clarification regarding information	1	2	3	4	5

2) Resources

a)	Material regarding training are available	1	2	3	4	5
b)	Financial resources are given whenever available	1	2	3	4	5
c)	Teachers are always there to support our cause	1	2	3	4	5
d)	The facilities to support learners are always accessible	1	2	3	4	5
e)	I always share resources with other students	1	2	3	4	5
f)	I get resources from other sources other than the college	1	2	3	4	5

3) Subsystems

a)	My department collaborate with others in terms of information need	1	2	3	4	5
b)	My teacher asks information from the fellow teacher in times of need	1	2	3	4	5
c)	I get information from my peer students	1	2	3	4	5
d)	Information is sometimes acquired from outside the college	1	2	3	4	5
e)	I use internet and other technological facilities to access information	1	2	3	4	5
f)	It is expensive to access information to support educational need	1	2	3	4	5