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The Influence Analysis of Competence, Service Quality and Work Environment on Employee Performance with Motivation as an Intervening Variable

(The Personnel and Human Resources Development Agency (BKPSDM) Batu City)

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Abstract

The purpose of this study is to describe the impact of competence, quality of service, and work environment on employee performance with motivation as an intervening variable. Several analytical techniques were performed in this study and the analyzes were performed using his SEM data analysis technique using his AMOS application. Descriptive results for competency variables are consistent with the presence of traits in paying attention to employee autonomy in coping with stress, solving work problems, and working overtime. Skills to complete tasks and responsibilities are also approved by employees, and skills with employee confidence, expertise, and communication skills are also approved by Batu City BKPSDM employees. Different service quality pays average attention to reliability, responsiveness, courtesy and reliability, approved by her BKPSDM staff in Batu City to provide the best service in fulfilling duties and responsibilities to do. The physical and psychological work environment is also very influential in determining the performance of BKPSDM employees. This includes lighting work areas, providing good air circulation, avoiding conflicts between employees, and ensuring protection and safety from authorities. Performance variable success is also due to aspects of collaboration, responsibility, and goal attainment, while motivation variable success is done by considering motivations, expectations, and incentives. This is also endorsed by all employees of BKPSDM K Batu City i.e. competence. , Service quality and working environment can improve performance through motivation in BKPSDM Batu City. Competence, quality of service, and working environment have a significant impact on the performance of the Human Resources and Human Resources Development Board (BKPSDM) Batu City employees.

Keywords: Competence, Work Environment, motivation, Business Administration, Management, Personnel,

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1. Introduction

The implementation of the main duties and functions of Batu City employees is by the Batu City Mayor's Regional Order No. 4 of 2013 to the Inspector General, the Regional Development Planning Agency, and the Batu City Regional Technical Agency. This regulation is inseparable from the Human Resources and Human Resources Development Authority's vision of achieving professional, transparent, and accountable human resource management for Batu City in order to support the implementation of good governance in Batu City.

However, the direct realization of this vision requires improved competencies, service orientation, and a supportive work environment to improve employee performance. The implementation of the work undertaken by the staff of the Batu City Human Resources and Human Resources Development Agency is proceeding smoothly and well organized. There are several factors that affect employee performance, including competence, quality of service, and work environment. Competence is the core requirement employees need to survive in the face of competition. Employees must provide the highest quality service. Employees are also expected to improve their performance by adapting to their working environment. Effective personnel management through competencies, service quality, and work environment can improve employee performance. If competencies and service qualities are supported by suitable work environment factors, they can be well implemented and adapted to work processes.

The Batu Human Resources and Human Resources Development Department (BKPSDM) has not conducted a study to analyze the impact of competence, quality of service, and working environment on employee performance. Evaluating employee performance improvement is very important as it is a key factor in the smooth running of an agency. Employee performance evaluations should be conducted to determine how levels of work scheduling relate to work outcomes, work service orientation, training, and development that need to be aimed at improving performance. Based on the background description above, the problem under investigation was analyzed by Human Resources and Human Resources Development Board (BKPSDM) The impact of competence, service quality, and work environment on employee performance in cities, with motivation as an intervening variable.

2. Related Literature**2.1 Competence theory**

Carter's Williams (2011:57-77) An individual's competence expresses that person's competence and suggests that it encompasses a combination of motivations and characteristics, a person's self-image

and social role, skills and knowledge. From this opinion, it was concluded that individual competence is measured by a person's ability to do a job and consists of a combination of motivation and personality, self-image or social role, skills and knowledge.

From the definition of competency above, we can conclude that the concept of competency is a fundamental characteristic of a person who is able to perform all tasks according to the standards set by the authorities. Competencies include motivations, traits, self-concepts, knowledge, and skills that can predict behavior to accomplish tasks at work. All of them build specific abilities that lead individuals to achieve superiority.

2.2 Quality of Service Theory

Moenir (2002: 26-27) states that "A service is an activity performed by an individual or group of people on the basis of specified criteria, and satisfaction is defined by the ability of the service provider to respond. depends solely on the person or person receiving the service." Get a sense of user expectations. Service quality is a government effort to increase the satisfaction of service users. If the service user is satisfied with the service received, it can be concluded that the government has provided the service in accordance with the government's obligations. Goetsch and Davis, translated by Fandy Tjiptono (2003: 101) Quality is the dynamic state in which service products, people, processes, and environments meet or exceed expectations. Understanding the customer includes public accountability, public accountability mechanisms, what is generally accountable, and how other stakeholders are involved in decision-making. Based on the description of service indicators above, these service quality indicators should be present in organizations operating in the service sector. Quality metrics are used as benchmarks for high-quality service.

2.3 Working Environment Theory

According to Simanjun Tak (2003: 39), the working environment can be interpreted as the totality of the tools that people face, the environment in which they work, and the way they work. , ventilation, lighting, noise, workplace cleanliness, and work equipment adequacy (Isyandi, 2004:134). According to Sedarmayanti (2011:21), the definition of work environment includes all the tools and materials encountered, the environment in which people work, the way they work, and the arrangements for both individual and group work.

The work environment is therefore an integral part of the employee's space, working conditions, work equipment, and work methods. Based on the above definitions, it can be concluded that the working environment affects employee performance because a safe, healthy and comfortable working environment provides psychological benefits to employees. The advantage of the work environment is that it creates passion for work. As a result, work productivity increases. The advantage of working with motivated people is that you can work properly. This means that the work will be completed according to the correct criteria and within the specified time frame. Its performance is monitored by stakeholders, does not require much oversight, and morale is high (Arep, 2003: 103).

2.4 Performance Theory

Mankunegara (2000: 56) states that an employee's performance is the result of the qualitative and quantitative work they have done in carrying out their duties in accordance with their assigned

responsibilities. Achievement is the result of all forms of action and policy in a sequence of actions over a period of time to achieve a goal. According to Robbin, Nawawi (2006: 62), Performance is the answer to the question "What result does someone achieve after doing something?"

Matisse and Jackson (2006: 65) Performance is basically what employees do or don't do. Attention to performance is what organizations need. Accomplishment is not just about getting results, but other aspects of it as a whole should also be taken care of. Prawirosentono (2008:2) are the results of work that can be accomplished by individuals or groups within an organization according to their authority and their respective responsibilities. As part of our efforts to achieve the goals of each organization, we will comply with morals and ethics, not against the law. There are more or less two main prerequisites for conducting an effective performance evaluation. the existence of objectively measurable performance criteria and the existence of objectivity in the evaluation process (Gomes, 2003:136). On the other hand, from the point of view of the performance itself, Songdang Siagiang (2008: 223-224) explains that individual performance assessments serve as feedback on various aspects such as competence, fatigue, deficiencies, and potential, which help determine goals, paths, plans, and career development. increase. On the other hand, the results of performance evaluation are of great importance to the organization in terms of decision-making on various matters such as B. Identify needs for education and training programs, recruitment, selection, induction programs, placement, promotion, compensation systems, and various other aspects of the human resource management process.

2.5 Motivation theory

Motivation comes from the Latin word *movere*, which means encouragement, the motive force, or force that provokes an action or action. The word *movere* is often equated with motivation in English, meaning anything or a situation that motivates, creates motivation, or causes encouragement.

George Terry (1996: 256) argue that motivation is an impulse that causes people to act or act in a motivating way that relates to the cause of the behavior's emergence. B. Factors that encourage someone to do or not do something. Motivation can be interpreted as each individual's will to achieve higher status, power, and recognition. Motivation can be seen as the basis for achieving success in many areas of life by increasing capacity and motivation. David McClelland (1997: 256) states that motivation is based on his three dimensions: the need for power (nPow), the need for belonging (nAff), and the need for achievement (nAch). In constructing this theory, David McClelland suggested that the theory of motivational needs is closely related to the concept of learning. He said that motivation is important to the need to develop behaviors that influence the relationship between job performance. It is also the cause. Man Run (1988:

42) states that motives are the supporting forces that motivate people to act, or the forces inherent in a person that causes them to act. Hope is the driving force of man because of the size of his life goals to be achieved. According to Hersey and Blanchard (1995: 40), Hope is the recognition of the possibility of meeting an individual's particular needs based on past experience. Or you can say that there is hope that someone will likely get the results they want by doing the work

2.6 Conceptual Framework of Research Variables

Based on the explanation above, Competency variables are Service Quality, Work Environment, Employee Motivation, and Performance. Then the framework of thought in this study is described

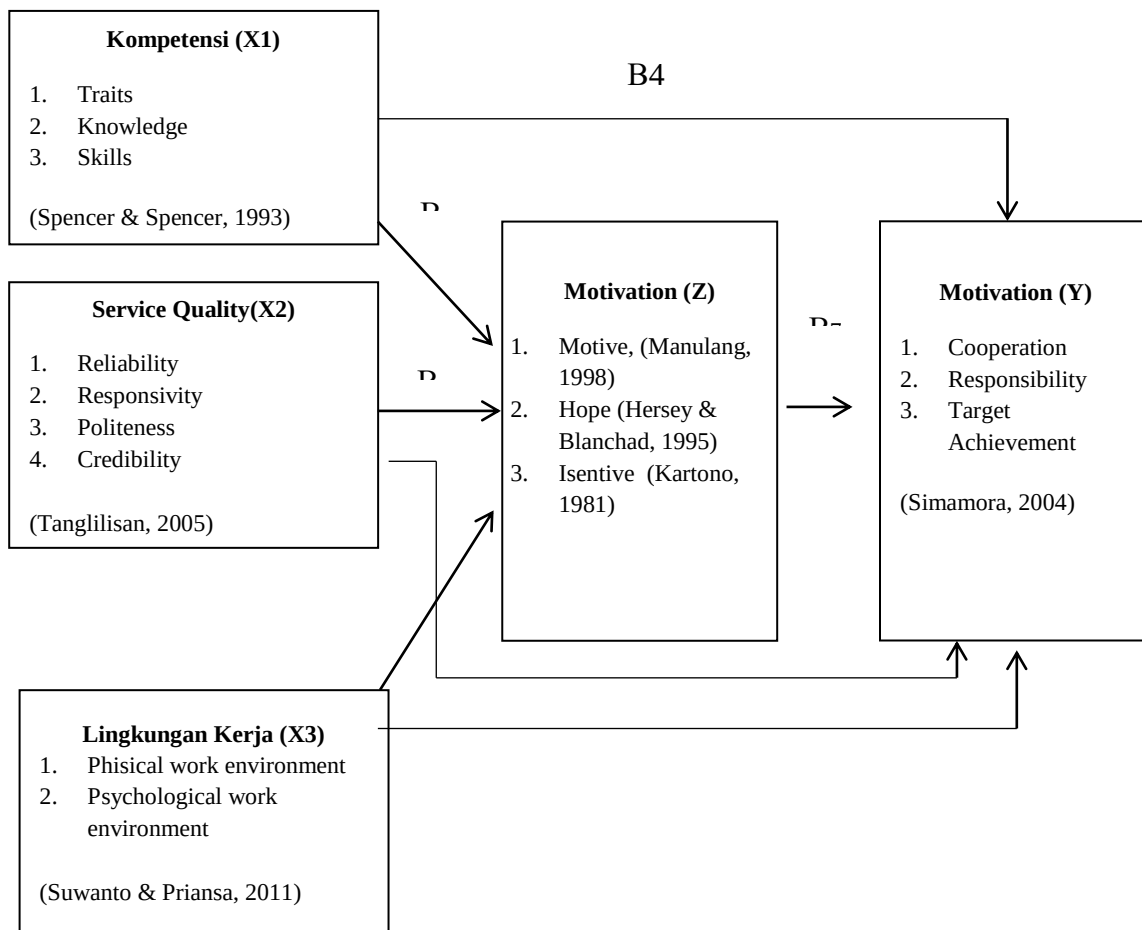


Figure 1. Research Conceptual Frame

Note:

Competence : X1
 Service Public Quality : X2
 Work Environment : X3
 Motivation : Z
 Employee Performance: Y

2.7 Research Hypothesis

- H1: It is suspected that Competence, Service Quality, and Work Environment have a significant effect on Employee Performance at the Personnel and Human Resources Development Agency (BKPSDM) Batu City
- H2: It is suspected that Competence, Service Quality, and Work Environment have a significant effect on Motivation in the Personnel and Human Resources Development Agency (BKPSDM) Batu City
- H3: It is suspected that Competence, Service Quality, and Work Environment have a significant effect on Employee Performance Through Motivation at the Personnel and Human Resources Development Agency (BKPSDM) Batu City
- H4: It is suspected that motivation has a significant effect on employee performance in the Personnel and Human Resources Development Agency (BKPSDM) in Batu City

3. Research Method

3.1 Research design

This research design is a strategy to regulate the flow of research so that this research obtains valid data according to variable characteristics and research objectives.

Judging from its objectives, this research is descriptive quantitative research because it aims to obtain an overview and answers to research questions in accordance with the formulation of the problem used. Based on the implementation method, this research is survey research that aims to explain the influence of competence, service quality, and work environment on employee performance with motivation as an intervening variable. In this study, several analytical techniques will be carried out, where the analysis is carried out using SEM data analysis techniques using the AMOS application.

3.2 Research variable

In this study, there are 3 variables consisting of exogenous, endogenous, and intervening variables. These variables are as follows:

- a) Exogenous Variables Competency (X1) Service Quality (X2) Work Environment (X3)
- b) Endogenous Variable: Employee Performance (Y)
- c) Intervening Variable: Motivation (Z)

3.3 Research Instrument Test

Validity test

The validity of an indicator can be stated valid, if the indicators used can measure certain constructs when the Critical Ratio (CR) of the regression weight shows a value above 2.0 with a p-value less than 0.05 (Ghozali, 2012), based on Confirmatory Calculations Factor Analysis (CFA) with AMOS software.

Reliability Test

The reliability test is carried out to find out how far the measurement results remain consistent if the measurement is carried out twice or more for the same symptoms using the same measuring device (Sugiyono, 2008). It is said to be constructed or feasible to use if the reliability value is 2x the standard error value.

Population and Sample

The population in this study were all employees at the Personnel and Human Resources Development Agency (BKPSDM) Batu City, totaling 87 employees. Because the total population of employees at BKPSDM was relatively small, all members of the population became the object of research, this method is known as the census method.

Data analysis technique***Descriptive Analysis***

Descriptive statistical analysis is a way of processing data that is carried out by systematically compiling research data so as to get a simple description of the variables studied and draw general conclusions (Sugiyono, 2010).

Inferential Analysis

The data that has been collected through a questionnaire will be processed with an inferential approach. First, do the tabulation and give the value in accordance with the established system. In this study, quantitative analysis was used using SEM (Structural Equation Modeling) analysis techniques.

3.4 Measurement Model Test (Measurement Model)

A measurement model shows how manifest variables (indicators) represent the latent variable being measured by testing the validity and reliability of the latent variable by confirmatory factor analysis. In this study, we test the validity of constructs by examining their convergent validity. SEM processing in AMOS provides convergence validity by calling factor loading values or lambda parameters (λ). A high factor loading value indicates convergence of the indicators. In addition, the SEM has the value of the squared multiple correlations, that is, the squared value of the correlation between the variable and its measure. Also, this value is multiplied by 100%, the percentage result indicates whether the indicator can explain the structure, and the remaining percentages are explained by intrinsic factors (measurement error in this case). Furthermore, according to Ferdinand of Wijaya (2009:

138), we say that a metric measures the variable it measures if the c.r value in the regression weight table for the metric is greater than twice the standard error (s.e). Apart from considering the c.r value, Santoso (2012: 145) states that the guess column of the regression weights table shows the covariance values between the latent variables and their indices. To find out whether the indicator explains the latent variable, we can perform a hypothesis test. If the indicator probability value is less than 0.05, the null hypothesis is rejected. 3.5 Structural model test (structural model)

Structural model testing aims to determine the percentage of variance for each endogenous variable in the model. This is accounted for by exogenous variables by considering the value of r-squared, the squared multiple correlations. In addition to the R-squared value, structural model evaluation can also be performed by considering the significance of the probability value as a basis for accepting or rejecting the null hypothesis. The significance value used is 5% or $P < 0.05$ (Latan, 2013: 208).

4. Result and Discussion

4.1 Hypothesis Test (Results)

Hypothesis testing was performed by examining the cr values contained in the AMOS output regression weights table shown in Table 4.3. The c.r value is compared to a significance level of 0.05 or ± 2.58 at a significance level of 0.01. If the c.r-value exceeds the t-value calculated at the 0.05 or 0.01 significance level, we can accept the proposed hypothesis. On the other hand, if the c.r value does not exceed the critical values of 0.05 or 0.01, the proposed hypothesis is not significant. The AMOS estimation results are shown in Table 4.12 below.

Table 1. Hypothesis Test Result

			ESTIMATE	S.E	C.R	P	Decision 0,05
Z	←	X1	1.525	0.644	1.610	0.042	Positive Significance
Z	←	X2	1.178	0.097	0.243	0.037	Positive Significance
Z	←	X3	1.561	0.271	0.678	0.038	Positive Significance
Y	←	X1	1.223	0.297	0.743	0.045	Positive Significance
Y	←	X2	1.026	0.045	0.113	0.048	Positive Significance
Y	←	X3	0.511	0.26	0.650	0.049	Positive Significance
Y	←	Z	1.016	0.093	0.233	0.022	Positive Significance

Based on the hypothesis testing results table above, the probability value is 0.05 with a significance level of 5%. If the P value is less than 0.05, the proposed hypothesis is significant, but if the P value is more than 0.05, the proposed hypothesis is not significant. Thus the results of testing using AMOS can be obtained as follows:

- It is suspected Competence, Service Quality, and Work Environment have a significant effect on Employee Performance in the Personnel and Human Resources Development Agency (BKPSDM) of Batu City and it is acceptable.
- It is suspected that competence, service quality, and work environment have a significant effect on motivation in the Personnel and Human Resources Development Agency (BKPSDM) in Batu City, and it is acceptable.
- It is suspected that competence, service quality, and work environment have a significant effect on performance through motivation in the Personnel and Human Resources

Development Agency (BKPSDM) in Batu City.

- d. It is suspected that motivation has a significant effect on employee performance in the Personnel and Human Resources Development Agency (BKPSDM) in Batu City and it is acceptable.

4.2 Discussion

Based on the results of hypothesis testing using AMOS, it shows that Competence, Service Quality, and Work Environment have a significant effect on Employee Performance at BKPSDM Batu City. The second hypothesis shows that Competence, Service Quality, and Work Environment have a significant effect on Motivation in BKPSDM Batu City. In the third hypothesis, competence, service quality, and work environment have a significant effect on performance through motivation as an intervening variable, while the fourth hypothesis shows that motivation has a significant effect on employee performance in BKPSDM Kota Batu.

a. The Influence of Competence, Service Quality, and Work Environment on Employee Performance in the Personnel and Human Resources Development Agency (BKPSDM) Batu City.

Human resources or employees are the most important assets of an organization as they determine the success or failure of an organization in achieving its goals. In addition, the agency always strives to attract qualified employees according to the needs of the organization so that they can properly perform their duties and work.

BKPSDM Kota Batu's Competence, Service Quality and Work Environment Survey results on employee performance show significant results. This is consistent with the use of competence in organizations aimed at shaping and developing (Hutapea and Nurianna, 2008). This is also reinforced by the definition of competence as an underlying characteristic of an individual and related to the effectiveness of an individual's performance at work (Spencer & Spencer, 1993).

b. The Influence of Competence, Service Quality, and Work Environment on Employee Motivation in the Personnel and Human Resources Development Agency (BKPSDM) Batu City.

Employee Competence in Employee Expertise is a professional requirement to improve the acquisition of various skills, expertise, and knowledge. Labor activity for the proper performance of work. There is, competencies, i.e. motivation, intellectual skills, organizational culture, Beliefs, and values (Zwell 2008). Quality service and work environment are very good support. This is because the working environment is the environment in which employees perform their daily work, and it can be said that the working environment is good if it is healthy, comfortable, safe, and safe for employees. 2005) are in agreement. I have fun when I finish work. Workplace comfort can increase employee motivation to work, and hypothesis testing results indicate that this is important.

c. The Influence of Competence, Service Quality, and Work Environment on Employee Performance through Motivation at the Personnel and Human Resources Development Agency (BKPSDM) Batu City.

The variables in this study are Competency, Service Quality, and Work Environment on Employee Performance through Motivation showing significant results on Employee Performance through Motivation. This is in line with the opinion of Sindang Siagian (2008) who argues that performance acts as feedback on various matters such as abilities, fatigue, deficiencies, and potential which in turn are useful for determining goals, paths, plans, and career development.

Employee motivation is seen as a mental drive that drives and directs human behavior, including learning behavior (Mudjiono 2009). This is in line with the results of the Competency, Service Quality, and Work Environment hypothesis test on Employee Performance through Motivation shows significant results. The learning process has appropriate competencies, maximum service, and a good and comfortable work environment. all the variables in this study can improve employee performance supported by high employee motivation.

d. The Effect of Motivation on Employee Performance in the Personnel and Human Resources Development Agency (BKPSDM) Batu City.

Motivation is an impulse that makes people act or behave in motivational ways that refer to the causes for the emergence of behavior such as the factors that encourage someone to do or not do something (Terry, 2009). This is in line with the existence of motivational goals according to Malayu SP Hasibuan (2006: 146) which reveals that motivational goals can increase employee work productivity, increase employee loyalty, creativity and participation as well as heighten employees' sense of responsibility towards their duties.

Performance is the result that can be achieved by a person or group of people in an organization, which is in accordance with the authority and responsibility of each in an effort to achieve organizational goals. In addition, it does not violate the law and is in accordance with morals and ethics (Prawirasentono, 2008). One of the factors that influence performance is motivation. Willingness to issue a high level towards organizational goals is conditioned by the ability of efforts to meet an individual need (Boudreau and Milkovich 1997:99). This will greatly affect employee performance. The existence of this opinion is also in line with the results of hypothesis testing which shows that motivation has a significant effect on employee performance.

5. Conclusion

The description of the competency variable is consistent with the existence of the trait by paying attention to it Self-sufficiency of employees to cope with stress, solve language problems and work after hours. Skills to complete tasks and responsibilities are also approved by employees and skills with employee confidence, expertise, and communication skills are also approved by her BKPSDM employees in Batu City. Different service quality pays average attention to reliability, responsiveness, courtesy, and reliability, approved by her BKPSDM staff in Batu City to provide the best service in fulfilling duties and responsibilities to do. The physical and psychological work environment is also very influential in determining the performance of BKPSDM employees. This includes working area lighting, good air circulation, absence of conflicts between employees, and receipt of protection and safety from authorities. Ability, and service quality, as approved by all BKPSDM Kotabato

employees for performance variables and motivation variables considering aspects of collaboration, responsibility, and goal attainment by paying attention to motivations, expectations, and incentives, and BKPSDM Kota Stone provide a work environment that can improve performance through motivation.

Competence, quality of service, and working environment have a significant impact on the performance of Batu City employees at the Human Resources and Human Resources Development Board (BKPSDM). **c.** Competence, quality of service, and work environment have a significant impact on motivation Human Resources and Human Resources Development Board (BKPSDM) Batu City. **d.** Competence, quality of service, and working environment have a significant impact on employees.

Results of Motivation in Human Resource Development Agency in Batu City (BKPSDM).

Motivation has a significant impact on employee performance in the areas of human resources and people Batu City Resources Development Board (BKPSDM).

Human Resources and Human Resources Development Board (BKPSDM) In order to improve the performance of Batu City staff, the director, secretary, and heads of departments will further optimize human resources and human resource development talents. bottom. Agency (BKPSDM) Batu City by respecting what it can Improve employee performance. Potential researchers wish to study the impact of competence, quality of service and work environment on employee performance through motivation as an intervening variable and also influence employee performance and motivation as an intervention variable. Other unstudied variables that have been reported to give should be added. This research can benefit the public and can be further developed by adapting the development of the place where the research takes place, allowing BKPSDM Batu City to assess competence, quality of service, working environment, and The basis for applying it to performance. BKPSDM helps in Batu City.

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Factors Influencing The Quality of Construction Projects in Public Universities

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Abstract

The study aims to determine factors affecting project quality in public universities in eastern Ethiopia. The researchers used primary data in a quantitative research approach to accomplish the objectives. The dependent variable, project quality, is regressed on five Explanatory variables: Leadership, Policy & Strategy, People, Partnership & Resources, and Process. Each of these characteristics was gathered from the consultant, client, and contractor. In order to determine the validity of the model. All multiple regression assumption tests were found to be valid. According to regression analysis, it was found that Leadership, Policy & Strategy, People, Partnership & Resources, and Process all have a substantial impact on project quality. The analysis from one-way ANOVA revealed that clients, contractors, and consultants have similar perceptions of the five quality attributes, leadership, people and policy and strategy, partnership and resources and process. Results from this research can be used by construction firms to improve their quality management systems, as they will indicate where the emphasis should be focused to ensure the ongoing improvement of project quality and sustainability.

Keywords: Project, Project Quality, Leadership Policy and Strategy, Partnership and Resource

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1. Introduction

1.1 Background

As in most developing countries, Ethiopia's construction industry has significantly contributed to the economy's growth through infrastructure development. (Kuhil and Seifu,

2019). It also shared a considerable amount of the country's scarce financial resources. Construction is booming in Ethiopia, accounting for 18% of the country's GDP during 2017-2018. The construction sector is currently the largest employer in the country, with more than two million people employed in full-time and temporary jobs. (BBC News, 2019). For many people, a project is considered successful if it is finished on time with the agreed quality, on time and within budget, and to everyone's delight. Functionality, profitability to contractors, absence of claims and legal action, and "fitness for purpose" for occupants have also been used to gauge project success (Assaf and Al-Hejji, 2006). There is solid evidence that most construction projects fail in terms of quality and timely completion. Despite this, the construction industry has developed significantly and contributed significantly to the country's economy. It is not uncommon for these important variables to be below the national average in the construction business. A wide range of issues affect the sector, and the consequences are dire. The difficulty facing the construction business is identifying the important variables that influence the quality, taking proactive efforts to ensure customer satisfaction, and maintaining continual progress in the industry (S Shanmugapriya and Subramanian, 2015)

A vital aspect of the building industry is ensuring that the project meets all established standards and specifications. The goal is to win over clients from other businesses. In order for a company to be successful, it must have the ability to create, implement, and demonstrate the right management systems. (Gherbal *et al.*, 2012). "Quality has become an important means of competition and a strategic weapon to boost the market share and profitability" (Harris *et al.*, 2021). Construction companies are under enormous pressure to enhance the quality of their goods and establish efficient quality management systems in order to remain competitive. This pressure comes from the market, their competitors, and the growing demands of their customers. Rework, bad contract paperwork, inept craftsmanship, lack of attention to quality, and inadequate monitoring and inspection can all contribute to quality failures and flaws. (Love and Edwards, 2004). All quality failures have one thing in common: they reduce project efficiency, increase time and expense, and negatively impact the construction industry's overall performance.

1.2. Statements of the problem

Time, cost and quality have been accepted as key project success factors (Joslin and Müller, 2015). Among these three generally accepted constraints, the quality dimension is studied as the least explicit feature of project success. Quality is currently becoming an imperative distinguishing factor as the cost and time of public infrastructure projects. In order to accomplish the time and cost objectives, project quality is mostly ignored (Atkinson, 1999; Hamid, 2015). quality might sometimes be overlooked by the contracting parties in the construction industry to cut back the project costs and schedule. (Turk, 2006). Better quality in construction projects is a well-known factor in the global success and sustainability of projects by the public construction industry. In the construction industry, quality is defined as the effective sustainability and successful accomplishment of contracted project goals between the client and the service provider or main contractor (Fan, 1995) and conformance with requirements (Samuels, 1994). Quality requires proper supervision in every project phase, which is the particular accomplishment of the quality assurance system (Jraisat, Jreisat and Hattar, 2016). Currently, quality is given extra attention to clients' expectations of quality are increasing (Gan *et al.*, 2017) because it relates to the durability and sustainability of the project. Quality means a product or service meets the established criteria in the construction

sector. To win over clients from competitors is a business strategy. Organizations that consistently produce high-quality products and services do so by implementing effective management systems, which they then publicly display to their consumers. (Abd-El-Hamied and Mohamed, 2014). Quality awards like the European Foundation for Quality Management model (EFQM) (Uygur and Sümerli, 2013) are used to improve an organization's quality. Studying how the five EFQM enablement criteria might improve quality performance in public university construction projects is the goal of this research.

1.3. Objectives of the project

This study aims to investigate the factors that affect the quality of building projects using evidence from Public University Construction Projects in Ethiopia. The specific goals are as follows:

- 1) To examine the factors influencing the quality of the construction projects
- 2) To rank the relative importance of factors influencing quality as perceived by the respondents.
- 3) To examine the perception of the client, contractor, and consultant towards the relative importance of factors influencing quality by analysis of variance.

1.4. Research hypotheses

To achieve the research objectives, the researcher formulated six hypotheses,

H_{A1}: There is a positive and significant relationship between Leadership and Project quality.

H_{A2}: There is a positive and significant relationship between partnership & resources and Project quality.

H_{A3}: There is a positive and significant relationship between policy & strategy and Project quality.

H_{A4}: There is a positive and significant relationship between partnership & resources and Project quality.

H_{A5}: There is a positive and significant relationship between processes and Project quality.

H_{A6}: There is a significant difference in the perception of the client, contractor, and consultant towards the relative importance of influencing factors of project quality.

2. Literature Review

Based on the European Foundation for Quality Management Model, a conceptual framework is established to explore the elements that influence quality performance in the construction industry (EFQM Model, 2003). For the five constructs of leadership, people, policy and strategy, collaboration, and resources and procedures, the broad research of quality literature generated the following indicators.

2.1 Leadership

Leaders can be defined as persons who identify the need for and implement change, set up direction, support people, motivate and inspire, communicate a vision of where the organization is headed, build teams and share decision-making, mentor and guide subordinates, and demonstrate a high degree of integrity in their professional interactions (Zenger and Folkman, 2002). Leadership is a significant aspect influencing quality in the firm, which relates to the quality system's various components. (S Shanmugapriya and

Subramanian, 2015) A construction project requires management, and the effective manager exhibits good leadership. A major obligation of the project manager is to give effective leadership during the life of a construction project (Gharehbaghi and McManus, 2003). The project manager's competence, top management support and interaction between project participants are external contributors to enhancing project quality performance from its existing level, while the owner's competence is an internal contributor as owners tend to retain the quality performance at the existing level itself (Jha, 2011). (Yusuf, Mofio and Ahmed, 2007) stated that quality management principles should be implemented continually by effective leadership. (Criado and Calvo-Mora, 2009) The degree of support management takes in implementing total quality management is critical to the success of quality management systems.

2.2. People

People enabler emphasizes how well the firms are able to utilize the full potential of its most valuable resource and asset, its people. (Matlhape and Lessing, 2002) stated that an important component of introducing quality management systems in an organization is training, development, and empowerment of employees and confirming that quality is not only for shareholder value creation but that it becomes a personal goal for them. The (EFQM Model, 2003, 2013) revealed that the competencies and skills of the employees are to be continuously developed to result in quality improvement. The firms have to create a culture that values their people and results in achieving personal and organizational goals. They have to motivate people with awards and recognition, encouraging communication and enabling the people to use their knowledge and skill for performance improvement of the organization. In high-performance organizations, people are enabled to do their best work. (S Shanmugapriya and Subramanian, 2015)

2.3. Policy and Strategy

An enabler for policy and strategy explains how policies and strategies are created and implemented. Organizational policies and strategies are critical in deciding quality efforts. Companies seeking to implement a quality system must define a quality policy. (Juran, 1992; S. Shanmugapriya and Subramanian, 2015) emphasized the importance of integrating quality goals into the overall company plan for successful total quality management. Organizations that use policy development to ensure that their employees are aware of the company's goals and how they may contribute to reaching those goals have a better chance of succeeding in quality management (Olian and Rynes, 1991). The quality policy should be utilized to define priorities, according to (Sureshchandar, Rajendran and Kamalanabhan, 2001). People tend to construct their unique standards of conduct with no official guidelines. When implementing overall quality management, organizations and facilities must have good quality policies in place, as detailed in (Oakland, 2014).

2.4. Partnership and Resources

It's important to note that partnership and resource enablers focus on the organization's ability to manage its resources efficiently and effectively, both internal and external. According to the (EFQM Model, 2003), the best and most remarkable businesses plan and manage external partnerships, suppliers, and internal resources in order to keep the policy and strategy in place and the process running smoothly. The organization's current and long-term needs should be taken into consideration while forming and managing partnerships and allocating resources. (S. Shanmugapriya and Subramanian, 2015). To formulate and implement business

strategies, tangible and intangible assets, such as financial resources and technical skills along with personal traits and experience of the firm's executives, were outlined by (Dansoh, 2005). The external emphasis of the company is encouraged, and the relevant expertise is brought in through partners.

2.5. Process

A number of processes make up a company, and each process is organized by a collection of interrelated actions that change input into output and consequence. According to (Juran, 1992; S. Shanmugapriya and Subramanian, 2015)(Juran, 1992), an effective quality planning process is the key to bridging the gap between the firm's aspirations for quality improvement and the identification of the benefits. As part of the firm's quality planning process, quality planning is one of the most important parts of TQM and the International Standardization of Organizations (ISO). Quality planning and strategic planning should be integrated into companies, according to (Inyang-Udoh, 2002). Customers and stakeholders benefit from great firms' efforts to improve processes, as outlined by the (EFQM Model, 2003, 2013). Internal processes and procedures are critical for construction companies if they are to operate efficiently and improve the quality of their work. A process enabler is one of the most important factors in any framework's successful deployment (Chinda and Mohamed, 2008).

2.2 Conceptual framework

The study's conceptual framework was based on an extensive review of the literature and the European quality award (EFQM) model. The indicators for each construct and a hypothetical model for the study are presented in Table 1 and Figure, respectively.

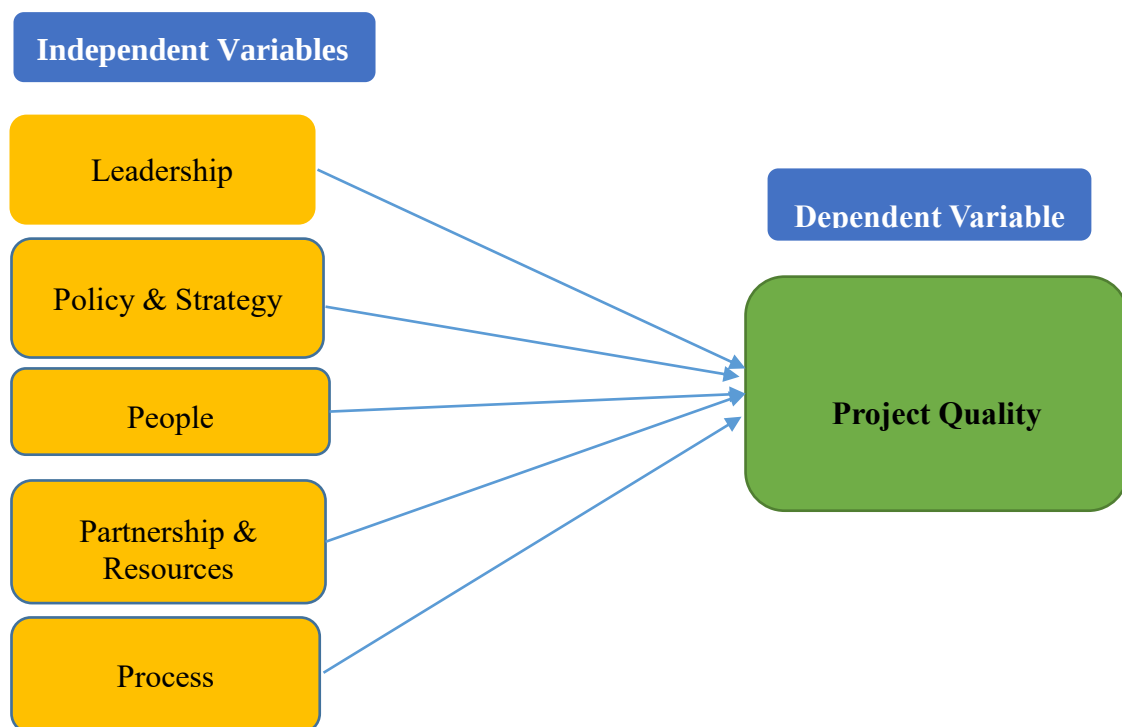


Figure 1 Conceptual framework

Table .1 Identification of Indicators for Project Quality

Construct	Code	Indicators	Reference
Leadership	L1	Role model for cultural excellence in quality	(Anderson, Fornell and Lehmann, 1994)
	L2	Responsibility for quality performance	(Jha, 2011).
	L3	Specifying quality objectives	(Gryna and Juran, 2001)
	L4	Commitment	(Chan and Tam, 2000).
	L5	Encouraging the employees	(Gherbal <i>et al.</i> , 2012).
	L6	Acknowledgement and rewarding employees	(Mahaney and Lederer, 2006).
	L7	Collaborate with employees in quality training	(Özutku, 2012).
	L8	Updating the knowledge	(Arditi and Gunaydin, 1997)
	L9	Planning & detailing the different stages of change in the project	
	L10	Measure and review the effectiveness of quality	
People	P1	Planning and managing human resources	(Gul <i>et al.</i> , 2012)
	P2	Incentives and rewards	(Jha and Iyer, 2006).
	P3	Understanding quality as their responsibility, project participants	(Serpell <i>et al.</i> , 1999)
	P4	Recruitment depends upon their skills and experience	(Lai, Weerakoon and Cheng, 2002)
	P5	Two-way communication	(McAdam and Kelly, 2002)
	P6	People are responsible for the end results of the quality	Nanda & Panda, 2013)
	P7	Giving the opportunity to implement solutions	(Lam and Tang, 2003)
	P8	Motivation systems	(Nepal, Park and Son, 2006)
	P9	Training in the principles of quality	(Ahire, Golhar and Waller, 1996)
	P10	Suggestions, feedback and complaint system	(Elsaid, Okasha and Abdelghaly, 2013)
Policy & Strategy	POS1	Satisfying the needs and expectations of the stakeholders	
	POS2	Periodic review and update of policies	
	POS3	Benchmarking techniques	
	POS4	SWOT analysis	(Wang and Huang, 2006)
	POS5	Specific and measurable objectives for quality policies	(Bassioni, Price and Hassan, 2004)
	POS6	Systematic measurement of quality costs and non-quality costs	(Samson and Terziovski, 1999).
	POS7	Systematic procedures to plan, evaluate and control project goal achievements	(Boljevic, 2007).
	POS8	Systematic procedures based on information from performance measurement of projects, research, learning and external related activities	
	POS9	Systematic assessment of the effectiveness of projects	
	POS10	Stakeholders' analysis	
Partnership &	PAS1	Long-term relations with the suppliers	(Watts and Hahn, 1993)
	PAS2	Suppliers help in providing technical assistance	

Resources	PAS3	Quality agreements with suppliers	(Inyang-Udoh,
	PAS4	Quality documentation	2002)(Rezaian,
	PAS5	The quantity of materials should be specified	2011).
	PAS6	Allocation of financial resources to meet the actual budgeted cost	(Tan and Lu, 1995)
	PAS7	Proper allocation of equipment and materials	
	PAS8	Using technology with higher operational efficiency	
	PAS9	Focus on research and development	
	PAS10	Site quality inspection of materials	
	PRO1	Systematic design and management of process	
	PRO2	Comprehensive documents	
Process	PRO3	Regular assessment of processes to bring in change and improvement	(Yasamis, Arditi and Mohammadi, 2002)
	PRO4	Using a system of indicators to revise the change	
	PRO5	Promoting efficient behaviour patterns in the process	(Vargo and Lusch, 2004)
	PRO6	Improvement of processes using an innovative technique	(Arditi and Gunaydin, 1997)
	PRO7	Satisfying customer needs	
	PRO8	Improvement of customer relationship	
	PRO9	Conformance to codes and standards	
	PRO10	Improvement of the internal working process	
Project Quality	PQ1	Identification of the quality status of work	
	PQ2	Identification of the causes of quality errors	(Yasamis, Arditi and Mohammadi, 2002)
	PQ3	Integrated quality management for projects in the company	(Vargo and Lusch, 2004)
	PQ4	Analysis and comparison of respective project quality	(Arditi and Gunaydin, 1997)
	PQ5	Review of the link with cost and schedule	
	PQ6	The setting the quality goals of the project	
	PQ7	Identification of the quality status of a project	

3. Research Method

3.1 Research Design

This research applied a descriptive survey and causal (explanatory) design to determine the cause-and-effect relationship between Project quality and the factors affecting it.

3.2. Target populations and Sample size

The total populations of this study were 252 contractors, clients, and consultants working on construction projects at Haromaya and Jigjiga universities. Using R.V.Krejcie and W. Morgan's sample size Determination formula (Krejcie and Morgan, 1970), a sample of 152 was determined. Simple random sampling, a probabilistic sampling technique, was used to select respondent samples from each University.

3.3. Instruments of data collection

This investigation used a structured questionnaire. The survey's first section collects organization and respondent information. Part two of the questionnaire contains 57 items that affect construction quality under six constructs: leadership, people, partnership & resources,

policy & strategy, process, and results. Each statement requires respondents to rate the attributes in the context of quality enhancement on a 5-point Likert scale.

3.4. Data analysis techniques

The Relative Importance Index (RII) was used to determine the relative importance of the various factors on Project quality. The equation used to find the RII is given in equation (1).

$$RII = \frac{\sum W}{(A \cdot N)} \dots \dots \dots (1)$$

Where W is the weighting given to each factor by the respondents (ranging from 1 to 5), A is the highest weight (i.e. 5 in this case), and N is the total number of respondents. The relative importance index (RII) ranges from 0 to 1 (0 not inclusive). The researcher's also used Analysis of Variance (ANOVA) and Ordinary least squares (OLS) regression.

The linear multiple regression equation was used as follows:

$$PQ = b_0 + b_1L + b_2POS + b_3P + b_4PAR + b_5PRO \dots \dots \dots (2)$$

Where: b_i & b_{ii} ($i = 0, 1, 2, 3 \dots$) are the coefficients, ε is the error variable, PQ is the dependent variable related to Project Quality, and L, POS, P, PAR, and PRO are independent variables.

4. Findings and Discussions

4.1 Demographic information of respondents

Questionnaires were distributed to 152 contractors, clients, and consultants; however, 148 questionnaires were collected. Table 2 provides respondent demographics. 38% were Contractors, 18% were Consultants, and 45% were Clients. 104 respondents (70%) have bachelor's degrees. Most respondents had 6–10 years of professional experience in public construction projects.

Table 2 Demographic information of respondents

Character	Respondents' Profile	Frequency	Percentage (%)
Education	Diploma	19	13%
	Bachelor degree	104	70%
	Master degree	25	17%
Experience	Less than 3 years	11	7%
	3 - 6 years	19	13%
	6 - 10 years	93	63%
	Above 10 years	25	17%
Type of Respondents	Contractors	56	38%
	Consultants	26	18%
	Clients	66	45%

4.2. Reliability

In order to ensure the reliability of the data collected, Cronbach's coefficient alpha (α) was used to test the internal consistency among items included in each factor. As a general

guideline, an instrument's internal consistency should be at least 0.70. (Zikmund, 2013), Table 3 shows that all variables' alpha (α) values are greater than the threshold value. Therefore, the result indicates that the questionnaire is more reliable.

Table 3. Reliability test

Variables	Number of Items on the scale	Cronbach's Alpha/	Decision
Project Quality	8	0.890	Reliable
Leadership	10	0.924	Reliable
Policy & Strategy	10	0.905	Reliable
People	10	0.735	Reliable
Partnership & Resources	10	0.910	Reliable
Process	10	0.914	Reliable
Overall	57	0.949	Reliable

4.3. Ranking of Quality factors using RII

Table 4 lists the perceived effect of the top ten factors influencing quality based on the ranking of factors by RII are Updating the knowledge, conformance to codes and standards, Planning and managing human resources, Quality documentation, satisfying customer needs, specifying quality objectives, Proper allocation of equipment and materials, Specific and measurable objectives for quality policies, Periodic review and update of policies and collaborate with employees in quality training. This is supported by the findings of (Juran, 1992; S. Shanmugapriya and Subramanian, 2015)

Table 4 Ranking of Quality factors using RII

Sno	Construct	Description of factors influencing quality	RII	Rank
1	Leadership	Updating the knowledge	0.835	1
2	Process	Conformance to codes and standards	0.834	2
3	People	Planning and managing human resources	0.823	3
4	Partnership & Resources	Quality documentation	0.820	4
5	Process	Satisfying customer needs	0.819	5
6	Leadership	Specifying quality objectives	0.799	6
7	Partnership & Resources	Proper allocation of equipment and materials	0.796	7
8	Policy & Strategy	Specific and measurable objectives for quality policies	0.795	8
9	Policy & Strategy	Periodic review and update of policies	0.792	9
10	Leadership	Collaborate with employees in quality training	0.791	10

4.4. Regression Assumptions Test

The study checked that data conforms to the Classical Linear Regression assumptions before carrying out regression analysis, and they are discussed in this section

4.4.1. Test of normality

Shapiro-Wilk test is a non-graphical test whereby if the test results are insignificant (above

0.05), it implies that the data being used follows a normal distribution. However, when the p-value for the variables is less or equal to 0.05 (significant), it implies that the data is not good for OLS analysis. Regarding the normality test of this subsection, the study adopted the statistical measures for the normality test, which is hypothesized as follows.

Ho: Normally distributed errors

Ha: Non-Normal Distribution error

Table 5. Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Studentized Residual	.083	148	.015	.989	148	.325

a. Lilliefors Significance Correction

The results obtained from the Shapiro-Wilk test in Table 5 indicate that all the variables had a p-value greater than (0.05); therefore, it can be concluded that the residual value is normally distributed so that the regression analysis procedures have been fulfilled.

4.4.2. Test for multicollinearity

According to (Gujarati and Porter, 1999), explanatory variables should not exhibit a high correlation with each other because that may cause unrealistic results during regression. The Variance Inflation Factor (VIF) and Tolerance were utilized in this study to see if there was a multicollinearity effect between the variables.

Ho: There is a multicollinearity problem

Ha: There is no multicollinearity problem

As indicated in Table 6, all the VIF column values are less than ten, and Tolerance values are greater than ten, respectively, indicating no multi-co linearity between the explanatory variables. As a result, we failed to reject the null hypotheses.

Table 6. Collinearity Statistics

Model	Collinearity Statistics	
	Tolerance	VIF
Leadership	0.477	2.098
People	0.955	1.047
Policy and Strategy	0.582	1.718
Partnership and Resources	0.546	1.832
Process	0.934	1.070

a. Dependent Variable: Project Quality

4.4.3. Test for Heteroscedasticity

The pattern of errors should remain constant throughout the observations, and violation of this assumption renders the Ordinary Least Square (OLS) results biased (Gujarati and Porter, 1999).

Ho: There is no heteroskedasticity problem

Ha: There is heteroskedasticity

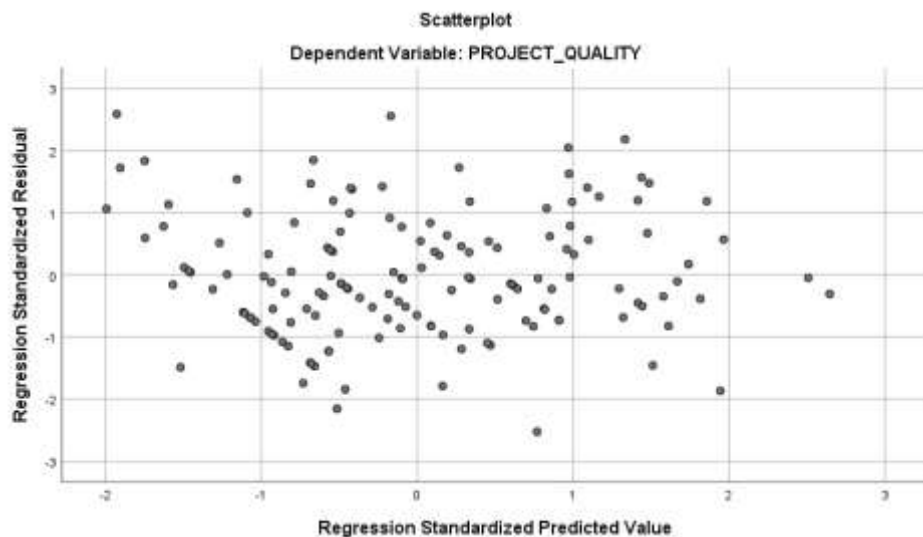


Figure 2. Test for Heteroscedasticity

Figure 2 shows a scatterplot with diffused spots, indicating that the regression model does not have heteroskedasticity.

4.4.4. Test of Outliers

The extreme values pull the regression line towards them, therefore significantly impacting the model's coefficients. Outliers are observations where the observed dependent value does not follow the general trend given the independent value.

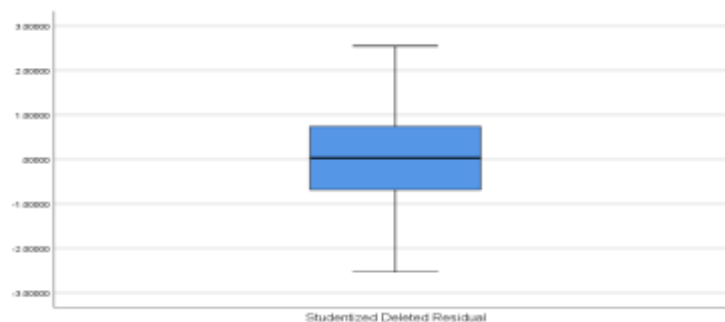


Figure 3 test of outlier

Figure 3 shows if neither end has any circles or asterisks. The box plot indicates that there are no outliers observed.

4.5. Correlation Analysis

The Pearson correlation matrix result in Table 7 shows a positive correlation between the dependent and independent variables. The relationship between Project Quality and the predictor variables was found to be positively correlated and significant

Table: 7 Pearson Correlation Coefficient

	Leadership	People	Policy & Strategy	Partnership & Resources	Process	Project Quality
Leadership	1					
People	0.011	1				
Policy & Strategy	.619**	-0.025	1			
Partnership & Resources	.647**	0.022	.536**	1		
Process	0.091	.205*	0.115	0.146	1	
Project Quality	.707**	.220**	.634**	.659**	.502**	1

** . Correlation is significant at the 0.01 level (2-tailed).

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

4.6. Multiple regression Analysis

4.6.1. Coefficient of determination

The coefficient of determination indicates the proportion of variance in the dependent variable explained by the study's explanatory variables. Table 8 shows 78.1 % of the changes in the Project Quality could be attributed to the combined effect of the predictor variables. However, 21.9 % of the variance is explained by other factors not covered in the study.

Table 8-Multiple Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.888 ^a	.788	.781	.30308

a. Predictors: (Constant), Process, Leadership, People, Policy & Strategy, Partnership & Resources

b. Dependent Variable: Project Quality

4.6.2. Overall Significance of the Model.

The ANOVA tests whether the overall regression model fits the data well. If the p-value is < 0.05, the regression model is a good fit for the data. Accordingly, Table 9 shows that the p-value < 0.05, Thus, it is found that the model is statistically significant with ($R^2 = .788$, $F(5, 142) = 105.773$, $p < .000$).

Table 9 Overall model fit

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	48.579	5	9.716	105.773	.000 ^b
	Residual	13.044	142	.092		
	Total	61.623	147			

a. Dependent Variable: Project Quality

b. Predictors: (Constant), Process, Leadership, People, Policy and Strategy, Partnership and Resources

4.6.3. Hypothesis testing:

A significant test is performed to determine whether independent variables influence the dependent variable. If the p-value is below 0.05, the results have a significant effect. The results of the significance test are shown in Table 10:

Table: 10 Tests variables' level of significant

Model				Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.791	0.382		-4.687	0.000
	Leadership	0.331	0.050	0.373	6.678	0.000
	People	0.314	0.089	0.139	3.515	0.001
	Policy And Strategy	0.232	0.049	0.240	4.740	0.000
	Partnership And Resources	0.214	0.049	0.230	4.407	0.000
	Process	0.380	0.040	0.378	9.471	0.000

a. Dependent Variable: Project Quality

Accordingly, by looking down at the standardized beta coefficients column, it is observed that process ($\beta = 0.380$, $p < .000$), Leadership with ($\beta = 0.373$, $p < .000$), Policy and Strategy ($\beta = 0.240$, $p < .000$), Partnership and Resources ($\beta = 0.230$, $p < .000$), and People ($\beta = 0.230$, $p < .000$), (0.230), respectively is positively related to project delay. Further, the 'sig' column tells whether the variable is making a statistically significant unique contribution. If $p < 0.05$, it indicates that the variable is making a significant and unique contribution to the prediction of the dependent variable.

4.7. ANOVA

The results of the ANOVA test are shown in Table 11; it has been observed that factors such as Project Quality, Leadership, Policy & Strategy, and People. Partnership & Resources and Process had the value of an insignificant value of more than 0.05, indicating the same point of view regarding the factors influencing quality in construction projects.

Table 11 ANOVA Results

		Sum of Squares	df	Mean Square	F	Sig.
Leadership	Between Groups	.036	2	.018	.033	.967
	Within Groups	78.581	145	.542		
	Total	78.617	147			
People	Between Groups	.041	2	.020	.246	.782
	Within Groups	12.004	145	.083		
	Total	12.044	147			
Policy & Strategy	Between Groups	.075	2	.038	.083	.921
	Within Groups	65.761	145	.454		
	Total	65.836	147			
Partnership & Resources	Between Groups	.092	2	.046	.094	.910
	Within Groups	71.082	145	.490		
	Total	71.174	147			
Process	Between Groups	.802	2	.401	.964	.384
	Within Groups	60.305	145	.416		
	Total	61.107	147			

4.8. Discussion and Interpretation of Findings

The model analysis results revealed that the entire hypothesis in the project quality model is significant and makes a unique contribution to the prediction of the dependent variable. This finding is supported by the study of (Juran, 1992; S. Shanmugapriya and Subramanian, 2015). The summary of the regression model and hypothesis test is presented in Table 12.

Table 12. Summary of Hypothesis testing:

Hypothesis	P- Value	Decision
Ha1: There is a positive and significant relationship between Leadership and Project quality.	.000	<i>Confirmed</i>
Ha2: There is a positive and significant relationship between partnership & resources and Project quality.	.000	<i>Confirmed</i>
Ha3: There is a positive and significant relationship between policy & strategy and Project quality.	.000	<i>Confirmed</i>
Ha4: There is a positive and significant relationship between partnership & resources and Project quality.	.000	<i>Confirmed</i>
Ha5: There is a positive and significant relationship between processes and Project quality.	.000	<i>Confirmed</i>
Ha6: There is a significant difference in the perception of the client, contractor, and consultant towards the relative importance of influencing factors of project quality.	>0.05	<i>Confirmed</i>

5. Conclusion

This research aims to help the construction industry identify quality-affecting factors and examine their interactions and causal relationships. Understanding how leadership, people,

policy and strategy, partnership and resources, and process affect quality helps construction firms achieve their goals and find opportunities for improvement. This research resulted in the following findings.

- The top five factors influencing quality in construction projects based on the ranking factors by RII are Updating the knowledge of leaders, conformance to codes and standards, Planning and managing human resources, quality documentation, satisfying customer needs, specifying quality objectives,
- The computed Relative Importance Index provided a benchmark for ranking the factors influencing quality in construction projects to inform the basis for determining the top-ranked factor and the least-ranked factors. It is recommended that construction professionals need to be aware of these factors to improve project quality
- Statistical analysis is carried out using one-way ANOVA to study whether the difference exists in the perceptions of three parties, namely clients, contractors and consultants; the analysis revealed that clients, contractors and consultants have similar perceptions of the five quality attributes, leadership, people and policy and strategy, partnership and resources and process.
- The model outcome on the rank of quality factors as a strategic tool to identify potential causes and effects. It will accelerate and improve construction quality if its possible effects are correctly identified and understood.
- Because the data used to develop the model was current, the results will provide clients, consultants, and contractors with awareness in updating their understanding of the critical factors affecting project quality in dealing with recent construction Projects from public universities.
- The model results can also inform new company policies to improve construction workers' and engineers' skills to find the best solutions for potential challenges in project quality, particularly long-term effects.

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The Impact of Financial Literacy on Access to Finance: Does Risk Attitude Matter?

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Abstract

The purpose of the paper was to assess the effect of financial literacy on the access to finance of SMEs. Thus, the study examined the effect of financial literacy on SMEs' access to finance in developing economies. Data for the study was collected from SME owners/managers in Ghana through questionnaires. 396 questionnaires were analyzed. The Partial Least Square Structural Equation Modelling (PLS-SEM) was used as the main analytical tool. The study found a significant positive association between financial literacy and access to finance. Financial literacy also had a positive significant effect on risk attitude, whereas the link between risk attitude and access to finance was also found significant. Again, the study showed that risk attitude matters in the nexus between financial literacy and access to finance, as it was found to mediate the link between financial literacy and access to finance. Our findings affirm the dual process theory of reasoning where an entrepreneur's decision to access finance is guided by two systems of thinking: the automatic unconscious system based on their risk attitude, and the deliberate conscious system where different considerations and models are weighed up based on their financial literacy, both of which serves to magnify or dampen rational decision-making to access business financing. The findings also affirm the Knowledge base view theory (KBV) that, financial literacy is a special strategic asset organizations can use to obtain a competitive advantage over competitors. Practically, SMEs will be encouraged to improve their financial literacy and risk attitude skills.

Keywords: SMEs, Financial Literacy, Access to Finance, Risk Attitude, PLS-SEM

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1. Introduction

Financial literacy and its role in helping entrepreneurs make prudent financial decisions including accessing external finance for the growth of their businesses has recently grown in importance (Potrich & Vieira, 2018). In developed and emerging countries, policymakers are increasingly paying attention to this field of study. Helping people make wise financial decisions when dealing with financial concerns is one of the key goals of financial literacy.

SMEs play a crucial role in the economic growth of both developed and developing nations. As indicated in earlier studies, they contribute to employment and economic growth (Aphu, 2018; Khan et al., 2020). However, SMEs encounter numerous difficulties that place a limitation on their ability to contribute to economic progress (Beck et al., 2006; Khan et al., 2021; Wang, 2016). Adomako et al. (2016), noted that the lack of financial management skills of SMEs is a major constraint to business success. Prior researchers (Buchdadi et al., 2020; Korkmaz et al., 2021; Ye & Kulathunga, 2019) have established the relevance of financial literacy in making financial decisions for businesses. With the continuous rate of business failures in developing economies which has mostly been attributed to a lack of access to finance (Beck et al., 2006; Cressy, 2006), we examine the effect of financial literacy on access to finance and introduce risk attitude as a link to investigate the potential magnifying or dampening role that risk attitude could play in the relationship between financial literacy and access to finance.

Researchers are increasingly paying attention to the risk attitude of SMEs in the management of businesses and the effect that the risk attitude of entrepreneurs has on SME growth and success. This can be attributed to the results from prior studies which have found a significant effect of risk attitude on the growth of SMEs. Researchers like Ye and Kulathunga, (2019) and Buchdadi et al. (2020) have found that the risk attitude of business owners/ managers has serious repercussions for business success. The desire for risk-taking is one of the key characteristics of entrepreneurs (Kim, 2011). Risk attitude measures people's chosen response to uncertainty. According to Ye & Kulathunga (2019), risk attitude significantly affects business success and sustainability. Nguyen et al. (2022), ascribe this to the uncertainties associated with each financial choice taken in business. We, therefore, argue that examining risk attitude in the link between financial literacy and access to finance is necessary since risk attitude significantly affects the outcome of decisions. However, studies examining risk attitude as a mediating factor in the link between financial literacy and access to finance are scarce. Much attention has not been given to this topic; hence, we examine risk attitude as a mediator in the financial literacy- access to finance association.

According to Adomako et al. (2016), financial access is the ability to obtain finance to support SME business operations. In this study, access to finance is conceptualized as the ability to obtain financial assistance from financial institutions to support business operations and the satisfaction derived from the service that was rendered. The attainment of financial support is crucial for SMEs as access to credit remains a major restraint for SMEs over the world. The World Bank in its 2014 World Bank Global Report, found that SMEs face financial management constraints that cause them to not meet their expected role in growth

and development. The call for financial inclusion of SMEs is nothing new, however, the continuous unsustainability of SMEs due to financial constraints has brought renewed interest in more financial inclusion (Adomako et al., 2016) through financial literacy. Although these calls are in place, however, how other factors such as risk attitude contribute to our understanding of the mechanisms through which financial literacy affects access to finance is still not well known. Thus, given this gap, scholars must continue to probe potential factors or channels through which financial literacy impacts access to finance to enhance our understanding and also contribute towards policy discussions in this area.

This study, consequently, extends knowledge on how financial literateness acts as a strategically noteworthy resource SMEs can use to achieve a competitive advantage in the competition by interacting with risk attitudes to aid SMEs gain financial support to grow their business. The study draws on the Knowledge base-view theory (KBV) and the dual process theory to examine the role of risk attitude in the financial literacy- access to finance nexus. Our drive is to contribute to the current debate on the implication of financial knowledge on access to credit by demonstrating the part risk attitude plays in the relationship.

The research has vital implications for lawmakers and SMEs alike as it further throws light the significance of financial literacy in shaping the risk attitude of entrepreneurs as well as their access to finance. This will inspire SMEs to make financial literacy and risk management programs such as conferences and workshops part of their annual programs to help improve their financial knowledge and attitude toward risk measures. Policymakers will also appreciate how essential it is to draw up policies such as compulsory annual financial literacy training for SMEs to boost their capacity to access finance for the growth of their businesses and the economy at large.

The principal research questions that drive the study are: does financial literacy impact access to finance? does financial literacy have an impact on risk attitude? does risk attitude affect access to finance? to what extent does risk attitude mediate the relationship between financial literacy and access to finance?

The rest of the study is presented as follows: the next section presents a review of theories and prior studies and develops the hypothesis for the study, followed by research methodology, data collection instruments, data analysis, then a discussion of findings. The final section concludes the study with some recommendations for further studies.

2. Literature Review and Hypothesis Development

2.1 The Knowledge Base View

We draw on the Knowledge-based view (KBV) theory to enhance our understanding on the relationship between financial literacy and access to finance. We discuss the benefit of financial literacy on access to finance. The KBV suggests that knowledge is a strategic resource that organizations can depend on to achieve competitive advantage (Curado, 2006).

The theory is a current extension of the resource-based view theory and considers knowledge as a special strategic resource that does not depreciate compared to other traditional organizational resources (De Carolis, 2002). Organizations are seen as heterogeneous units

filled with knowledge, and knowledge resources are difficult to copy (Wiklund & Shepherd, 2003). Wiklund and Shepherd (2003), considered KBV as the main foundation for sustainable differentiation. The main idea behind the KBV theory is that knowledge is an organizational asset that is special because it does not depreciate and cannot be easily imitated by competitors thus organizations who acquire knowledge assets can have a knowledge asymmetry advantage compared to other competitors without knowledge asset (Wiklund & Shepherd, 2003). Therefore, financial literacy is an important resource that organizations can use to obtain access to finance. According to Ye and Kulathunga (2019), financial literacy is seen as a knowledge and intellectual asset for managing finance and making effective financial decisions.

2.2 The Dual Process Theory

The dual process theory framework is used in explaining the thinking pattern of people. A central feature of the theory is that it uses two distinct processes to define human behavior (Moors, 2014). According to Kvaran and Sanfey (2013), making moral judgments results from two competing processes, the automatic and fast process and then the deliberate, slow thinking approach. The term process in the definition according to De Houwe (2011), can be explained as a mental process that changes environmental inputs to behavioral output. The dual process theory sees decisions made by people with financial literacy as being influenced by cognitive processes and intuition (Ye & Kulathunga, 2019).

Several studies have documented that financial literacy affects growth by assisting users to apply their knowledge and skills to achieve a desired objective. Financial literacy is said to affect the information asymmetry of SMEs and help them identify different sources of finance while combining their skills to obtain finance. Thus, financial literacy impacts the risk attitude of SMEs and helps them to have the courage to seek financial assistance from financial institutions for their businesses.

2.3 Small and Medium-sized Enterprises (SMEs)

Small and medium enterprises are companies that keep their assets, revenue, and workforce below a predetermined level. Although definitions may defer from nation to nation, assets, turnover, and personnel continue to be the definition's common denominators. The International Monetary Fund defines SMEs as businesses with a staff strength of between 10 and 249 employees. The Ghana Statistical Service classifies SMEs as businesses with a staff strength of between 6 and 100 employees. In both established and emerging economies, the contribution of SMEs to development has been recognized in earlier literature (Beck et al., 2005; Khan, 2022). According to Beck et al. (2005), SMEs are crucial to the revolution of transition economies. Asare (2014), posits that SMEs significantly increase employment and the Gross Domestic Product (GDP) of Ghana, particularly in the manufacturing sector. The sustainability of SMEs is, however, a major challenge despite all of these contributions (Asare, 2014), with their access to finance identified as the paramount challenge in this regard (Beck et al., 2006; Cressy, 2006). This is what motivated the current study to take another look into this challenge of SMEs to suggest some solutions.

2.4 The Impact of Financial Literacy on Access to Finance

Access to finance has been a major concern for SMEs for several years now. The main obstacle for small and medium-sized businesses is gaining access to finance (Beck et al., 2006; Cressy, 2006). A survey of the findings of several studies shows that access to capital significantly influences how quickly a company expands (Adomako et al, 2016; Beck et al., 2006; Malo and Norus, 2009; Okello et al. 2017;). However, SMEs are unable to gain access to finance to support their business. Among the reasons adduced for the lack of access to finance are that SMEs are usually young and have less available public information, and they sometimes also operate in unfamiliar sectors (Abraham & Schmukler, 2017). These challenges lead to information asymmetry and high risk (Abraham & Schmukler, 2017) thereby hindering access to finance. According to Ye and Kulathunga (2019), financial literacy can improve information asymmetry and thus increase access to finance. Several other studies have also emphasized that financial literacy can improve one's access to financing (Fatoki, 2021; Hasan et al., 2021; Hussian et al., 2018; Wachira & Kihui, 2012). According to Wise (2013) firms with higher financial literacy have a higher likelihood of loan payback and a lower likelihood of closing their business involuntarily thus granting them better chances of accessing finance. Oke (2018) also postulated that financial literacy is a significant determinant of SMEs' financial access. Wachira and Kihui (2012) posited that even with the current level of awareness of financial literacy's significance, the possibility of financially illiterate people remaining financially excluded is very high. The findings of Hasan and Hoque (2021) supported these arguments that being financially literate has a significant influence on accessing finance for business development.

Notwithstanding this, Eresia-Eke and Raath (2013) disagreed that the financial literacy of SME owners leads to business growth. Oke et al (2020) supported their argument with the finding that financial literacy does not influence access to bank finance. Dwiastanti (2015) postulated that financial literacy is not a guarantee for practicing behavioral finance due to behavior not always being influenced by knowledge but by other emotional and psychological factors. This, supports the argument of Alsemgeest (2015), that most people find themselves in a dire financial position currently than they were previously after numerous financial literacy education. The inconsistencies in these findings have warranted the curiosity to draw on the knowledge-based view theory and other empirical findings to investigate the effect of financial literacy on access to finance of SMEs in Ghana. We, therefore, hypothesize that:

H1: Financial literacy significantly impacts access to finance

2.5 Financial Literacy and Risk Attitude

Risk attitude as described in this study refers to the risk-taking attitude or risk propensity of SME owners/managers (Ye & Kaluthunga, 2019). A person's risk propensity is their current tendency to take or avoid risks (Sitkin & Pablo, 1992; Sitkin & Weingart, 1995). It can be described as the risk-averse mindset. Therefore, risk inclination might be defined as the degree to which a person is willing to seek uncertainly dangerous possibilities. SME owners and managers make many critical decisions in the day-to-day management of their businesses and these choices significantly impact how well these businesses function. A study by Ye and

Kulathunga (2019), argues that our attitude toward uncertainties influences our risk attitude and management of risk. Kim (2011), described risk attitude as a competitive trait in business, especially for those in the construction sector. Ye and Kulathunga (2019) discovered a direct positive outcome of risk attitude on business sustainability. Risk attitude was also found by Caliendo and Fossen (2010) to have a significant consequence on entrepreneurial survival. Wall and Dyer (1996) concluded that risk attitude significantly affects the financial success of petroleum corporations.

Since risk attitude has a significant influence on business sustainability, it is necessary that SMEs exhibit the right attitude towards risky decisions, and having a broad understanding of finance is essential in this regard. Hasan et al. (2021) postulated that financial decisions are strongly influenced by familiarity with various financial services. De Mel (2011) also discovered that individuals who participate in financial literacy training gain information about financial matters that may be used to make appropriate financial decisions for progress. Ramandhanty et al. (2021) postulated that higher financial literacy implies a better attitude toward risk. According to Adomako et al. (2016), lack of financial literacy has led to poor financial decisions which have led to business bankruptcies in many parts of the world. Likewise, other studies have also described the entrepreneur's decision-making capability and relationship to financial attitudes as compared to financial literacy qualities (Eniola & Etenbang, 2017). Ye and Kulathunga (2019) postulated that financial literacy significantly impacts risk attitudes, while Buchdadi et al. (2020) found that financial literacy affects the attitude of managers toward risk. Financial literacy will therefore, assist SMEs in understanding the risk associated with each decision for the success of the firm. Studies examining the relationship between financial literacy and risk attitude are however few especially in Ghana, hence this study. We hypothesize that:

H2: Financial Literacy has a significant effect on the risk attitude of SMEs

2.6 The Mediating effect of risk attitude in the relationship between financial literacy and access to finance

Guided by the dual process theory, we now argue why SMEs' access to finance increases when risk attitude is introduced in the financial literacy-access to finance nexus. Risk attitude has been found to have a significant effect on decision-making and the performance of SMEs. Buchdadi et al. (2020) found financial risk attitude to have a significant impact on the performance of SMEs. Ye and Kulathunga (2019) found risk attitude to have a positive relationship with firm sustainability. The study by Grable and Lytton (1999) also found a significant relationship between total income earned and financial risk attitude. It is generally estimated that people's tendency to engage in risky ventures is based on the expected benefit to be derived from the said risk (Ye & Kulathunga, 2019). Therefore, Gilmore (2004) concluded that having the right risk attitude should result in better performance.

Access to finance in developing countries is a major constraint for SMEs (Robson et al., 2008). Literature suggests that this plight is sometimes worsened by the risk attitude of entrepreneurs (Hermansson, 2015). A study by Mullei and Bokea (1999) posited that banks reduce the risk associated with financing SMEs by demanding collateral before loans can be

provided. SMEs mostly, however, do not have adequate collateral to enable access to loans (Osano & Languitane, 2016). This, therefore, reduces their chances of obtaining bank loans. Hermansson (2015) posited that people with high and medium risk have more financial assets and debts compared to those that are risk averse. Hyll and Irrek (2015), concluded that a high-risk attitude is synonymous with owning financial assets such as stocks, bonds, and company assets. Arrow (1984) postulated that the willingness to take risks increases as wealth increases. Therefore, the right proportion of risk attitude can give SMEs the courage to make wealth and invest in financial assets (Hermansson, 2015) which will lead to the needed collateral when seeking to access finance, thereby increasing their chances of having access to finance.

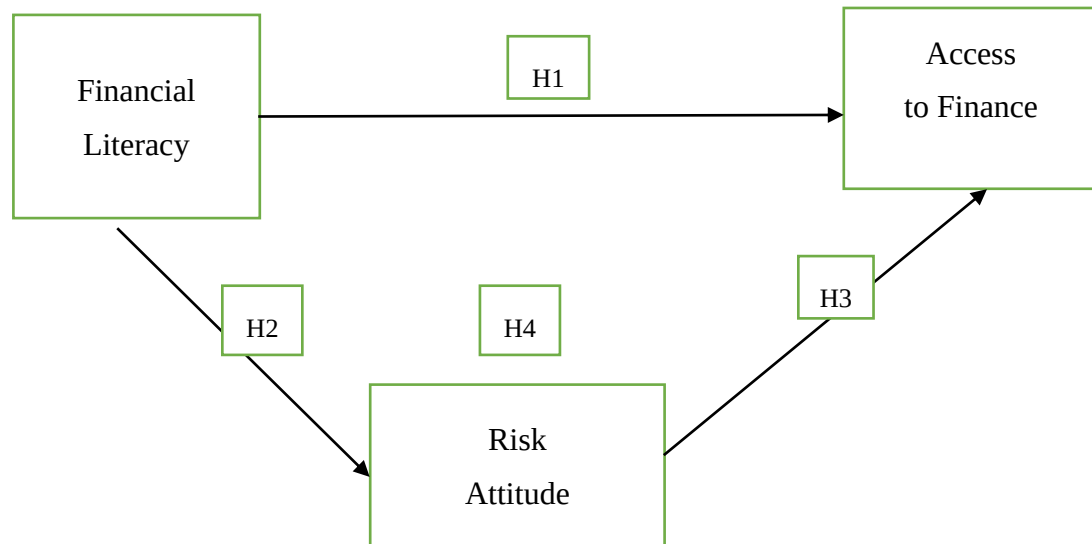
Korkmaz et al. (2021) found that a significant characteristic of financial literacy is to encourage risk-taking behavior while Buchdadi et al. (2020) postulated that those with high financial literacy manage risk better than those with low financial literacy. The argument was further supported by other studies (Goswami et al. 2017; Hsiao & Tsai, 2018) that financial literacy makes entrepreneurs exhibit a better risk attitude. Carretta et al. (2017) confirmed that financial illiterates on average have their risk attitude more negative than financial literates do. Eniola and Etenbang (2017) postulated that the quality of an entrepreneur's decision-making is determined by his financial literacy. Caliendo and Fossen (2010) believe risk attitude has a significant effect on entrepreneurial survival in business. Nonetheless, Zhang et al. (2021) found that financial literacy was unable to reduce the losses during the stock market crash in 2015, of the earnings of families with risky assets.

Even though there are quite several studies examining the influence of financial literacy on risk attitude and on access to finance, as well as studies examining risk attitude effect on access to finance, not much attention has been accorded to studies examining risk attitude as a mediator in the connection between financial literacy and access to finance. Thus, based on the dual process theory, we suggest that financial literacy can influence the risk attitude of SMEs and give them the courage to make wealth which can in turn increase their chances of having access to finance for their businesses. From the foregoing, therefore, we endeavor to test the following hypotheses:

H3: Risk attitude significantly impacts access to finance

H4: Risk attitude significantly mediates the relationship between financial literacy and access to finance

The hypothesized relationships and the variables are shown in Figure I.



3. Research Method

To test the hypothesis for the study, we used SMEs in Ghana, a sub-Saharan African country. Ghana shares a border with Ivory Coast in the West, Burkina Faso in the North, and Togo in the East and is the second most populated country in West Africa, second to Nigeria with about 31 million inhabitants according to the recent population census (Ghana Statistical Service, 2021). The World Bank (2010), recognized Ghana as one of the few countries to have been able to cut down on severe hunger among its citizens. Like most developing economies, SMEs remain a major contributor to employment in Ghana, however, Adomako et al. (2016) noted that skills gap is a major constraint that affects SMEs in making wise financial choices. This challenge is attributed to the low level of education in developing countries (World bank, 2009). Low educational levels tend to make people create survival businesses (Adomako et al., 2016), however, low-level education can also hinder the performance of the business, making survival difficult. This has made it difficult for SME businesses to survive more than 5 years after their establishment (Akoto, 2022). Ghana, therefore, becomes a good case study to conduct our research since its environment is typical of those in which financial literacy may be one of the main constraints for business success.

Data for the study was gathered from respondents from the Ghana Enterprise Agency in Accra. According to the Ghana Statistical Service Integrated Business Establishment Survey Phase I, 2015, the Greater Accra region, of which Accra is the capital has 27,192 SMEs. The sample size determination was done using the Slovin's formula, $n = \frac{N}{1 + N.e^2}$, $n = \frac{27,192}{1 + 27,192 (0.05)^2}$ $n = 394$. The purposive sampling method was used to collect data from SME owners/managers, who usually are the decision-makers of businesses. A total of

550 questionnaires were distributed, out of which 400 questionnaires were received and 396 were found acceptable after the unfit ones were taken out. The primary analytical tool used for the study was the Partial Least Square Structural Equation Modeling (PLS-SEM), whereas descriptive statistics were used to describe the demographic characteristics of the SMEs. This analytical tool has been accepted and used in previous research (Aydemir & Aren, 2017; Potrich et al, 2016; Wasiuzzaman et al. 2020).

3.1 Measurement

The study relied on prior research items to examine the key constructs. Table II shows a summary of the predictor measures and factor loadings and while table III shows the Cronbach alpha. All the reliability values were within the recommended threshold of 0.7 and above.

To ensure validity, the study's instruments were tested by providing copies to three (3) experts in business and academia to examine the questions (Fraenkel, et al. 2012). For each question, at least two (2) members must agree to the relevance in order to retain it as part of the final instrument. The experts recommended changes to some questions they felt were not focused enough. In a situation whereby 2 of the experts raised the same set of suggestions concerning a particular item, their suggestions were adopted while the questions were remodified.

Also, a pilot test was conducted, and SMEs in some designated areas were given questionnaires to fill. They were also asked to make criticisms on the clarity and time of filling the questionnaires. The questionnaires were refined for clarity afterward.

Financial literacy: The measurement of financial literacy was adapted from Adomako, (2015). The following statements were made for respondents to indicate their agreement : (a) We prepare financial statements every month (b) We review financial reports every month (c) We analyze financial statements every month (d) We understand the gross profit margin of the business. The last question was adapted from Chen and Volpe, (1998), (e) We understand the requirements for a bank loan. A seven-point Likert scale, from strongly perform to strongly not perform, was presented to the respondents.

Access to finance: The questions on access to finance were adapted from (Adomako, 2015) and are as follows: I have easy access to finance; the loan products the bank offers are good for business; the terms and conditions of the loan are satisfactory; I am generally satisfied with access to finance. These were evaluated on a seven-point Likert scale, from strongly satisfied to strongly dissatisfied.

Risk Attitude: The instrument for measuring risk attitude came from Ye and Kulathunga, (2019). On a Likert scale from 1 to 7, respondents were asked how likely they were to take the following actions. Invest 10% of revenue annually for business development, invest 10% of your annual income to buy stocks / mutual funds, put 10% of monthly revenue into a business emergency fund, and bet a day's revenue in a high-risk game.

4. Result and Discussion

4.1. Descriptive statistics

The study found that the service sector had the highest frequency of 218 and accounted for 55.1% of the population, followed by the industrial sector with 115 and 29% of the population, and the agriculture sector with 63 and 15.9% of the population. The fact that more SMEs are in the service sector confirms the sector as the major contributor to the gross domestic product of Ghana (Owusu et al.2019).

A total of 183 workers (46.2%) work for companies with staff sizes between 31 and 60. Businesses with a staff size of 61 to 100 had 103 employees (26%), and those with a staff size of 6 to 30 had 110 (27.8%). We identified that 129 businesses or 32.6% of all the companies had been around for fewer than three years. This shows that although more of the SMEs are in the medium size (31-100), the majority are far from reaching a staff size of 100. More than 46% of them have staff sizes between 31- 60. This implies that more needs to be done for SMEs to reach their full potential of employment in order to reduce unemployment in Ghana.

Businesses older than ten years had a frequency of 112, or 28.3%; businesses between seven and ten years had a frequency of 107, or 27%, and businesses younger than three years had a frequency of 129, or 32.6%, those between 3-6 years were 48, or 12.1%. We realized that the majority of the businesses were found to have been in existence for less than 3 years (32.6%) while those above 10 years were 28.3% confirming the unsustainability of SMEs (Ye and Kulanthunga,2019). (See Table 1 below).

Table 1: The Profile of the Sample

Sector	Frequency	Percentage
Agriculture	63	15.9 %
Industrial	115	29 %
Service	218	55.1 %
Company Size		
6 – 30 employees	110	27.8 %
31 – 60 employees	183	46.2 %
61- 100 employees	103	26 %
Age of the Company		
Below 3 years	129	32.6 %
3 – 6 years	48	12.1 %
7 – 10 years	107	27 %
Above 10	112	28.3

4.2. Data Analysis

The partial least square structural equation modeling, PLS-SEM was used for the analysis of data. SEM has two levels of analysis, the measurement model and the structural model. The measurement model assesses the latent variables while the structural model measures the path

relationship between the variables (Hoyle 1995; Kline,2010). The measurement model measures reliability and validity. The structural model can only be done after the required thresholds for reliability and validity have been satisfied. The threshold for all the variables was satisfied, thus we proceeded with the structural model to assess the path relationships among the variables.

4.2.1 The Measurement Model

The quality of the constructs in the study is assessed based on the evaluation of the measurement of the model. The assessment of the quality criteria starts with an evaluation of factors loadings which are followed by establishing the construct reliability and construct validity.

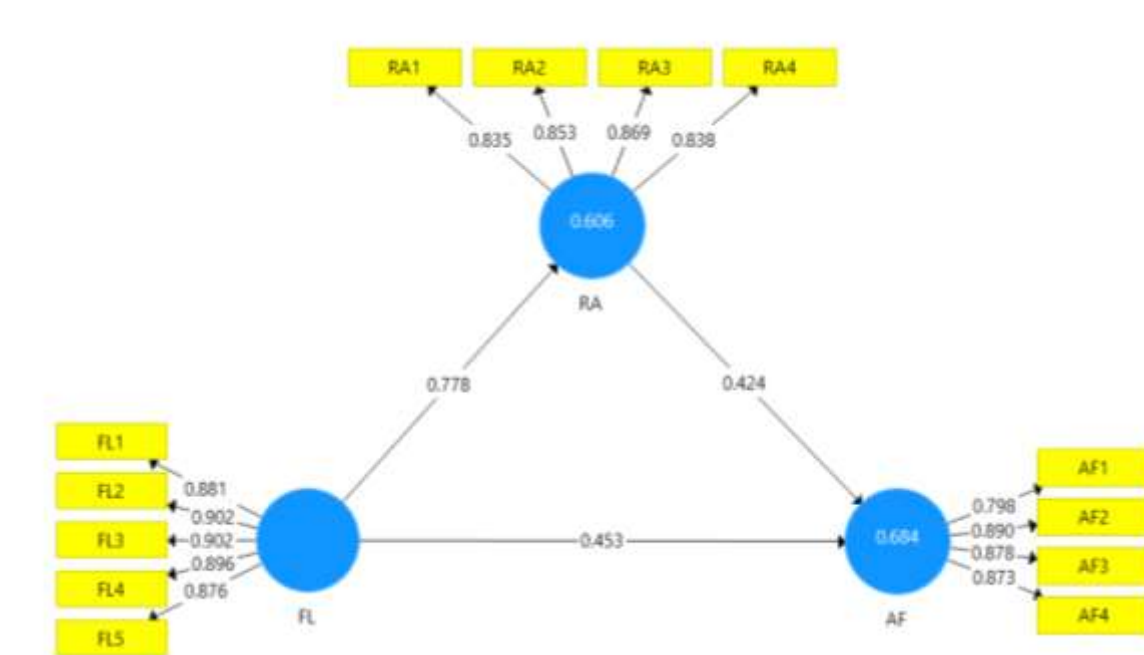


Figure 2. The Measurement Model

4.2.2 Factor loadings

Factor loadings measure the extent to which a variable is correlated to a given factor. Factor loadings for the study were within the required threshold of 0.6 or higher (Awang,2015) as recommended.

Table 2: Factor Loading

	Access to Finance	Financial Literacy	Risk Attitude
AF1	0.798		
AF2	0.890		
AF3	0.878		
AF4	0.873		
FL1		0.881	
FL2		0.902	
FL3		0.902	
FL4		0.896	
FL5		0.876	
RA1			0.835
RA2			0.853
RA3			0.869
RA4			0.838

Note: AF1-RA4 represent the research questions answered by respondents

4.2.3. Reliability

Reliability is the degree of an instrument's stability and consistency. The most common method for reliability includes Cronbach alpha and composite reliability. A criterion of 0.70 or higher is considered acceptable (Hair et al., 2011). Reliability was established since both Cronbach alpha and composite reliability values were above 0.7.

Table 3: Cronbach's alpha evaluation results and composite reliability

	Cronbach's Alpha	Composite Reliability
Access to Fin.	0.882	0.919
Fin. Literacy	0.935	0.951
Risk Attitude	0.871	0.912

4.2.4. Convergent validity

Convergent validity is assured when several attempts to examine the same concept converge or are in agreement. The idea is that two or more measures of the same thing should covary extremely if they are valid measures of the same concept (Bagozzi et al., 1991). The average variance extracted (AVE) shows that items converge to measure the underlying construct and establish convergent validity when above or equal to 0.50 (Fornell & Larcker, 1981). The AVE below shows items converging to measure the constructs.

Table 4. Convergent Validity (AVE)

	Average Variance Extracted (AVE)
Access to Fin.	0.740
Fin. Literacy	0.795
Risk Attitude	0.721

4.2.5. Discriminant Validity

According to Fornell and Larcker's (1981) criterion, Discriminant validity is proved when the square root of AVE for a concept is more significant than its correlation with other constructs. The construct's square root of AVE (in bold italic) was more significant than its correlation with other constructs, as indicated below.

Table 5: Discriminant Validity – Fornell and Larcker Criterion

	Access to Fin.	Fin. Literacy	Risk Attitude
Access to Fin.	<i>0.860</i>		
Fin. Literacy	0.783	<i>0.891</i>	
Risk Attitude.	0.777	0.778	<i>0.849</i>

Note: Bold and Italics represent the square root of AVE.

4.2.6. Heterotrait -Monorait Ratio (HTMT)

HTML is based on the assessment of the construct. Discriminant validity is established on the HTMT ratio. The threshold for HTMT has been debated in the prior literature. For example, Kline (2011) suggested a threshold of 0.85 or less, while Teo et al., (2008) recommend a liberal threshold value of 0.90 or less. The HTMT in the table below met the recommended threshold by Teo et al. (2008).

Table 6: Discriminant Validity – HTMT

	Access to Fin.	Fin. Literacy	Risk Attitude
Access to Fin.			
Fin. Literacy	0.862		
Risk Attitude	0.885	0.861	

4.2.7. The Goodness of Fit (Model's Predictive Capacity)

The results revealed an R square value of 0.684 for access to finance and 0.606 for risk attitude signifying that a 68.4% discrepancy in access to finance may be credited to financial literacy and risk attitude. The 60.6% discrepancy in risk attitude can be attributed to financial literacy. These imply that other predictive variables contribute to explaining SMEs' access to finance. Likewise, other predictive variables contribute to explaining risk attitude aside from financial literacy, which future studies can explore.

Table 7. Goodness of Fit

	R Square
AF	0.684
RA	0.606

4.3 Structural Model

The next step in structural modeling is evaluating the hypothesized relationship to validate the proposed hypotheses. An assessment of the hypothesized relationships was done to substantiate the proposed hypotheses. The bootstrapping technique in SEM is used in determining the significance of the various relationships.

4.3.1 Hypothesis Testing

The study's hypotheses were tested. The bootstrapping method was used to test the direct and indirect relationships. The direct relationships included the impact of financial literacy on access to finance, the impact of risk attitude on access to finance, and the impact of financial literacy on risk attitude. Risk attitude was used as a mediator in the link between financial literacy and access to finance. Hypothesis 1, examined the relationship between financial literacy and access to finance. The result was positive and significant ($\beta = 0.453$, $p = 0.048$), thus hypothesis 1 was accepted, in that, financial literacy positively impacts access to finance. Hypothesis 2 was also accepted ($\beta = 0.778$, $p = 0.028$), meaning financial literacy positively affects risk attitude. Hypothesis 3 was likewise confirmed ($\beta = 0.424$, $p = 0.047$) that risk attitude has a positive relationship with access to finance. Direct relationships are indicated in table 8 below.

Table 8. Direct Relationship Results

	Beta Coefficient	T Statistics (O/STDEV)	P Values
FL -> AF	0.453	0.451	0.048
FL -> RA	0.778	0.777	0.028
RA -> AF	0.424	0.424	0.047

Hypothesis 4 proposed that risk attitude mediates the relationship between financial literacy and access to finance. The hypothesis was supported, in that, we found risk attitude mediates the connection between financial literacy and access to finance ($\beta = 0.330$, $p = 0.000$).

Table 9. Indirect Relationship Result

	Beta Coefficient	T Statistics	P Values
FL -> RA -> AF	0.330	8.395	0.000

4.4. Discussion

The study examined the link between financial literacy and access to finance for small and medium businesses in developing economies. PLS-Structural Equation Modelling (SEM) was the statistical tool used for the analysis. We found the association between financial literacy and access to finance to be positively significant; this implies that having financially literate SME owners/managers brings about an understanding of the requirements necessary to attain financial assistance from financial institutions. Financially literate SMEs can also analyze different stages and sources of finance to access financing for their business. This finding is consistent with the study of Ye and Kulathunga (2019), who found financial literacy to have a significant effect on access to finance in Sri Lanka, and that of Buchdadi et al. (2020) who postulated that financial literacy significantly influences access to finance. A related study by Han (2018) also recorded support for the link between financial literacy and borrowing. These findings further prove that the many business failures of SMEs attributed to lack of access to finance can suggestively be abridged with financial literacy education. This may be attributed to the capability of financial literacy to assist in eliminating the information gap by assisting SMEs with the needed knowledge to acquire access to finance. The finding is however inconsistent with that of Eresia-Eke and Raath (2013), who found an insignificant connection between financial literacy and access to finance. Likewise, Oke et al. (2020) also found no significant influence of financial literacy on access to bank finance. Their discovery was also supported by Dwiastanti (2015), who claimed that being financially literate is not a guarantee that behavioral finance will be practiced since behavior may not always be influenced by facts but by other emotional and psychological factors.

We also recorded a positive link in the relationship between financial literacy and risk attitude, which is in agreement with the study done by Ye and Kulathunga (2019), that financial literacy positively influences financial risk attitude. This infers that financially literate SME owners/managers can analyze risky opportunities well to take advantage of available opportunities while mitigating threats simultaneously. The finding is further confirmed by the results of several prior research efforts that being financially literate helps in making wise financial choices when considering risky measures (De Mel, 2011; Anshika and Singla, 2022). A similar result was found by Korkmaz et al. (2021), which posited that financial knowledge encourages better risk-taking behavior. This result however differs from

that of Zhang et al. (2021) who found financial literacy was insignificant in the reduction of losses in the financial earnings of households having risky assets during the stock market crash in 2015.

The hypothesis on the effect of risk attitude on access to finance was also supported. This finding shows that the entrepreneur's attitude towards risk affects his ability to access finance. This finding is congruent with the result from Han et al. (2018) who found a positive association between risk attitude and online borrowing. Hermansson (2015) recorded that persons with high-risk appetites have higher debt compared to those with low-risk appetites. This shows that the desire to access debt finance is significantly influenced by the risk attitude of a person. This finding confirms that of Yao et al. (2004) that risk takers can take on available opportunities to create wealth which in the long run becomes security for accessing finance.

The proposed hypothesis on the mediating role of risk attitude in the link between financial literacy and access to finance was also supported. Partial mediation is evidenced since a direct relationship exists between financial literacy and financial access. This shows that financial literacy impacts risk attitude to impact access to finance. This finding shows that SMEs who are financially literate can assess opportunities and threats which assist them to know when, where, as well as what is needed to access finance. The fact that risk attitude mediates the nexus between financial literacy and access to finance is congruent with the dual process theory. This is because, financial literacy impacts subconscious reasoning which further impacts conscious reasoning, analysis, and the decision-making capacities of individuals (Ye & Kulathunga, 2019). This finding is also consistent with the knowledge base view since financial literacy can be considered a strategically significant asset for gaining a competitive advantage over competitors (Curado, 2006).

5. Conclusion

The research investigated the role of financial literacy in accessing finance by small and medium enterprises (SMEs). The various hypotheses developed were found to be significant. The study results showed that financial literacy has significant implications for SME access to credit and risk attitude. SME owners/managers should therefore, make financial literacy an important strategic asset for their companies since it can help in reducing the information gap on sources of finance and requirements for obtaining finance from financial institutions. SME owners/ managers with risk attitude problems can also improve them with financial knowledge. Training and workshops on financial literacy should be regularly attended to help improve their financial knowledge.

As policymakers continue in their pursuit of improving access to finance for SME businesses, policies such as annual financial literacy and risk management training and seminars for SME owners/managers can be considered to assist in improving the financial literacy and risk attitude of SMEs.

The introduction of risk attitude in the association between financial literacy and access to finance makes a novel contribution to the literature on SME sustainability. It introduces risk attitude as a new link through which financial literacy can impact access to finance. Thus,

confirming the dual process theory that financial literacy impacts subconscious reasoning to impact conscious reasoning for better decision-making.

The study has some limitations however, its scope included SMEs of the Ghana Enterprise Agency in Accra. Extending the study to include other groups in Ghana will provide a more representative picture. The study can also be done in other countries for a comparative analysis of findings. The respondents used in this study were limited to SME owners/managers, future studies can look at the firm's accountants and other financial staff since financial decisions are not limited to only owners/managers. The variable used for mediation analysis demonstrated a partial mediation, thus, future studies can examine other mediating variables which may be able to fully mediate the relationship such as risk perception and connection skills. The study was also limited to SMEs in general. It did not segregate SMEs by sectors of the economy. Future studies can do a comparative analysis of results from different sectors of the economy.

In conclusion, the study's objective was to examine the impact of financial literacy on access to finance. We used the knowledge base view theory and the dual process theory to develop a model with risk attitude as a mediating variable. PLS-SEM was the main analytical tool for the study. The result showed financial literacy significantly impacts access to finance and risk attitude. The mediation relationship was partial. We conclude that financial literacy and risk attitude have significant implications for access to finance. This study makes an incremental contribution to the literature on SME access to finance by confirming financial literacy and risk attitude as integral variables for SME access to finance in developing economies.

Disclosure statement

The authors declare that there are no competing interests to report.

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Integration of Strategy Human Resource Management (SHRM) and Competitive Advantage as a Human Capital Mediator in the Performance of Private Universities

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Abstract

Objective - to analyze the development of SHRM Integration capabilities and competitive advantages as a mediator of human capital on organizational performance, taking into account the role of human capital as a source of knowledge to be managed in order to become a competitive advantage for company performance. Design/methodology/approach –researchers designed empirical studies from a sample of 61 Private Universities (PTS) in South Sumatra Province, asking the dean or head of the study program, to assess *human capital*, SHRM integration, competitive advantages to improve their pts performance. Analysis techniques using SEM SmartPLS. The results of human capital research on organizational performance are not supported, the SHRM Integration variable does not mediate human capital against competitive advantage and organizational performance, but competitive advantage mediates *human capital* against performance as well as exogenous variables. Research limitations/implications is the data collected did not meet the expected respondent data. Theoretical and practical implications – theoretically the development of the theory of the integration of SHRM with competitive advantages to the performance of non-profit organizations. Then in practice organizations can increase their commitment to *human capital* management through the integration of SHRM to form a competitive advantage and ultimately improve organizational performance. Originality/value – The authors examine the impact of intellectual capital dimensions, especially human capital, on the performance of non-profit organizations, namely Private Universities in developing country clusters with the integration of SHRM and competitive advantages to show the relationship between *human capital* after being mediated by the scheme.

Keywords: Human Capital, Competitive Advantage, Organizational Performance And SRHM Integration

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1. Introduction

More than 5 (five) semesters of the COVID-19 pandemic have affected Indonesian education activities. Bappenas estimates an increase in dropout rates. Especially the Higher Education Institutions (LLDIKTI) Region II, the number of active students in the 2019/2020 academic year based on data in the Higher Education Database (PT) decreased by 19.04%. The decrease in the number of students will have an impact on the operational activities of PT. Most private universities (PTS) in Indonesia rely on operational financing from student single tuition fees (UKT). In addition, the number of students is inseparable from the increasingly fierce competition between private universities. To face such competition requires unlimited resources.

Private Universities (PTS) is part of a business entity that needs to display the competitive advantage of its resources. Sumber intangible power organizations such as human capital, Ployhart and Moliterno (2011) propose that human resources come from various individual KSAOs, allowing generating competitive advantages because they are often really rare and difficult to imitate by competitors (Jackson, *et al.* 2004). Based on a meta-analysis of several studies in Europe and Central Asia that the strongest attributes in building a sustainable competitive advantage are in-consistent. This may occur due to technological, economic, and socio-cultural changes as well as organizational forms towards achieving performance.

Hitt, *et al.* (2001), Vo, *et al.* (2021), and Hanifah, *et al.* (2021), reveal that human capital positively affects performance, but Khalique, *et al.* (2019) and Tiwari (2021) state otherwise that *human capital* has no effect on performance. Therefore, *human capital* can be assumed to have a relationship with other variables such as integrated HRM strategies. Human capital needs to support the implementation of HRM strategy integration (Zhao, 2011) in managing *human capital*. In addition, leveraging this strategic helps companies create value.

Legge (1995) argues that human capital is a source of competitive advantage for an organization that makes policies and commitments to support its processes. This is related to the process of managing the integration of SHRM including (e.g., recruitment, selection, training, compensation and benefits) at the operational level to achieve organizational results and performance (Dello, *et al.*, 2016). In addition, some evidence of the impact of HR practices on company performance can be improved according to the competitive requirements inherent in the company's strategic body (Youndt, *et al.* 2004). However, Suropto and Gunawan (2019) revealed that competitive advantage does not mediate the influence of *intellectual capital* on performance. While the results of the empirical study of

(Rodríguez García, Hernández Perlines, and Ibarra Cisneros, 2020) competitive advantage mediates the relationship between *human capital* and organizational performance.

Based on the phenomena and results of previous empirical studies, researchers intend to fill the *gap* by proposing a framework / model to explore this observed phenomenon. The framework built consists of the integration of SHRM and competitive advantage as a mediator of *human capital* to exploit organizational performance. Currently, the empirical analysis that *human capital* will bring only a competitive advantage. But there may be influence from the SHRM integration variables to bring about that competitive advantage. The contribution of this article is conceptually to develop the relationship of SHRM integration theory with competitive advantage to the performance of non-profit organizations. Then in practice organizations can increase their commitment to *human capital* management through the integration of SHRM to form a competitive advantage and ultimately improve the performance of private universities in the LLDIKTI Region II environment of South Sumatra Province Indonesia.

2. Literature Review

2.1. Competitive Advantage

Porter (1991) states that the competitiveness of a country is since its enterprises are highly productive thanks to the efficient use of human, natural and capital resources. Competitive advantage (Wernerfelt, 1984) is a function of a unique set of resources that a company and deploys (Barney, 1991, 1997). Competitive Advantage is a fundamental part of performance. A company has a competitive advantage is the ability to improve the quality of its products or services, cut production costs, or increase market segments or profits. Competitive advantage encourages organizations to manage resources to stay active and develop, thus becoming more competent than their competitors (Sachitra and Chong, 2015) in practical or operational business. Smith (2013) explains competitive advantage is the extent to which a company in one region can compete with other companies elsewhere.

2.2. Human Capital

Human capital has been debated as a critical resource in most companies (cf, Pfeffer, 1994). According to Bandura (1977, 1982) *human capital* that in order to create the desired performance, an individual must believe and be confident in his abilities, or through himself. The more often a person attends training and self-development, or the more experienced he is, the more confidence will be created in doing a good job. *Human capital* is the economic value of human resources related to knowledge, skills, innovation, and the ability of a person to carry out his duties, so as to create a value to achieve organizational goals. Ployhart and Moliterno (2011) conceptualize *human capital* as a unit-level resource that arises from the knowledge, skills, abilities, and other characteristics (KSAO) of individual employees.

2.3. Strategy Human Resource Management (SHRM) Integration

According to Noe, *et al.* (2013) *Strategic Human Resources Management* (SHRM) is a process of developing and managing human resources that can provide a competitive advantage value and in accordance with the company's strategy to achieve company goals. For this reason, it is important for companies to manage their human resources effectively and efficiently to achieve the desired goals and objectives (Noe, *et al.* 2013). The company's

SHRM provides it with the capacity to offer a rich work environment, flexibility, teamwork, incentives, career advancement, training, and development, and thus leads to greater employee satisfaction and commitment.

In various studies, *strategic human resource management* can be practiced according to (Bergiel *et al.* 2009) focused on first compensation. One of the goals of direct and indirect compensation is to increase employee motivation and attachment to the organization. In addition, in an organization that uses a performance contingent reward system, individuals have high and good performance when the compensation given is appropriate, then they will be more likely to stay within the company than those with low reward and performance rates (Bergiel *et al.*, 2009).

Second is the support from the supervisor, according to Kottke and Sharafinski (Bergiel *et al.*, 2009) for employees, the support from the supervisor is important because the employee feels the supervisor values them and cares about their well-being. Generally, according to Bergiel, *et al.* (2009) Based on the meta-analysis, it was revealed that the support of the supervisor has been assessed in the leader member exchange and the attention of the supervisor.

Third, Growth Opportunities, since a negative relationship was found between the growth opportunities that employees have and the desire to leave (Bergiel *et al.* 2009). Growth opportunities signals organizations recognize and appreciate employee contributions as well as support in the future employees tend to stay longer in the organization (Bergiel *et al.* 2009). So, organizations can increase employee retention rates by increasing their career opportunities.

The fourth is training, providing adequate training opportunities for employees is an investment strategy (Bergiel *et al.* 2009). This is an important action taken by the organization in fulfilling informal contracts between the organization and employees. The four things above are quite often used in the literature of employee desires to leave and have shown an influence on the employee's desire to quit (Bergiel *et.al.*, 2009).

2.4 Organizational Performance

According to Smriti and Das (2018) organizational performance is seen as an organization's ability to access and handle various organizational resources for the achievement of its goals and objectives. Performance represents an organization's capacity to address all four systemic processes (input, output, transformation, and feedback) to achieve their goals (Alzuod, 2014). It can be concluded that performance is the level of achievement of the results of the implementation of a job. Performance also refers to the level of achievement of tasks that reflect how well an employee meets the requirements of a job.

2.5 Hypothesis Development

2.5.1 Human Capital affects organizational performance.

Human Capital represents the individual *knowledge stock* of an organization represented by its employees. In the University of human resources, in explicit such knowledge (Lee and Lee, 2018). According to Hitt, *et al.* (2001), Cahyani and Riani (2021) and Pigola *et al.* (2021) that Human capital influences organizational performance. Then the hypothesis developed is H1: Human Capital affects Performance.

2.5.2 SHRM integration mediates Human Capital on Organizational performance.

As it is known that human capital is an important asset in organizations. According to Noe, et al. (2013) Strategic Human Resources Management (SHRM) is a process of developing and managing human resources that can provide a competitive advantage value and in accordance with the company's strategy to achieve company goals. Then the research conducted by Hitt, et al. (2001) shows that SHRM mediates human capital against performance. So, the hypothesis developed is H2: SHRM integration mediates Human Capital against organizational performance.

2.5.3 Competitive advantage mediates Human Capital Against Organizational Performance

Bontis et al. (1998) Knowledge that is implied as an ability possessed by human resources, this ability according to him can create added value and cause a sustainable competitive advantage that drives organizational performance. Based on the research of Kamukama, et al. (2016), Bontis, et al. (2018), Gracia, et al. (2020) and Cahyani and Laksmi (2022) revealed that competitive advantage mediates Human capital over Organizational performance. The hypothesis developed is H3: that competitive advantage mediates human capital against organizational performance.

2.5.4 SHRM integration mediates Human Capital against Competitive Advantage

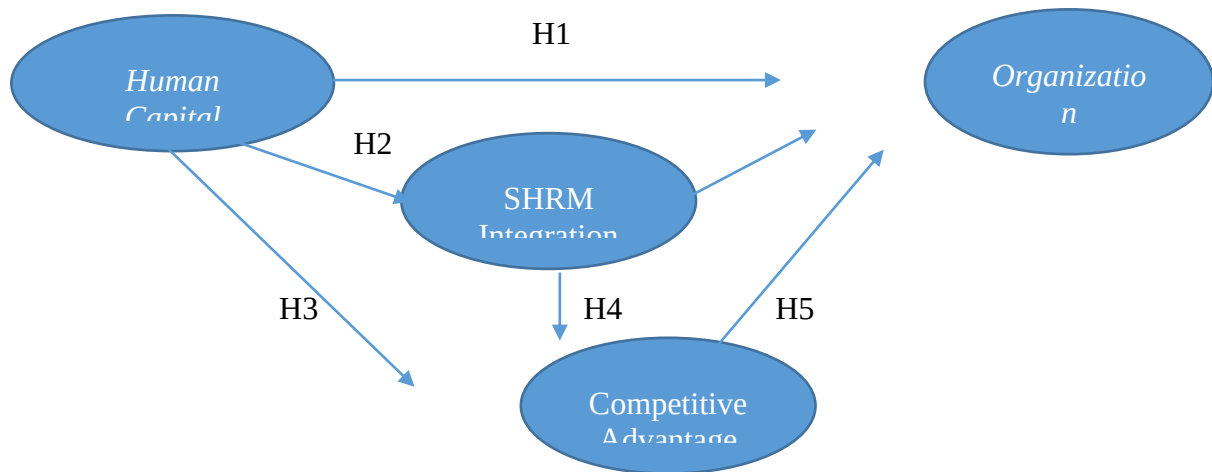
Legge (1995) says that Human Resources (HR) is valuable and is a source of competitive advantage. HR must be made a policy that is consistent with promotional commitments. As far as the relationship between HRM and corporate economic success is concerned, there is ample evidence that the impact of HR practices on company performance can be further enhanced when practices are adapted to the competitive requirements inherent in a company's strategic posture (Youndt *Et.al*, 1996). Human resources who have the ability or knowledge (human capital) are certainly important for the company to be managed effectively and efficiently to achieve the desired goals and objectives (Noe, *et al.* 2013) through the process of human resource development and management. When human *capital* is managed through SHRM Integration, it is likely to affect the desire of human resources to improve their competencies and skills. Metadata analysis conducted by Auliana and Nurasiah, (2021) Concluded that HRM practices can help create a sustainable source of competitive advantage for the company, especially if the practice is in accordance with the company's business strategy. Based on this, the hypothesis developed is H4: SHRM integration mediates Human Capital against competitive advantage.

2.5.5 Competitive Advantage Affects Organizational Performance

Competitive advantage refers to the results of organizations developing attributes to outperform and difficult to replicate by competitors. Smith (2013) explains competitive advantage is the extent to which an organization in a region can compete with other organizations elsewhere so that Euphrates *et al.*, (2018) lead to improved performance. In practical terms, Sachitra and Chong, (2015) competitive advantage is useful for organizations to manage resources to remain active, thriving, and competent compared to their competitors. According to Gracia, *et al.* (2020), underscores that organizational performance is influenced by competitive advantage. Then the hypothesis developed is H5: Competitive advantage affects organizational *performance*.

2.6. Conceptual Framework

Based on the study of the theory and the development of the hypothesis above, the conceptual framework is built as below.



Source: Bontis, *et al.* (2018), Gracia, *et al.* (2020), Noe, *et al.* (2013), Li *et al.* (2018), Pigola, *et al.* (2021)

Figure 1 Research Model

3. Research Methods

The research was preceded by the phenomenon of declining active students in Private Universities and gap research on the phenomenon of *human capital*, competitive advantage, SHRM Integration and performance Flow of thought following Figure 2. which shows the sequence from introduction, research design, to data analysis techniques.

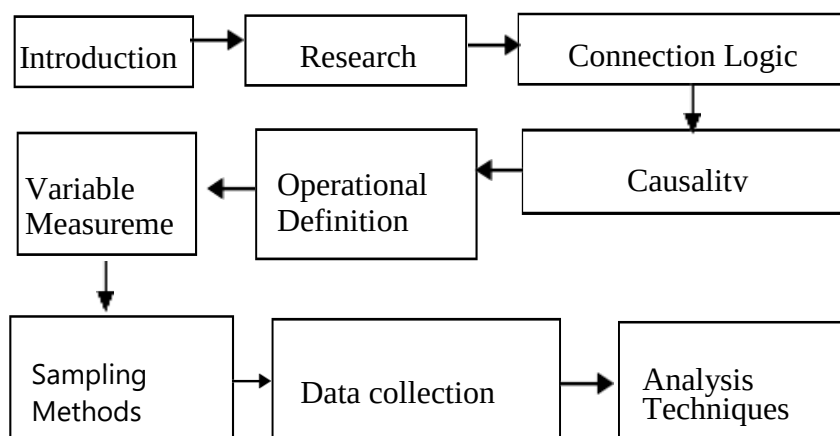


Figure 2. Flow of research activities

3.1 Research Design

This type of research is fundamental that aims to participate in the development of science (Sekaran and Bougie, 2016). The research process begins with phenomena and research gap, then the conceptual framework is made and tested in more depth. Questionnaire-based research method conducted on September 01 - 30, 2022. Unit analysis is carried out at the level of the study program or faculty, which is represented to the dean or deputy dean at the faculty level and the level of the study program is represented to the chairman or secretary of the study program.

3.2 Population and Sample

The population, namely PTS, is an organization organized by the community with a non-profit principled legal entity, but PTS is required to meet national performance standards that require unlimited resources in this case intellectual capital. *The setting of* this research in LLDIKTI Region II amounted to 91 South Sumatra Private Universities (PDDIKTI, 2021).

Purposive Sampling technique is used for representative sample, considering the required criteria so that information can be obtained that can represent the general population. Determining the number of samples was carried out using the Ferdinand approach (2006) that the sample size was determined 25 times the number of independent variables, namely $25 \times 3 = 75$ samples. The sample is represented by the head of PTS at the faculty level which can be represented by the dean or deputy dean using the snowball technique. Data collected from 75 samples, 61 data were collected, this was due to time constraints.

3.3 Operational Definition and its measurement

Researchers identified 4 (four) variables and grouped into two parts, namely endogenous and exogenous variables. The endogenous variable is Organizational Performance. Performance is work performance, which is a comparison between work results and established standards (Dessler, 2000). Furthermore, the Exogenous variable consists of *human capital* according to Bandura (1977; 1982) that in order to create the desired performance, an individual must believe and be confident in the abilities he has, or through himself. *Strategic Human Resources Management* (SHRM) according to Noe, *et al.* (2013) is a process of human resource development and management. Then, Practically, or operationally a business, competitive advantage is useful for an organization to manage its resources, stay active and develop, and become more competent than its competitors (Sachitra and Chong, 2015).

The measurement uses a Likert scale with a value range of 1 (strongly disagree) to 5 (strongly agree). Each variable is represented by questions that the researchers took from previous research according to the needs of this study. Construction of human capital using 4 question items derives competence, creative and intelligent, developing new ideas and knowledge and adapted experience (Bontis, 1998; Abualoush *et al.*, 2018). The competitive advantage variable adapts from Li *et al.*, (2006) with 7 question items namely quality, financing, innovation, product/service, service, persistence and development. Then the SHRM variable with 6 question items Compensation, Supervisor support, Growth opportunities, Growth opportunities, Training, Job engagement was adapted from Bergiel *et al* (2009). PTS performance indicators were adapted from Bouckaert and Halligan (2007), namely input, process, output and results.

3.4 Data Analysis

Data analysis with SEM using SmartPLS software version 3. SmartPLS has a higher degree of flexibility in connecting theory and data, as well as performing path analysis with latent variables. In addition, the data also does not have to be *normally multivariate* distributed, and the sample does not have to be large.

This research was conducted in 2 (stages). First, assessing the outer model. The assessment of the outer model is carried out by testing the validity and reliability of the instrument to find out the direction of the causality of the construct to the measuring indicator so that the construct explains the variant of measurement. This measurement is carried out with composite reliability, convergent validity (AVE) and *discriminant validity*.

Second, testing of structural models, is carried out by looking at the R-square value which is a goodness-fit test of the model. Then the R-Square values of 0.75, 0.50 and 0.25 can be concluded that the model is strong, currently, and weak. F-Square This f-square test is done to find out the goodness of the model. Next is to see the significance of the influence between variables by looking at the value of the parameter coefficient and the statistical T significance value, namely through the bootstrapping method.

4. Results and Discussion

4.1 Interpretation of Results

The Figure 2.1 model's drawn using SmartPLS like Figure 3

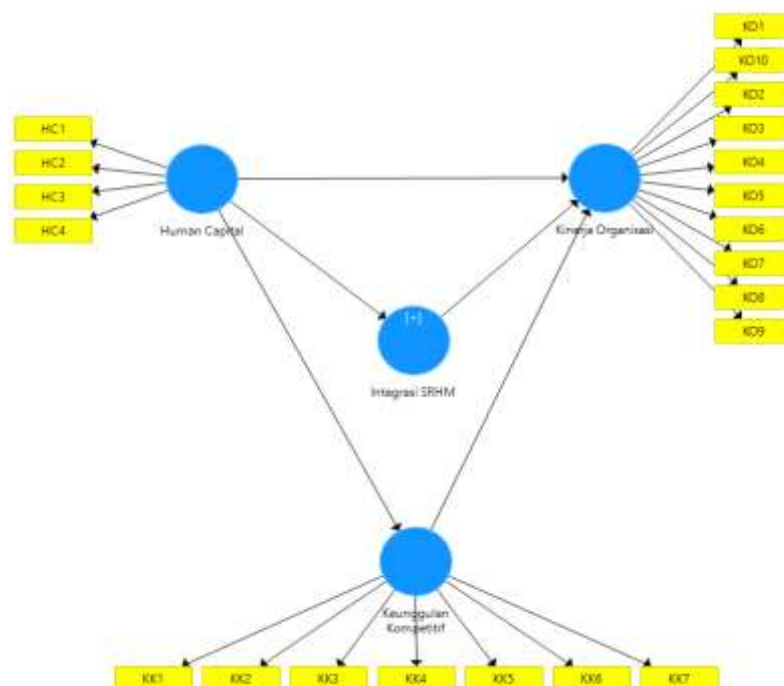


Figure 3 PLS-SEM Research Model with SmartPLS

Then to do the outer model testing according to Hair, et al. (2014) that the outer loading indicator should be above 0.70 that in most cases, 0.70 is considered close enough to be

acceptable. Outer loading > 0.70 means that the variability of an indicator can be explained or absorbed by its latent variables. In the first calculate experiment, there were several latent indicators that were removed because they did not meet the squared number required by Hair, Strategy Human Resource Management (SHRM) namely the Integration 2 SHRM latent indicator, which is 0.056, then the Organizational Performance (KO) latent indicator which is KO1, KO6 which has a square lift of 0.602 and 0.673. However, after calculating to 2, there was 1 organizational performance (KO) latent indicator that was removed, namely KO7 with a square value of 0.699. Human Capital (HC) dan Advantage competitive (KK), meet the numbers required. The following is presented SmartPLS results for outer loading values in the form of Table 1.

Table 1 Outer Loading Results

Latent indicator	Human Capital	SRHM integration	Competitive Advantage	Organizational Performance
I SRHM		0,724		
3 SRHM		0,849		
4 SRHM		0,723		
5 SRHM		0,897		
6 SRHM		0,778		
HC1	0,836			
HC2	0,836			
HC3	0,836			
HC4	0,715			
KK1			0,857	
KK2			0,759	
KK3			0,875	
KK4			0,882	
KK5			0,814	
KK6			0,902	
KK7			0,899	
KO2				0,769
KO3				0,879
KO4				0,827
KO5				0,766
KO8				0,787
KO9				0,867
KO10				0,761

Source: processed by researchers Smart PLS 3, 2022

Based on Table 1 shows the outer loading results that the entire outer loading value > 0.70 , which means that all latent indicators are maintained in the subsequent analysis process.

Furthermore, a convergent validity assessment will be carried out based on the AVE value as an evaluation criterion. Using the logic of individual indicators, an AVE value of 0.50 or higher indicates that the average construct describes more than half of the variance of its indicators. Conversely, if the AVE is less than 0.50 indicates an average of more fixed errors on the item than the variance described by the construct. In the context of PLS-SEM, Composite reliability is a more appropriate measure of reliability, compared to Cronbach's alpha. The accepted composite reliability value is > 0.7 , or in other words Dillon-Goldstein's rho value > 0.7 .

Table 2 SmartPLS results for AVE values

Variable latent	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Human Capital	0,826	0,867	0,882	0,652
Integrasi SRHM	0,855	0,873	0,896	0,635
Competitive Advantage	0,939	0,946	0,951	0,734
Organizational Performance	0,912	0,922	0,930	0,655

Source: processed by researchers Smart PLS 3, 2022

Based on the *composite* reliability results in Table 2, it is known that all *composite reliability* values > 0.70 and AVE values more than 0.50.

Furthermore, to test the extent to which a construct is completely different from other constructs, assessing the discriminant Validity, namely the outer loading value of the indicator against its latent variable, must be greater than the outer loading value of the indicator against *other* latent variables. Depicted as Table 3 Fornell-Larcker Criterion

Tabel 3 Discriminant validity results Fornell-Larcke

Variabel Latent	Human Capital	SRHM integration	Competitive Advantage	Organizational Performance
Human Capital	0,808			
Integrasi SRHM	0,441	0,808		
Competitive Advantage	0,468	0,797	0,857	
Organizational Performance	0,448	0,676	0,711	0,810

Source: processed by researchers Smart PLS 3, 2022

Based on the table, concluded that the loading value between each indicator variable and its latent variable, is higher, compared to other latent variables.

To perform hypothesis testing (inner model) (Hair, et al. 2014). Structural Model (Structural Model / Inner Model) testing is a test of the significance of direct influence and mediation (indirect) then bootstrapping is carried out. Here is Figure 4

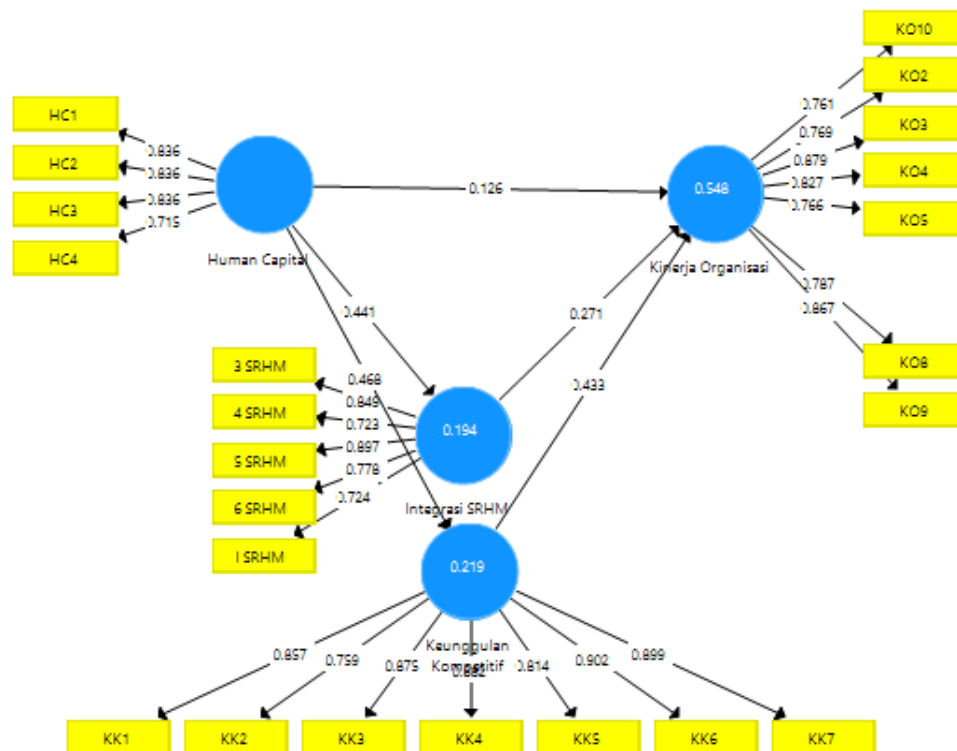


Figure 4. Inner model image

To see the results of the assumptions described in the previous chapter, a hypothesis test is carried out.

Table 4 Test Results of the Hypothesis of direct influence

Hypothesis	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Result
Human Capital -> Integrasi SRHM	0,441	0,469	0,096	4,579	0,000	Accepted
Human Capital -> Competitive Advantage	0,468	0,482	0,089	5,276	0,000	Accepted
Human Capital -> Organization Performance	0,126	0,122	0,095	1,322	0,187	Rejected
Integrasi SRHM -> Competitive Advantage	0,433	0,432	0,165	2,632	0,009	Accepted

Source: processed by researchers Smart PLS 3, 2022

It is known that the value of the path coefficient (original sample) of human capital to SRHM Integration is 0.441, which is a positive value, which means that human capital has a positive effect on SRHM Integration. It is known that the value of P-Values = 0.000 < 0.05, then

human capital has a significant effect on the Integration of SHRM. accepted.

It is known that the value of the path coefficient (original sample) of human capital against competitive advantage is 0.468, which is a positive value, which means that human capital has a positive effect on SRHM Integration. It is known that the value of $P\text{-Values} = 0.000 < 0.05$, then human capital has a significant effect on Competitive Advantage meaning that it is accepted.

It is known that the value of the path coefficient (original sample) of human capital to the organization's work is 0.126, which is a positive value, which means that human capital has a positive effect on organizational performance. It is known that the value of $P\text{-Values} = 0.187 > 0.05$, then human capital has a significant effect on competitive advantage meaning it is rejected. It is known that the value of the coefficient of excellence path to organizational performance is 0.433, which is a positive value, which means that human capital has a positive effect on organizational performance. It is known that the value of $P\text{-Values} = 0.007 < 0.05$, then competitive advantage has a significant effect on organizational performance meaning it is accepted.

Furthermore, to see the results of mediation testing in Table 5, it is known that human capital on organizational performance, mediated through SHRM Integration and competitive advantages as follows.

Table 5 Hypothesis Test Results have no direct effect.

Hypothesis	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Result
Human Capital -> Integration SHRM-> Organization Performance	0,119	0,133	0,082	1,458	0,145	Rejected
Human Capital -> Competitive Advantage -> Organizational Performance	0,203	0,207	0,088	2,302	0,022	Accepted

Source: processed by researchers Smart PLS 3, 2022

Data processing results, the effect of human capital on organizational performance, through SHRM Integration is 0.119 (*Original Sample*). It is known that the value of $P\text{-Values} = 0.145 > 0.05$, then it is concluded that the integration of SHRM is not significant in mediating the relationship between human capital and performance, so the hypothesis is rejected. Meanwhile, it is known that the influence of *human capital* on organizational performance, through competitive advantage is 0.203 (*Original Sample*). Known $P\text{-Values} = 0.022 < 0.05$, then it is concluded that significant competitive advantages mediate the relationship between human capital and performance, the hypothesis is accepted.

Then to find out the value of *r-square* the value that states how much the free variable can explain the *variance* of the non-free variable is described in Table 6 below:

Table 6 Influence Measures of each variable

Variabel latent	R Square	R Square Adjusted
SRHM integration	0,194	0,181
Competitive Advantage	0,219	0,206
Organizational Performance	0,548	0,524

Source: processed by researcher Smart PLS 3, 2022

It is known that the r-square value in the latent variable of SHRM integration is 0.194, which means that this variable explains the *variance* of the *non-free* variable of organizational performance by 19.4%. While the latent variable of competitive advantage is 0.219, which means the competitive advantage variable explains the *variance* of the non-free variable of 21.9%.

4.2 Discussion

4.2.1 Human Capital affects Organizational Performance

It is known that the value of the path coefficient (original sample) of human capital on organizational performance is 0.126, which is a positive value, which means that human capital has a positive effect on organizational performance. While the P-Values = **0.187** > 0.05, the human capital hypothesis has a significant effect on competitive advantage meaning it is rejected. The results of this study are not supported by Hitt, et al. (2001), Vo, et al (2021), and Hanifah, et al (2021), revealed that human capital has a positive effect on performance, but is supported by the research of Khalique, et al. (2019) and Tiwari (2021) stated that human capital has no effect on performance.

4.2.2 SHRM Integration mediates *Human Capital* against PTS Performance

The results of this study revealed that the integration of SHRM did not significantly mediate the relationship between human capital and performance, which means that the hypothesis was rejected. This result contrasts with Hitt, et al. (2001) shows that SHRM mediates human capital against performance. This is likely because private universities have character and uniqueness in managing human capital. Universities as organizations providing higher education services have organizational capabilities, including the development of programs and resources academic; in Knowledge Management is one of the important enablers in achieving higher education performance. According to Jillinda J. Kidwell, Knowledge Management in higher education is contained in 5 main processes, namely the product development process, and curriculum; research process; administrative service process; student and alumni services process; and community service processes aligned with Strategic Job Families, Knowledge Competencies Profile, Skills, and Values. Human capital management in universities can adopt the concept of the strategic map (Kaplan & Norton, 2002). Human capital management is carried out through 3 stages, namely: identification of readiness, development, and measurement of human capital. The researcher concluded that the SHRM Integration applied in universities is quite different from other organizational forms.

4.2.3 Competitive advantage mediates human capital over organizational performance.

Based on the results of the inter-performance of the significant test of indirect influences, it can be found that human capital on organizational performance, through competitive advantage is 0.203. furthermore, the value of $P\text{-Values} = 0.022 < 0.05$, then a significant competitive advantage mediates the relationship between *human capital* and Performance. The results of this study are in line with the research conducted by Bontis, *et al.* (2018), Gracia *et al.* (2020), and Cahyani and Laksmi (2022). Bontis *et al.* (1998) imply knowledge is an ability possessed by human resources, this ability creates added value and causes a sustainable competitive advantage that drives organizational performance.

4.2.4 SHRM integration mediates Human Capital against competitive advantage.

The results of the study were found that the influence of human capital on organizational performance, through SHRM Integration was 0.119 and $P\text{-Values} = 0.145 > 0.05$, it was concluded that SHRM integration was not significant in mediating the relationship between human capital and performance, so the hypothesis was rejected. This result is contrary to the theory of Noe, *et al* (2013) that it is important for companies to manage their human resources effectively and efficiently to achieve the desired goals and objectives through the process of developing and managing human resources.

5.2.5 Competitive advantage affects organizational performance.

It is known that the value of the coefficient of excellence path to organizational performance is 0.433, which is a positive value, which means that human capital has a positive effect on organizational performance. It is known that the value of $P\text{-Values} = 0.007 < 0.05$, then Competitive Advantage has a significant effect on organizational performance means that it is accepted. These results are in line with research conducted by García, *et al.* (2020), and Khalique (2020).

5. Conclusions

Therefore, from the discussion, it can be concluded that from the 5 (five) hypotheses put forward, there are 3 (three) hypotheses that are supported by research results, namely H3, H4 and H5 while H1 and H2 are not supported. In conducting research there are weaknesses that may be corrected such as the expected amount of data as many as 75 PTS is not met and the data collection time is quite short. Furthermore, in increasing competitive advantage, many attributes can be expanded such as technological elements, relational and so on.

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Institutional Framework for Protection of Geographical Indications in Tanzania: Examining the Challenges and Way Forward towards Effective Protection of Geographical Indications in the Country

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Abstract

The study is interested to review the challenges of the current Tanzania institutions framework dealing with protection of geographical indications with the view of exploring the alternative changes that can enable Tanzania to effectively deal with enforcement of domestic and international laws dealing with protection of geographical indications. In the end study recommends the possible wayward to strengthen the performance of the institutions dealing with protection and enforcement of geographical indications in Tanzania.

Keywords: Institutional Framework, Geographical, Tanzania

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1. Introduction

Effective protection of geographical indications in any country depends on the existence of strong institutional framework that can deal with registration and monitoring effective enforcement of the registered indications against possible infringements (Giovannuci. *et al.*

2009). This study is interested to examine the challenges of the Tanzania institutions on protection of geographical indications.

Geographical indications are names of geographical areas or symbols that are used to identify and commercialize natural agricultural products and foodstuffs, wine and spirits to mention a few as originating from a particular geographical area where certain unique characteristics or quality of the product are attributed to. (Organization for International Geographical Indications Network(OrGIN), 2011)

Background to the Problem

During colonialism, the concept of intellectual property right was totally of no interest by the black people in Africa and Tanzania in particular. There were no many intellectual property rights registered by local citizens or companies in Tanzania (Tanganyika by then) because of the nature of the laws and the conditions to be registered only if they were registered in UK. (Mengistie, 2013)

The history of the institutions dealing with protection of intellectual property rights is connected to evolution of the law on protection of intellectual property laws. The recent history is traced from 1995 with the establishment of the World Trade Organization and the adoption of the Trade Related Aspects of Intellectual Property (TRIPS Agreement) (Tabaro, 2018). The TRIPS Agreement came into force in 1995 and it provides the minimum standards for the protection of geographical indication at international level. It also provides for obligation to the member states to enact domestic laws and establish institutional framework for protection of geographical indications in their respective countries.

Most of African countries are members of the WTO and as such they are bound to implement the legal instruments for protection of geographical indications. The laws on protection of geographical indication in Africa is still evolving. There are no collective regional efforts to protect geographical indication as a separate category of intellectual property right. The protection is expected to take place under national laws. However, the existing literatures shows that the national laws are also still at infant stage. However, all the required conditions for development of geographical indications already exist and there is a political will to protect geographical indications in the national laws. (African Union, 2017).

At African regional level, the institutional framework on protection of geographical indications are divided into two blocks, one covering the African Regional Intellectual Property Organizing (ARIPO) countries and the other one covering the African Intellectual Property Organization. Under ARIPO, the members adopted the Banjul Protocol on Marks in 1993 (Lange, 2016).

In 2004, ARIPO designed a continental strategy for protection of geographical indications in Africa. The strategy is expected to address the issue of harmonization of domestic laws and the African institutional framework on protection of geographical indications through the African Union member states. The continental strategy is implemented in steps. In 2004 the Africa and EU partners organized the first consultation meeting in Nairobi Kenya, in January 2016 initial workshop was done in Rome where the objectives of the strategy was agreed, in march 2016 the draft of the strategy was prepared, in April 2016 another e-consultative meeting was organized

on the complete draft of the strategy, in June 2016 validation of the strategy took place where the consolidated draft was presented to the African Union members, in November 2016 a workshop was organized in Nairobi where the draft of the strategy was presented and discussed, in 2017 the strategy was presented to the AU Special Technical Committee for endorsement and publication. Apparently, the strategy is waiting for validation and implementation by the AU member states (Lange, 2016).

In response to the international and regional movement on the protection of Geographical Indications, different states in Africa have taken measures by enacting or reviewing their intellectual property laws and institutions to cover protection of Geographical Indications in their territory. However, at the time of independence in 1961, Tanzania inherited few intellectual property laws from colonial regime which includes the Patent legislation of 1922, the Copyright Ordinance of 1924 and the Trade Marks Ordinance of 1922. The intellectual property laws were adopted without any significant change in their contents.

In 1986, Tanzania mainland enacted the Trade and Service Marks Act No. 12 of 1986 and subsequently in 1997 the Business Registration and Licensing Agency (BRELA) was established to administer the Act (the Trade and Service Marks Act) and to deal with registration of various intellectual property rights like patents, trade and service marks (Paul & Bullu, 2008). However, the performance of BRELA as a key institution dealing with registration and protection of geographical indications has not been effective due to some challenges facing the institution in performing its function. Other institutions working closely to BRELA were also established in the later years to wit in 2007 the Fair Competition Commission (FCC) and Fair Competition Tribunal (FCT).

The history of the law and Institution dealing with intellectual property rights in Tanzania shows that, Tanzania have not taken serious steps to establish effective laws and institutional framework on protection of geographical indications although she is interested to protect certain geographical indications like handicrafts made in tourist destination (Paul & Bullu, 2008).

Statement of the Problem

Tanzania being a member of the Trade Related Aspects of Intellectual Property Rights herein after the TRIPS Agreement is obliged to ensure effective protection of geographical indications against possible infringements. The effectiveness of protection requires existence of strong institutional systems that can monitor compliance to the protection standards set by the laws and provide effective remedy against infringements.

However, despite of the obligations imposed by the international law, Tanzania seems not to have effective institutional framework for effective protection and enforcement of geographical in the country. The existing frameworks are facing some serious challenges which makes not to be effective in performing their functions.

According to some literatures, companies in Europe and Asia are using Tanzania geographical indications to market certain products as originating in Tanzania even for products not originating in Tanzania. For example, certain coffee producing countries are using the name Kilimanjaro to market their coffee as Kilimanjaro coffee for coffee not even originating in

Kilimanjaro. This shows the great weakness of Tanzania Institutions on protection of geographical indications in Tanzania. This paper is therefore interested to study the weaknesses of the institutions dealing with protection of geographical indications in Tanzania and thereafter propose the possible way forwards to address these challenges.

2. Literature Review

The existing literature on geographical indication provides for understanding on the nature and scope of geographical indication as an intellectual property rights and the theoretical justification for protection of geographical indication.

Bertozi has written an article on managing geographical indications. In his Article, the author clearly points out that, strong organization and institutional structure is one of the essentials for geographical indications to be effective. The author further argues that, strong institutions are required to maintain, develop and monitor compliance to geographical indication standards.

The article by Bertozi is important for justifying this study on institutional challenges because it speaks about the need for effective institution in protection of geographical indications. Institutions are key player of protection of geographical indication. However, the author does not provide for the exhaustive coverage of the role of institutions in protection of geographical indications. Also, the author highlights some challenges of institutions in protection of geographical indications but does not give recommendations as way forward for institutions to be effective.

Mangistie, has also written a paper on Managing geographical indications in Africa. According to Mangistie, African countries has potential distinctive products with unique characteristics attributed to geographical origin but little is done to protect geographical indications to capture their intangible values (Mangistie, 2013). In the opinion of this author, protection of geographical indication in Africa is facing number of challenges including weak institutional framework, lack of or inadequate resources and capacity needed for protection, management and promotion of intellectual property rights assets. This author too has highlighted the challenges of managing and protecting geographical indications in Africa generally but this work is specifically dealing with institutional challenges and it is addressing them in Tanzanian context.

The European Union Intellectual Property Office (EUIPO) has published a manual for Geographical Indications in Africa in which they point out that, for geographical indication to be successful, robust system of protection and enforcement is required (Intellectual Property Rights and Innovation in Africa (AfrIP), 2021). The EUIPO further argue that, credibility of geographical indications depends on controls exercised by strong institutions be it public or private which must ensure that, the promise made by producers to the consumers about the product qualities are maintained and respected by all producers to ensure that the product authenticity is guaranteed.

Giovannucci et al. have written a book on guide to geographical indication, in this book the authors states that, lesson from the case studies and literatures suggest that, for a geographical indication to be successful four components are essential; strong organization and institutional structure, equitable participation among producers and enterprises in a geographical indication

region, strong market partners and effective legal protection including domestic geographical indication system (Giovannuci *et al*, 2009).

The authors further clarify on the role of organizational and institutional framework that, such institutions are important to maintain, market and monitor the geographical indications. However, the authors do not mention the nature of the institutions and how should they be structured to perform their intended function.

In a nutshell, the key authors discussed in this section points out that, strong institutional framework is the key factor for successful protection of geographical indications. However, the institutions are facing some challenges which needs to be identified and serious measures for addressing these must be explored. When those challenges are effectively addressed in Tanzania, the country will realize the benefits of protecting geographical indications and promote national development by selling unique products of geographical indications internationally.

Objectives of the Study

The main objective of the study is to examine Institutional Challenges of Protecting Geographical Indications in Tanzania and proposes the way forward. The specific objects are; to examine the powers and function of the institutions dealing with domestic protection of geographical indications, to explore the challenges facing the institutions in performing their powers and to examine the possible solutions for addressing the challenges facing the institutions. In the end, the study draws conclusion on each objective and provides the recommendations for improvement.

3. Research Method

This paper is based on qualitative approach. The study mainly uses secondary data obtained by reviewing documentary sources like legal instruments establishing the institutions under study and other documentary sources like reports, books and journal articles. The study also uses primary data obtained from interview with key stakeholders working with the institutions under study. The data collected are analyzed by using content analysis techniques which involves establishing revealing themes from the legal text which are interpreted in line with the research objectives. The findings being qualitative in nature, are presented in narrative statements.

4. Findings of the Study

4.1. Existing Institutional Framework

The review of various literatures and reports have revealed that, in Tanzania there are about 5 key institutions which are directly or indirectly involved in the over all protection of geographical indications. These institutions are; the Ministry of Industry and Trade, Business Registration and Licencing Agency (BRELA), The Fair Competition Commission, Fair Competition Tribunal and the High Court Commercial Division. This section examines the establishment and functions or powers of each institution in line with their powers in protection and enforcement of geographical as one of the emerging intellectual property rights. The finds will help the study to conclude whether the institutional framework available is effective or not effect to protect geographical indications in the country.

a. The Ministry of Industry and Trade

Geographical indications is one of the aspect trade and industry. Geographical indications being an aspect of trade is falling within the ministry of Industry and Trade. The ministry is established for general supervision of trade related matters in the country. The ministry is the one supervising the implementation of the National Trade Policy of 2003 which is also providing for policy statement and objectives on matters relating to intellectual property as an aspect of trade. This ministry also supervises key institutions dealing with protection of geographical indications like the Business Registration and Licensing Agency (BRELA) and the Fair Competition Commission which is responsible for enforcement of the laws relating to consumer protection against dishonest trade practices like use of misleading indications of origin of goods.

The Ministry of Industry and Trade has managed to formulate the National Trade Policy which among other things provides for the general guidance of trade and business in Tanzania. Under the National Trade Policy, the ministry expressly insists on the main objective of the policy on matters of trade laws as to protect the interests of consumers through enhancing the capacity of government institution to perform their regulatory functions efficiently

b. Business Registration and Licencing Agency (BRELA)

Business Registration and Licencing Agency (here in after BRELA) is an Executive Agency established by the Government Executive Agencies Act No. 30 of 1997 as a semi-autonomous Agency to deal with general issues relating to registration of business and intellectual property rights. It was specifically established by Government Notice No. 294 published on 8th October 1999 and officially inaugurated on 3rd December 1999. The Agency is operating under the Ministry of Industry and Trade.

The Agency is implementing number of laws which includes the Trade and Service Marks Act. The agency has a directorate which deals with registration of intellectual property rights like trademarks, patent, industrial designs, service marks and other related industrial properties. This directorate is headed by the Director of intellectual properties.

The role and functions of BRELA are specifically stipulated in the constitutive government notice. In this respect, BRELA is also administering the Trade and Service Marks Act which contains prohibitions to register false indication of geographical origin of goods in course of registering trademarks.

BRELA is also responsible for registering business organizations like companies and trade names. In performing these functions, it is guided by the Company Act and the Business Names Registration Act. It has been observed by exiting literatures that, BRELA is very active on this function than that of intellectual property division.

c. The Commercial Court of Tanzania

Commercial Court of Tanzania is a special division of the High Court of Tanzania dealing with adjudication of business-related cases. This is according to Rule 5(1) of the High Court (Commercial Division) Procedure Rules GN. 250 of 2012 Government Notice No. 250 of 2012. Generally, the High Court of United republic of Tanzania is established by Article 108 of the

Constitution of United Republic of Tanzania of 1977 as amended. The divisions of the High Courts are established by the Chief justice in consultation with the President of United Republic of Tanzania under section 4A (1) of the Judicature and Application of Laws Act. According to the said section...

The Chief Justice may after consultation with the president by order published in the Gazette establish such number of divisions of the High Court as may be required for the purposes of facilitating the discharge of judicial functions in respect of specific matter as may be determined by the Chief Justice.

The High Court (Commercial Division) Procedures Rules provides for the jurisdiction of the Commercial Division of the High Court of Tanzania. According to Rule 5(1) of the High Court (Commercial Division) Procedure Rules, the commercial court vested with original and appellate jurisdiction over commercial cases. The Act further provides for the nature of commercial cases which the court can determine. These are cases related but not limited to; the formation of a business or commercial organization, the management of a business or commercial organization, the contractual relationship of a business or commercial organization with other bodies or persons outside the business or commercial organization, the liability of a business or commercial organization with other bodies or persons out of the business or commercial organization, the liability of a business or commercial persons arising out of that person's business or commercial matters, banking and financial services, the restructuring or payment of commercial debts by or to business or commercial organization or persons and the enforcement of arbitral awards decided by courts or tribunals of competent jurisdiction on international agreements to which Tanzania is party.

The nature of the cases falling within the commercial court jurisdiction includes matters relating to protection of geographical indications especially in paragraph (d) of rule 3 of Interpretation in the High Court (Commercial Division) Procedures which talks about liability of a business or commercial organization with other bodies and paragraph (h) of the said rule 3 of Interpretation in the High Court (Commercial Division) Procedures which talks about enforcement of arbitral awards by some competent tribunals to which United Republic of Tanzania is party.

Intellectual property rights are enforced as civil cases through the Commercial Court. The main purpose of the Court is to grant orders like injunction, payment of monetary compensation to the victims of breach and general penalties and fines imposed by the national laws. According the Johansen, in Tanzania most of Industrial property rights provide for civil rights and no criminal sanction, furthermore plaintiff would only be entitled to injunction, damages and compensation. This is enforced by the commercial courts of law.

d. The Fair Competition Commission

The Fair Competition Commission is a special commission established under section 62 (1) of the Fair Competition Act to deal with matters relating to unfair trade practices which are likely to affect consumers rights. The commission started operating in in 2007 after appointment of required staff for its operations. According to Section 62(1) of the Fair Competition Act, the Commission shall be independent and perform its functions and powers independently and impartially without fear and favour. The main function of the Commission as stipulated under

the Fair Competition Act are centered within the functions of consumer protection. This protection enforced by the Commission include protection against false indications of geographical origin of goods.

Section 62(1) of The Fair Competition Act provides for the specific functions of the Commission which are ; to promote and enforce compliance with the Fair Competition Act; to promote public knowledge , awareness and understanding of the obligations, rights and duties, functions and activities of the commission; to make available to consumers information and guideline relating to the obligations of persons under the Act and rights and remedies available to consumers under the Act; carry out inquiry studies and research into matters relating to competition and protection of interests of consumers etc. The specific function relating to consumer protection is that of carrying out inquiry on matters relating to competition and protection of consumers.

e. The Fair Competition Tribunal

The Fair Competition Tribunal performs almost the same functions of the Fair Competition Commission (here in after FCC) of protection of consumers welfare. This body is established as an appellate organ to the FCC. According to section 82(1) of the Fair Competition Act, there shall be established an independent tribunal to be known as the Fair Competition Tribunal. Any person aggrieved by the decision of finding of the FCC may appeal to the Fair Competition Tribunal and the decision of the tribunal shall be final.

4.2. Institutional Challenges

The existence of strong and well-equipped institutions for protection of geographical indications is an important aspect towards effective protection of potential geographical indications in Tanzania. The purpose of the institutions is generally to provide for registration, management and enforcement of the potential geographical indication. However, the effectiveness of these institutions is affected by number of challenges.

a. Lack of specific institutional Mandate for Protection of Geographical Indications

The study of various laws establishing institutions dealing with protection of geographical indications does not have specific provision giving powers to the institutions to deal with registration of geographical indications. The law establishing BRELA and FCC does not have define specific powers of BRELA or FCC in relation to protection of geographical indications. In the absence of such powers, these institutions can not seriously engage in protection of geographical indications. This is according to interview with BRELA Director of Intellectual Property Division. Reviewed literatures reveal that, successful protection of intellectual property dependents on successful operation of the intellectual property system which include industrial property office, courts and well-trained practitioners (USAID, 2003). This means that, there must be specific institutions with mandates to deal with protection of geographical indications for the system to be effective.

The instruments establishing BRELA empowers BRELA to administer the Trade and Service Marks Act, The Company Act, the Business Licencing Act and the Patent Act which allows the institutions to receive and process applications for registration of trademarks, service marks and

patent. The Director for Intellectual Property Division insists that, BRELA has no mandate to receive an application for registration of geographical indications because there are no enabling laws. The Director further observed that, BRELA rejects all applications for registration of geographical indications for lacking institutional mandate from enabling laws which apparently do not provide for procedures of registration of geographical indications.

b. Inadequate Human Resource to Monitor Infringement of Geographical Indications.

The effective enforcement and management of geographical indications require enough competent staff. Most of the African states including Tanzania are facing the challenge of inadequate skilled manpower to monitor infringement and enforce the intellectual property rights (Mangisties, 2013). Human resource may not be readily available in the majority of African states and Tanzania in particular.

The problem of inadequate man power results into weak institution to monitor infringement of the protected geographical indications and poor enforcement of the laws. This in a long run results into continuous violation of the protected rights. This challenge is facing BRELA to the extent of making it less active in area of protection of intellectual property rights (Mahingila, 2005).

The problem of inadequate manpower requires short term and long-term strategies. The short term solutions may include securing financial and technical support from development partners and international organization and long-term solution will require establishing special fund for managing and promoting the geographical indication as protected product which in a long run will release contributions from the benefits of protection that will be invested in training staff for equipping the regulatory authorities.

During interview with some informed respondents, it was observed that, one of the major challenges facing BRELA in administration and protection of Intellectual property rights in Tanzania is inadequate man power. According to interview with the BRELA Director of Intellectual Property, there are no enough competent officers who are well trained to deal with protection of geographical indications in Tanzania.

c. Lack of Strong Producers Organizations

Protection of geographical indications in Tanzania is facing the problem of lack of strong organization of producers who can collectively manage and own geographical indications (Mengistie, 2013). Most of geographical indication laws requires ownership of geographical indications be given to groups of farmers or producers as collective mark. However, in most of African countries including Tanzania there are very weak and non-inclusive organization of producers which cannot ensure effective participation in developing and implementing geographical indication strategies (Giovannuci *et al*, 2009).

According to Mangistie, African countries are facing the challenge of weak or non-inclusive organization of producers. The collective nature of ownership of geographical indications requires existence of an organization of producers that will ensure effective participation in the process of development and implementation of geographical indications as well as promoting the geographical indication ((Mengistie, 2013).

Lack of strong or well-organized producers' associations affects the efforts of protection of geographical indications in many respects; first, it denies interested parties the right to apply for registration of collective marks. Second, it creates difficulty in monitoring compliance to standards or product specifications set for assessing registrability of a product. Third, it affects the collective interests of the community to realize benefit from the use and protection of potential geographical indications available in their locality (Mengistie, 2013). In Tanzania, most of the primary farmers associations are not well organized and they do not have competent staff who can formulate and monitor implementation of geographical indication laws.

d. Weak System of Settlement of Disputes relating to Infringement of Geographical Indications

According to Article 42 of the TRIPS Agreement, one of the important requirements for effective protection of geographical indications is existence of strong and effective system for settlement of disputes relating to infringement of intellectual property rights. Interview with Intellectual property lecturer at the University of Dodoma Tanzania revealed that, most of the African countries including Tanzania are facing this challenge.

The WTO and African regional institutions are lacking a serious and effective institutions for settlement of disputes concerning violation of intellectual property rights. Where these systems exist at national level, they are not effective and accessible for the general public to enforce their rights against infringement (Mangisties, 2013). According to Article 44, 45 and 46 of the TRIPS Agreement, the effectiveness of the enforcement system is measured in terms of availability of effective and timely remedies like injunction orders against infringement of the geographical indication rights, payment of damages to the right holder and other remedies like disposal of the infringing goods.

In Tanzania, geographical indication disputes could be handled through the Commercial Court, District Magistrate Court, Fair Competition Commission and Fair Competition Tribunal as key organs responsible for settlement and enforcement of intellectual property related rights in the country. However, these institutions are not effective in enforcement of geographical indications due to lack of enough staff to monitor infringement, lack of funding to perform their functions and inaccessible filing fees for ordinary people to open the case (Mengistie, 2013).

The High Court commercial division is facing a challenge of high cost of filing cases which cannot be accessible by ordinary citizen. The cost of filing a case will go up to TSH. 10,000,000/= as filing fees and TSH.3000,000/= for filing plaint or chamber summons for declaratory orders. These fees are not friendly to be applied for enforcement of geographical indications cases which are commonly filed by farmers.

e. Lack of Institutional Capacity to Identify the Distinctive Qualities or Characteristics of the GI Products

The institutions dealing with protection of geographical indications are also facing the challenge of inadequate capacity to identify the distinctive qualities or characteristics of their products for the purposes of protection by geographical indications. There are no skilled human resources capable of analyzing and determining the unique qualities or characteristics present in the potential geographical indication products, defining the link between the product and the

geographical place of origin of the geographical indication product within and outside the country (Mahingila, 2005). This has made majority of the African countries un aware of their potential geographical indication products hence failing to realize their potential in international market.

f. Lack of Technical Capacity in Protection of Geographical Indications

The institutions engaged with enforcement of geographical indications in Tanzania are facing a serious challenge of lacking enough staff with required skills to deal with protection of geographical indications. According to literatures reviewed, protection of geographical indications requires a lot of skilled human personnel who will be readily available to identify and monitor all possible infringements that may result to the protected geographical indications but African countries are lacking such capacity due to limited resources ((Mahingila, 2005).

The Fair Competition Commission report for 2019 has noted some institutional challenges affecting the commission in its daily operations. One of the challenges pointed out is the issue of shortage of staff to adequately carryout the functions of the commission, lack of sustainable source of income to finance the commission operations and insufficient knowledge and awareness on Compition matters. All these challenges reveal the incapacity of the commission in fulfilling its daily operation of protection of consumers (The Fair Competition Commission Report, 2018).

According to John *at al* , the development of geographical indication in Tanzania is in early stage with farmers and administrators developing awareness and technical capacity from basic levels (John *et al.*, 2018). To realize the benefit of geographical indications the government must devise effective strategy such as voluntary license arrangement with importers, distributors and retailers of the products in major import destination to assist in management and monitoring infringements.

g. Lack of Experience by the Institutions in Protecting Geographical Indications

Institutions dealing with management and protection of geographical indications are facing the serious challenge of lack of experience in protection of geographical indication (Mahingila, 2005). In most of African countries, geographical indication is recent phenomenon and as such there are no experience of the use of geographical indications by producers and even Intellectual Property office bearers as it is in developed countries like the UK (Mangistie,2013).

The problem of lack of experience in protection of geographical indications was noted by the former BRELA CEO when she was presenting her paper in a meeting of stakeholders of SME organized by WIPO and TCCIA. The former BRELA officer noted that, poor exposure to international best practice is another problem hindering BRELA in protection of industrial properties (Mahingila, 2005). She further noted that, the source of this problem is shortage of finance to send BRELA officers to participate in international and regional fora which could help the personnel to copy the best practices and be able to apply the same in their service delivery activities.

h. Dormant Industrial Property Division at BRELA

The key organ responsible for protection of geographical indications and administration of intellectual property laws is BRELA. BRELA has established a special industrial property directorate to deal with registration and administration of industrial property rights like patent, trade and service marks, industrial designs and other related intellectual property rights like geographical indications. This division is headed by a Director of intellectual property.

The Intellectual property division is challenged for being dormant in performing its role of protecting intellectual property rights (Mahingila, 2005). BRELA is not effectively performing its role of registration of geographical indications. The 2018 WIPO report of Geographical Indications shows that, by 2018 there was not even a single geographical indication registered in Tanzania (WIPO Geographical Indications Report, 2018)

According to the former BRELA CEO, the main role of the intellectual property division is to administer current Trade and Service Marks Act and the Patents Act. This activity is not very active mainly due to lack of information from the demand side. She further noted that, the act of BRELA being unable to cover full range of industrial property is a major problem (Mahingila, 2005)

i. Lack of Centralized African Regional Institution for Protection of Intellectual Property Rights

At African region level, there exists two different institutions for management, protection and enforcement of Intellectual property rights (Africa Regional Intellectual Property Organization, 2019). There is the African Regional Intellectual Property Organization (ARIPO) covering countries of Southern Africa states including Tanzania and African Intellectual Property Organization (AOPI) covering Western African states. This situation makes African states to have a divided strategy on protection of geographical indications hence increasing diversity of domestic laws on protection of geographical indications. The disunity is also slowing down the collective efforts towards harmonization of African states legal framework on protection of geographical indications.

In 2011, HCL Consultants Ltd of Cyprus was engaged to conduct an empirical study on the protection of geographical indications by the African, Caribbean and Pacific countries engaged in the Doha Round Negotiations. During their study, they were interested to know what were considered to be the main drawbacks associated with existing international geographical indications protection in Africa? The study revealed that, 'absence of centralized African or regional protection system, lack of public knowledge about geographical indications and ignorance of sources of information' were serious challenges affecting most of the African states in their efforts towards effective protection of geographical indications (Blakeney, 2011).

It is therefore just and fair to note that, lack of African Regional centralized institution is slowing down the efforts of protection of geographical indications in Africa because Africa is lacking one voice and harmonized regional law for effective protection of African potential geographical indications. This is also affecting African countries in negotiating international IP instruments for common interests of all African states.

j. Lack of Effective Monitoring Mechanisms

The effective protection of geographical indications requires the availability of institutional mechanism of monitoring compliance with the specifications and standards of production in order guarantee consumers authenticity of the product. According AfrIPI, most of developing countries including Tanzania is lacking effective institutional system for monitoring compliance to product standards. This will sometime need to hire a private firm to monitor compliance.

According to AfrIPI, for geographical indications to be successful, a robust system of protection and enforcement is required. The credibility of a geographical indication depends on control which ensures the promise made by producers in their product standards is respected and product authenticity is guaranteed. This is difficult in most of the African states where especially to those small farmers association which do not have enough financial capacity to hire a private firm to monitor compliance of standard of goods in the market (Intellectual Property Rights and Innovation in Africa (AfrIP), 2021).

5. Conclusion

This paper was examining the institutional challenges hindering effective protection of geographical indications in Tanzania. The study has revealed that, Tanzania has in place the following institutions dealing with protection of geographical indications; The Ministry for Industry and Trade as the policy maker, BRELA as the key institution charged with administration of intellectual property laws , FCC and Fair Competition Tribunal dealing with administration of the Merchandise Marks Act and the High Court Commercial Division dealing with enforcement of the industrial laws. However, Tanzania institution dealing with protection of geographical indications are facing serious challenges which slows down their effectiveness in protection of geographical indications. The serious challenges relating to; inadequate human resource to monitor infringements, lack of strong organization of producers, incompetent staffs, lack of funding to facilitate daily operation and training for staff, weak institutions for settlement of disputes and incapacity to identify the unique qualities or characteristics of potential geographical indications by the national institutions.

The government of Tanzania is advised to work on the challenges by strengthening the institutions on the following areas ; to employ more staff at BRELA and FCC and train them in those countries which are far more better in protection of geographical indications to equip them with up to date skills and techniques of protection of geographical indications. Also, to provide financial support to the existing institutions to enable them have enough financial resources to monitor compliance to geographical indication standards in the market. Further, the government must think of amending existing laws to provide the institutional powers on registration and management of geographical indications. Finally, the existing farmers associations should be strengthened to prepare them for protection of geographical indications.

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