**THE CATHOLIC UNIVERSITY OF EASTERN AFRICA**

**SCHOOL OF BUSINESS AND ECONOMICS**

# FACTORS IMPACTING PERFORMANCE OF PUBLIC UNIVERSITIES IN KINSHASA, DEMOCRATIC REPUBLIC OF CONGO

**BY**

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**BY**

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**Dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Business Administration (Strategic Management)**

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## DECLARATION

I, the undersigned, declare that this dissertation is my original work and that it has not been presented in any other university or institution for academic credit.

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## ACRONYMS

**CFA:** Confirmatory Factor Analysis

**DRC:** Democratic Republic of Congo

**ESU:** Enseignement Supéreiuret Universitaire (Higher and University Education)

**GDP:** Gross Domestic Profit

**GFI:** Goodness of Fit Indices

**GPA:** Grade Point Average

**HEIs:** Higher Education Institutions

**R&D:** Research and Development

**SEM:** Structural Equation Modelling

**SME:** Small and Medium Enterprises

**PCLOSE:** Probability of Close Fit

**PESTEL:** Political, economic, social, technological, environmental and legal

**PGFI:** Parsimony Goodness of Fit Index

**RMSEA:** Root Mean Square Error of Approximation

**RMR:** Root Mean Square Residual

**UK:** United Kingdom

**US:** United States

**USA:** United States of America

**SPSS:** Statistical Package for Social Science

**TV:** Tolerance Value

**VIF:** Value Inflated Factor

## OPERATIONAL DEFINITION OF KEY TERMS

| | |
|---|---|
| **Ethical Factors:** | moral considerations or principles that guides decision making and actions |
| **External Factors:** | aspects outside the organization that affect its operations, strategy, and success |
| **Individual Factors:** | aspects that are unique to an individual employee |
| **Institutional Factors:** | the characteristics and elements that shape the functioning and behavior of institutions |
| **Institution Size:** | structural property of an organization which can be defined in terms of volume, sales volume, net assets, customers, or the number of persons employed in the organization |
| **Public Universities:** | institutions of higher education funded, governed and owned by the government |
| **Universities' Performance:** | includes academic, social, vocational, and personal skills |

## ABSTRACT

Universities evaluate their performance through various academic, administrative, research, service and institutional outcomes. However, public universities in the Democratic Republic of Congo continue to experience challenges that may affect their ability to achieve desired performance outcomes. This study examined the factors impacting the performance of public universities in Kinshasa, Democratic Republic of Congo. Specifically, the study examined the impact of individual factors, institutional factors, external factors and ethical factors on university performance and assessed the moderating role of institution size. The study was anchored in Resource-Based View Theory, Institutional Theory, Complexity Theory, and Deontological Theory. It adopted a positivist research philosophy and used descriptive and explanatory cross-sectional research designs. The target population comprised 1,059 respondents from three public universities in Kinshasa, from which a sample of 290 respondents was selected using the Yamane formula. Data were collected using a structured questionnaire and analyzed using descriptive statistics, multiple regression analysis and Structural Equation Modelling.

The study tested the null hypotheses that there was no statistical impact of individual factors, institutional factors, external factors and ethical factors on the performance of public universities in Kinshasa, DRC, and that institution size did not significantly moderate these relationships. The findings showed that individual factors had a significant positive relationship with university performance ($\beta = 0.430$, $p < 0.001$), while institutional factors also had a significant positive relationship with university performance ($\beta = 0.476$, $p < 0.001$). External factors had a significant negative relationship with university performance when examined simultaneously with the other explanatory factors ($\beta = -0.291$, $p < 0.001$), whereas ethical factors had a significant positive relationship with university performance ($\beta = 0.163$, $p = 0.037$). Institution size was also found to have a significant moderating role in the relationships between the explanatory factors and university performance. The null hypotheses concerning the effects of individual, institutional, external and ethical factors were therefore rejected. The study concludes that individual, institutional, external and ethical factors are important in understanding the performance of public universities in Kinshasa. The study recommends strengthening employee skills, motivation and commitment; improving organizational structures, resource management and institutional culture; developing appropriate responses to political, economic and technological conditions; and strengthening ethical leadership, academic integrity and research ethics. Public universities should also consider the role of institution size in improving the effectiveness of these factors in achieving better university performance.

# CHAPTER ONE: INTRODUCTION OF THE STUDY

## 1.1 Background to the Study

Institutions embody a logical intention that directs activities towards specific objectives. Every good institution possesses a mission, a vision, objectives and strategies that direct it towards achievement. As organizations, they are distinguished by their long-lasting nature and their ability to shape social interactions inside and outside their operation zones. They encompass cultural, cognitive, normative, and regulative aspects. Both the external and internal environments have an influence on institutional decisions, including strategy (Munir, 2019). The business environment refers to a collection of elements that influence an organization's operations in various ways. Business managers are called to analyze carefully this environment to identify prospective changes and formulate plans in order to enhance operations (Kinange & Patil, 2020).

Public universities are academic establishments controlled and managed by the government. They were founded to offer teaching beyond high schools (Ogunode, 2020). Public universities operate within a multi-stakeholder context while performing their responsibilities. Typically, a university is comprised of multiple administrative entities, faculties, and departments. The universities are also linked to external stakeholders, including the ministry of education, sponsors and other governmental as well as corporate agencies. Within universities, there are several participants, including staff members at different levels and students. Each of these individuals has specific tasks and roles aimed at improving academic performance (Supriadi et al., 2021). Nevertheless, the intricate landscape of these universities is marked by low rates of student enrolment, escalating expenses, and diminished public funding. These factors expose public universities to various risks and necessitate an efficient governance system to achieve academic excellence (Hodgins & Lubelsky, 2020).

In an endeavour to enhance the efficiency of educational institutions in the Congo (DRC), the Ministry of Education has developed the Education Sector Strategy 2022–2026. This strategy aims to optimize the execution and assessment of policies in the education sector (ESU, DRC, 2022). Therefore, it has been predicted that public universities in the DRC will strengthen their administrative operations in accordance with this plan in order to

promote university performance. In this Educational Sector Strategy, three strategic axes have been determined: to form a governance structure that is transparent and effective, to promote a fairer education system that contributes to economic growth and employment, and to create the necessary conditions for a high-quality education system. The plan aims to promote international openness and embrace current technology in higher and university institutions. It also focuses on enhancing research activities, in line with the purpose of fostering a culture of quality and excellence (ESU, DRC, 2022).

In addition, the Congolese higher education system has been hindered by a shortage of competent personnel, which is essential for enhancing the education quality. This is because some education institutions fail to achieve the requirements established by the Ministry of Education (Tshiunza, 2019). Consequently, potential students are departing the country to study overseas, with the intention of obtaining advanced education and essential competencies, and thereafter returning to contribute to the country's progress (Bakamana, 2021). The objective of this study is to investigate on the factors impacting the performance of public universities in Kinshasa, DRC by looking how individual factors, institutional factors, external factors, and ethical factors influence performance of public universities.

### 1.1.1 Global Perspective of Performance of Universities

Tandilashvili (2019) in the United States of America (USA) revealed that several factors, including academic, non-academic, program-related, environmental, reputation, and access factors influence university performance. The study proposed that universities should assess on the strengths and weaknesses; opportunities and treats so to enhance performance of university. This understanding would allow universities to improve the services they provide. Alani and Hawas (2021) in Oman found that personal factors, teacher-related factors, institution-related factors, and environmental factors have a positive relationship with performance of university. Tiron-Tudor et al. (2022) found as well that institutional and human factors have a big impact on Romanian public universities' performance, particularly in the areas of research and teaching.

In New Zealand by Tani et al. (2019) discovered that family duties, employment and social involvement, and financial worries positively influence university performance. The study proposed that achievement in higher education is influenced by various elements, including

academic, non-academic, and individual aspects. In Vietnam by Le et al. (2020) identified several crucial elements that contribute to the improvement of university performance. These factors include the pedagogical knowledge and abilities of lecturers, professional knowledge and credentials, the availability of learning resources and favourable settings, the structuring of courses and the motivation of students. The study suggested that universities should consider factors such as the interior environment and academic learning space in order to effectively enhance performance of universities. Rashida et al. (2019) found no association between students' educational achievements and the type of school they attended (rural or urban) in Russia. The study proposed that education stakeholders and academicians should consider this educational factor.

In their study on the performance of universities in Bangladesh, Islam and Tasnim (2021) concluded that diligent effort, unwavering commitment, and a strong belief in oneself were the key elements that improved performance. The study suggested that university management should formulate policies that are conducive to the education system so as to maximize performance. Chen et al. (2021) found that performance of Chinese public universities is influenced by both social and technical aspects. The study suggested that universities should include technology in teaching methods and online course platforms to enhance performance. According to Malaysian research by Nasser et al. (2023), poor entrance grades, family support, housing, student gender, internal evaluation grade, GPA, and e-learning activities are the main factors affecting academic achievement.

### 1.1.2 Regional Perspective of Performance of Universities

Khumalo and Utete (2023) in South Africa identified instructional methods, institutional facilities, study groups, and parental support as factors that positively influence universities success. The study recommended that academic administrators should offer diverse amenities and implement a range of instructional approaches to improve performance. Ghebregiorgis (2020) in Eritrea found that human variables, environmental factors, and socio-economic factors have a positive influence on performance of universities. Mokua (2020) in Kenya identified several factors that have a major impact on performance in the education sector. These factors include peer pressure, the availability of school resources, the student-teacher ratio, and family support. The study recommended that all stakeholders

should guarantee that learning institutions have sufficient learning materials and an acceptable number of good teachers. Additionally, parents should actively engage in monitoring and supporting their children's academic performance to enhance overall achievement.

### 1.1.3 Local Perspective of Performance of Universities

Moukouyou-Kouaka and Awolusi (2020) in the DRC identified working environment, career development, and performance management as influential determinants on the performance of public universities. The report proposed that the public institutions of the DRC should be restructured so to ameliorate their performance. Bogren et al. (2021) observed that contextual factors have a positive effect on the functioning of public organizations. The study suggested that firms should engage local authorities, provide incentives to employees as a kind of encouragement, provide training to their staff, and ensure they have sufficient room to carry out various programs in order to enhance performance.

Furthermore, Bitamba and An (2020) determined that the success of public organizations is influenced by financial considerations, quality factors, personnel factors, and management-related factors. The study advised that stakeholders in the public sector should possess a comprehensive understanding of university management so to boost the education quality. According to Brandt and Moshonas (2020), the proliferation of legal and institutional frameworks, regulatory ambiguity, arbitrary financial practices, and uncertainty have adversely impacted the performance of public universities, rendering fiscal problems seemingly inconsequential. Rurofum (2020) asserts that the underperformance of students is a significant issue for many higher education institutions in the DRC, resulting in a decline in graduate rates that has had a destabilizing effect on higher education in recent years. Strikes by students, instructors, and non-teaching personnel have frequently disrupted the academic years. The lack of effectiveness in higher education system is particularly noticeable in public universities in the DRC.

Menga-Mokombi (2020) argued that the main obstacles to good performance in public universities in the DRC are the absence of networking and inter-sectoral cooperation, insufficient technological progress, limited impact of academic and professional

associations and inadequate allocation of public resources to research and development (R&D). The allocation of resources to the education sector accounts for a mere 1.8% of the country's GDP, which is an approximately 10.9% of the overall national budget. This amount is insufficient to adequately fund the operations of public universities, hindering their ability to achieve optimal performance.

While public universities do have a greater number of scientists with PhD qualifications, only a small percentage of them are able to dedicate their time and resources to research. Furthermore, the lack of collaboration with industries and limited diversity in partnerships has been a persistent issue, primarily due to the inherent inadequate capabilities of higher education institutions (HEIs). Additionally, the prolonged period of instability has deterred potential donors, while the limited number of industries can be attributed to the prevailing tax regime and corruption among officials. Moreover, in the majority of Higher Education Institutions (HEIs), government officials hire leaders based on their personal interests, disregarding ethical considerations. Consequently, this practice results in restricted academic autonomy when it comes to selecting leaders and establishing curricula (Bakamana, 2021). Public universities lack autonomy in their program offerings. This is seen in the fact that institutional considerations and student recruitment are not completely considered. This lack of consideration has negative repercussions on the public universities' performance. Academic freedom can be limited by political constraints on freedom of speech and the government's tendency to marginalize, arrest, or intimidate individuals who challenge the regime. These actions have a detrimental impact on universities performance which impedes the efficient functioning of public universities (Menga-Mokombi, 2020). The evidence above indicates that the performance of universities in the DRC has been affected by declining graduation rates, inadequate resources, limited research capacity, technological challenges, political influence and limited institutional autonomy. These indicators demonstrate persistent performance challenges and provide a basis for narrowing the present study to public universities in Kinshasa and examining the factors impacting their performance (Menga-Mokombi, 2020).

### 1.1.4 Factors Impacting Performance of Public Universities

The performance of public universities is influenced by a combination of internal and external conditions. The preceding global, regional and local perspectives demonstrate that factors related to employees, institutional arrangements, resources, the external environment and ethical practices can shape university performance. These factors operate within the particular institutional and environmental contexts in which universities function. Therefore, understanding university performance requires consideration of both internal organizational conditions and external circumstances that may facilitate or constrain the achievement of institutional objectives (Parveen, 2023).

Individual factors consider parameters that are unique to employees. It includes aspects such as attitudes, knowledge, skills, commitment, motives, values, self-esteem, education among others. These individual factors are very important as they determine how individual employees contribute to the performance of an organization (Vo, et al., 2022). Institutional factors, according to Sendra-Pons et al. (2022), refer to the characteristics and elements that shape the functioning and behaviour of institutions. They come from legal, governance initiatives, based on management capabilities, unofficial models and social consistency. The institutional factors include institutional environment, resistance to change, relationships with other social factors, levels of homogeneity, and instrumentality of institutions. They usually provide the framework and rules for a stabilized organization, influencing performance and innovation. Institutional factors also contribute to the development of interdisciplinary and knowledge production within universities (Tiron-Tudor et al., 2022).

External factors that influence the performance of universities include facilities, curriculum, extra-curricular activities and achievement (Chamidy et al., 2023). On the other hand, Al-Muslimawi and Hamid (2019) posit that external factors such as extra-curricular activities, family problems, social factors, and work and financial problems impact the performance of universities. According to Navarro et al. (2021), socio-economic factors, quality of teaching, quality of infrastructure, legal requirements are the key external factors that impact the performance of universities. Chen et al. (2023) notes that external factors such as personal attitude, motivations, learning environment and learning skills influence the performance of universities. In addition, Supe et al. (2018) postulate that

political factors, economic factors, social factors and technological factors influence the performance of universities and other higher education institutions.

An ethical factor refers to a moral consideration or principle that guides decision making and actions (Smyth, 2022). Integrity in learning dictate how decision making, employees behave as well as the functionality of various stakeholders in the industry. Therefore, transparency factors in the management of education institutions are pertinent for high productivity while capturing the support of the community, parents and the students. Being transparent, honest and reliable is important for universities aiming at the sustainability of trust. In addition, being able to uphold trust and integrity could lead to better productivity in institutions of learning. Fairness and equity should also take centre stage in ethical practices as they help in dismantling prejudices and discrimination, fostering an environment where everyone is treated with respect and dignity (Sakiman & Yasin, 2023). According to Arar and Saiti (2022), ethical leadership which is centred on fostering a culture of trust and ethical behaviour within a university is very important when practiced as it fosters fair and equitable educational environment for all stakeholders.

In response to these factors, the government and other stakeholders in the education sector have undertaken various measures aimed at improving university performance through strengthening governance, human-resource capacity, infrastructure, resource management, research and technological development. However, the continued performance challenges in public universities suggest that these efforts have not fully addressed the factors affecting institutional performance (Arar and Saiti, 2022).

In response to the factors affecting the performance of public universities, the government and other supporting partners have undertaken various measures aimed at strengthening the higher education sector. These efforts have included support for institutional governance, human-resource development, infrastructure and physical facilities, research and technological development, and improvement of institutional resource management. Such interventions are intended to enhance the capacity of public universities to deliver quality teaching, strengthen research activities, improve administrative efficiency and respond to changing technological and socio-economic conditions. However, the continued challenges affecting public universities indicate that these interventions have not fully

addressed the underlying individual, institutional, external and ethical factors that influence university performance (Parveen, 2023).

### 1.1.5 Institution Size

A learning organization for example a college or university, operates on its own based on the strategic processes and policies they have set up. The size of an institution refers to the enormity of a company, which is based on the staff members, market and revenue. It is also about the scale and scope of activities in the institution. Organizations are often classified into different categories based on the number of students and employees they have (Mormah, 2023). In academics, the size of a university can be determined by the number of faculties which are organized according to academic disciplines, with each department headed by a head of department (Wagithunu et al., 2019).

Further, an organization in the academic sector can represent different types of organizations within an institutional structure, such as college, school, division, or department (Jemutai et al., 2020). Land, furniture, buildings, laboratories and resource centres are part of physical facilities in an institution which are very important. For learning outcomes to be impactful, providing enough instructional physical facilities should be accentuated. This is based on the fact that classrooms are crucial in the daily formal learning and teaching, with libraries enabling students have a chance to study individually. On the other hand, leisure facilities are used for extracurricular initiatives. Hostels are also important as they ensure that learners are housed in the institution. Therefore, physical facilities that have been put in institutions vary to enable teaching and learning of quality education (Mormah, 2023).

### 1.1.6 Education Sector in DR Congo

The Ministry of Education at Higher Levels in the DRC oversees public and private universities for national higher education. These encompass pedagogical institutions, universities, institutes involved in technology, artists and technical specializations. The higher education and university establishments in the Country Reference Framework DR Congo are classified into public and private categories. In 1981, the Congolese Ministry of Education at Higher Levels established the Universities and Higher Institutes as Public Establishments by decentralizing the public universities. They endowed them with legal

personality and autonomy in educational, administrative and financial management (Otemikongo, 2019).

Framework Law No. 14/004, enacted on February 11, 2014, establishes the governance bodies for private and public institutions of higher education. They include the council of a university, academic boards and ministries, Artistic and Technological Institutes, the Board of Directors of Higher Pedagogical Institutes, the Board of Directors of Higher Schools, the Council for Approved Private Higher and University Education, the University Council, the Management Committee, the Rector or Director General, the Faculty or Section Council, and the Department Council (*Ministère de l'Education de la RDC*, 2022).

Ordinance No. 16/071 of September 29, 2016, which pertains to the organization of Higher and University Education, outlines five entities responsible for the administration of local university activities. The bodies mentioned include the University Council, Management Committee, Rector, Faculty Council, and Department Council. The entities are categorized into two types: deliberative bodies, consisting of the University Council, Faculty Council, and Department Council; and executive bodies, which encompass the Management Committee and the Rector (Otemikongo, 2019). Consequently, the public universities in Congo have gained autonomy in their management, starting from the year 2019, under the supervision of the Management Committee. However, the ultimate authority over major decisions still lies with the Congolese education ministry (*Ministère de l'Education de la RDC*, 2022). The Education Minister has the authority to designate the Rectors and Directors General in all public universities of the country (Otemikongo, 2019). Additionally, the Educational Minister appoints the two General Secretaries (academic and administrative) and a Budget Administrator (Bakamana, 2021) who provide support to the Rector or Director General within the Management Committee (Otemikongo, 2019).

The University Council serves as the university's internal governing body responsible for making decisions. This council is responsible for overseeing the university's long-term objectives and orientations as well as the strategic planning for the universities' future. The strategic planning orientation is derived from the overarching direction set forth by the Ministry of Education at Higher Levels. Once the University Council has developed the

strategic planning, the Management Committee is responsible for the execution. The evaluation stage will require the two entities to assess the actions of the universities based on the planned objectives (Otemikongo, 2019).

The University Council consists of the entire Management Committee, representatives from decentralized entities such as faculties, the main library, centers, university clinics, and research centers, as well as staff representatives, a student representative, a representative from the labour world, and a representative from civil society. The University Council's competences encompass three domains: academic and scientific administration, administrative management, and financial management (Otemikongo, 2019).

The university Council is tasked with implementing the academic and scientific policies of the institution and providing recommendations for the advancement of academic activities (Université de Kinshasa, 2024). The Management Committee is responsible for the daily administration of the University, overseen by the Rector. The entity carries out the directives of the overseeing Ministry, Universities board, and the Council. It also conducts any necessary actions that are not the responsibility of any other entity. The Management Committee consists of four members: The Rector, the Academic Secretary General, the Administrative Secretary General, and the Budget Administrator (Otemikongo, 2019).

The University Council is responsible for making important institutional proposals and suggestions: appointing and dismissing administrative and technical staff based on recommendations from department heads, handling appeals against decisions made by Faculty Councils and University departments, developing and submitting budget forecasts for approval, and managing buildings assigned to the University. The Management Committee convenes on a weekly basis to establish the regulations governing its functioning (Otemikongo, 2019).

The Faculty Council serves as the authoritative and decision-making entity of the faculty. The tasks of the Faculty Council are determined by Ordinance-Law No. 071 of September 29, 2016, and encompass academic, administrative, and financial management. The composition, operation, and organization of the Faculty Council are determined by the

Presidential Ordinance that establishes each university. The Faculty Council is led by the Dean of the University's Faculty (*Université de* Kinshasa, 2024).

The Department Council is the last official body of the university governance. It is composed by academic personnel, project managers, two assistant representatives, and two representatives' student from the Department. The department's competences encompass academic and scientific affairs, administrative affairs, and financial affairs (Otemikongo, 2019). Department Council is headed by a Head of the Department of the university (*Université de* Kinshasa, 2024).

### 1.1.7 Performance of Public Universities

Performance of public universities refers to the extent to which universities achieve their intended academic, administrative, research and service objectives. University performance encompasses measurable outcomes associated with teaching and learning, research, community service, financial services, innovation and institutional development (Chukwemeka, 2020). Academic performance is reflected in measurable and qualitative outcomes achieved during the learning process (Tadese et al., 2022). It is therefore important to assess university performance using indicators that capture the extent to which institutions achieve their intended outcomes. (Chukwemeka, 2020). Acevedo-de-los-Rios and Rondinel-Oviedo (2021) state that the actions of individuals involved in higher education institutions can either help or hinder the institutions in achieving their objectives. Therefore, various internal and external factors affect performance by influencing the behaviour of institutional processes and systems that are directly involved in transforming the organization in terms of service delivery (Donina & Hasanedendic, 2018).

In order to excel in the competitive university environment, academics must take on the responsibility of incorporating sustainability into its core principles (Simina, 2022). When evaluating the performance of universities, it is important to take into account both the sustainability of the universities themselves and their impact on society (Shawe, 2019). This is necessary in order to remain competitive in the education market (Shisia et al., 2019). The key performance indicators in this study included sustainability, efficiency, innovation, and customer satisfaction. (Simina, 2022; Shawe, 2019; Chukwemeka, 2020;

Paudel, 2020; Yaakub & Mohamed, 2020; Tadese et al., 2022; Mappadang et al., 2022; and Shahjahan et al., 2021; Shisia et al., 2019).

## 1.2 Statement of the Problem

Public universities are expected to provide quality teaching, effective research, relevant academic programmes and efficient services that contribute to national development. They should therefore maintain sustainable operations, use available resources efficiently, promote innovation, and satisfy the needs of students and other stakeholders (Menga-Mokombi, 2020; Risasi & Sabiti, 2020).

However, the performance of public universities in the DRC remains concerning. Between 2012 and 2020, the number of professors increased by only 6.4%, while the supervisor-to-student ratio was approximately 1:65, limiting effective academic supervision and research capacity (Kabuya, 2022; Vundu, 2022; Yoatile et al., 2021). Between 2015–2016 and 2019–2020, only 717 theses were successfully defended in public universities (Ministère de l'Education de la RDC, 2022). Furthermore, only 17% of students enrolled in public universities reportedly graduate, while fewer than 100 of approximately 9,000 annual graduates secure employment (Enguta, 2020; Paluku, 2020; Mwamba, 2022). These indicators point to challenges in the efficiency, sustainability, innovation and responsiveness of public universities.

Although previous studies have examined university performance and various factors affecting it in the DRC, they have largely focused on specific institutions, regions or individual factors. For example, Yoatile et al. (2021) examined scientific staff performance, Vundu (2022) focused on pedagogical institutes at the University of Kisangani, Lofinda (2019) examined student performance, and Paluku (2020) focused on universities in the far north of the DRC. Limited empirical evidence therefore exists on the combined influence of individual, institutional, external and ethical factors on the performance of public universities in Kinshasa, including the moderating role of institution size. This study seeks to fill this gap by examining these factors in relation to the performance of public universities in Kinshasa, measured through sustainability, efficiency, innovation and customer satisfaction.

## 1.3 Research Objectives

### 1.3.1 General Objective

The main objective of the study was to examine the factors impacting performance of public universities in Kinshasa, DRC. Based on the purpose of the study, the following specific objectives were formulated:

### 1.3.2 Specific Objectives

i. To determine the impact of individual factors on performance of public universities in Kinshasa, DRC
ii. To establish the impact of institutional factors on performance of public universities in Kinshasa, DRC
iii. To determine the impact of external factors on performance of public universities in Kinshasa, DRC
iv. To establish the impact of ethical factors on performance of public universities in Kinshasa, DRC
v. To explore the moderating role of institution size on the relationship between factors and performance of public universities in Kinshasa, DRC

## 1.4 Research Hypotheses

Based on the specific objectives of the study, the following null hypotheses were formulated and tested:

$H_o1$ There is no statistical impact of individual factors on performance of public universities in Kinshasa, DRC

$H_o2$ There is no statistical impact of institutional factors on performance of public universities in Kinshasa, DRC

$H_o3$ There is no statistical impact of external factors on performance of public universities in Kinshasa, DRC

$H_o4$ There is no statistical impact of ethical factors on performance of public universities in Kinshasa, DRC

$H_o5$ There is no statistical impact of institution size on the relationship between factors and performance of public universities in Kinshasa, DRC

## 1.5 Significance of Study

### 1.5.1 University Boards

The study's results were useful for public university administration and boards since the suggestions could guide policy changes that improve the institutions' efficiency. They may pinpoint problem areas and execute specific solutions to boost efficiency and productivity.

### 1.5.2 Public and Private Universities

While the research focused on public universities in the DRC, the findings were likely to have broader implications for both public and private institutions operating within the country. Since private universities adhere to the same policies set by the education ministry, they could use the research findings to improve their own performance and competitiveness. By identifying common challenges and best practices, public and private universities could learn from one another and collaborate to raise standards and foster excellence throughout the sector.

### 1.5.3 The Ministry of Higher and University Education

The Ministry that formulated the Education Sector Strategy for 2022-2026 would also benefit from this study as they could use the findings during evaluation of the strategy especially on the key factors that influence the academic success of public universities. This would be of importance in reviewing and coming up with corrective measures to ensure that the strategy is fully implemented for enhanced quality education and strengthened quality research in universities.

### 1.5.4 Academicians and Practitioners

Academicians and practitioners working in higher education research and management would benefit from the research findings. Recommendations formulated by the study could help academics better understand the factors that influence university success in a certain situation. Practitioners, such as university administrators, politicians, and educational consultants, could utilize the findings to guide their decision-making and create evidence-based strategies for increasing institutional performance and effectiveness.

## 1.6 Scope of the Study

The content scope of this study was to assess the factors impacting the performance of public universities in Kinshasa, DRC by looking at the constructs of individual factors,

institutional factors, external factors and ethical factors. In addition, the study assessed the moderating influence of institution size. The time scope of this study was from August 2023 to December 2025 while the geographical scope was Kinshasa, DRC.

In terms of concepts, this study was delimited to individual factors, institutional factors, external factors and ethical factors. As such other internal factors that influence performance were excluded from the study. In terms of context, this study only focused on public universities in Kinshasa, DRC. Therefore, public universities in other provinces of DRC and private universities within DRC were excluded from the study. The city of Kinshasa was targeted because, there were more teachers in Kinshasa in higher Education Institutions in public sector (19.2%) than in any other provinces of the country. Likewise, more than half of qualified teachers (56.4%) were localized in Kinshasa (*Ministère de l'Enseignement Supérieur et Universitaire* RDC, 2021). In addition, of all students enrolled in the 2019-2020 academic year, the last year of the publication of statistics on Higher Education Institutions in DRC, 33.4% were located in the city of Kinshasa. The choice of public universities was because of all the professors of the city of Kinshasa, public sector covered 96.9% while the private sector only had 3.1*% (Ministère de l'Enseignement Supérieur et Universitaire RDC*, 2021).

This study collected primary data from the Rectors, senior administrative staff, faculty deans, departmental heads plus lecturers drawn from public universities in Kinshasa. Other employees in the public universities in Kinshasa were excluded from the study.

The scope of the study was deliberately delimited to ensure that the investigation remained focused and manageable. Geographically, the study focused on public universities in Kinshasa, DRC, because the study sought to generate context-specific evidence on factors affecting the performance of public universities within the capital city. In terms of content, the study focused on individual, institutional, external and ethical factors because these constituted the explanatory dimensions established in the conceptual framework, while university performance was assessed through sustainability, efficiency, innovation and customer satisfaction, with institution size examined as a moderating variable. The study focused on the selected university leadership and governance categories because they constitute key structures involved in university administration and decision-making.

Methodologically, the study adopted a quantitative cross-sectional approach because it was intended to examine the relationships among the specified variables at a particular point in time. These delimitations enabled the study to address its objectives within a clearly defined population, context and analytical framework.

## 1.7 Theoretical Framework

This study was anchored on the institutional theory conceptualized by (Meyer & Rowan, 1977; DiMaggio & Powell, 1983; Scott, 1987). The institutional theory encompasses the stability and change of institutions. It helps in understanding the pressure that institutions undergo to become more similar. According to the theory, institutional organizations use ambiguous technologies such as teaching to produce outputs which are new knowledge where efficiency and quality is difficult to determine (Morphew & Huisman, 2002). This leads the institutions to work towards having structures and activities which are identifiable both externally and internally. The theory shows that the environment in an institution can influence the development of formal structures. It shows that organizations usually adopt structures that are prevalent in their environment, for example the procedures, job titles and roles (DiMaggio & Powell, 1983). The institutional environment legitimacy therefore helps the survival of organizations.

According to the theory, the legitimacy that comes with the institutional environment can hinder the competitive advantage of the organization and also reduce its efficiency. Organizations usually counter this by decoupling their technical core from the legitimized structures. This ensures that they maintain confidence in their internal and external structures (Meyer & Rowan, 1977). This is because institutions work towards becoming easily acceptable and recognizable within their environment thus being legitimized. In this study this theory assisted in outlining how public universities should consider and streamline the various institutional factors such as their structure, culture, and resources to improve their performance.

## 1.8 Conceptual Framework

A conceptual framework is the visual roadmap that outlines the presumed relationships between the variables and the concepts being studies. It is usually built from existing literature, theories, and personal observations to structure how a survey will be conducted

(Singh, 2023). A conceptual framework showed the interaction of the independent variables (individual factors, institutional factors, external factors and ethical factors), the moderating variable (institution size) and the dependent variable (performance of public universities). Figure 1.1 displays the conceptual framework.

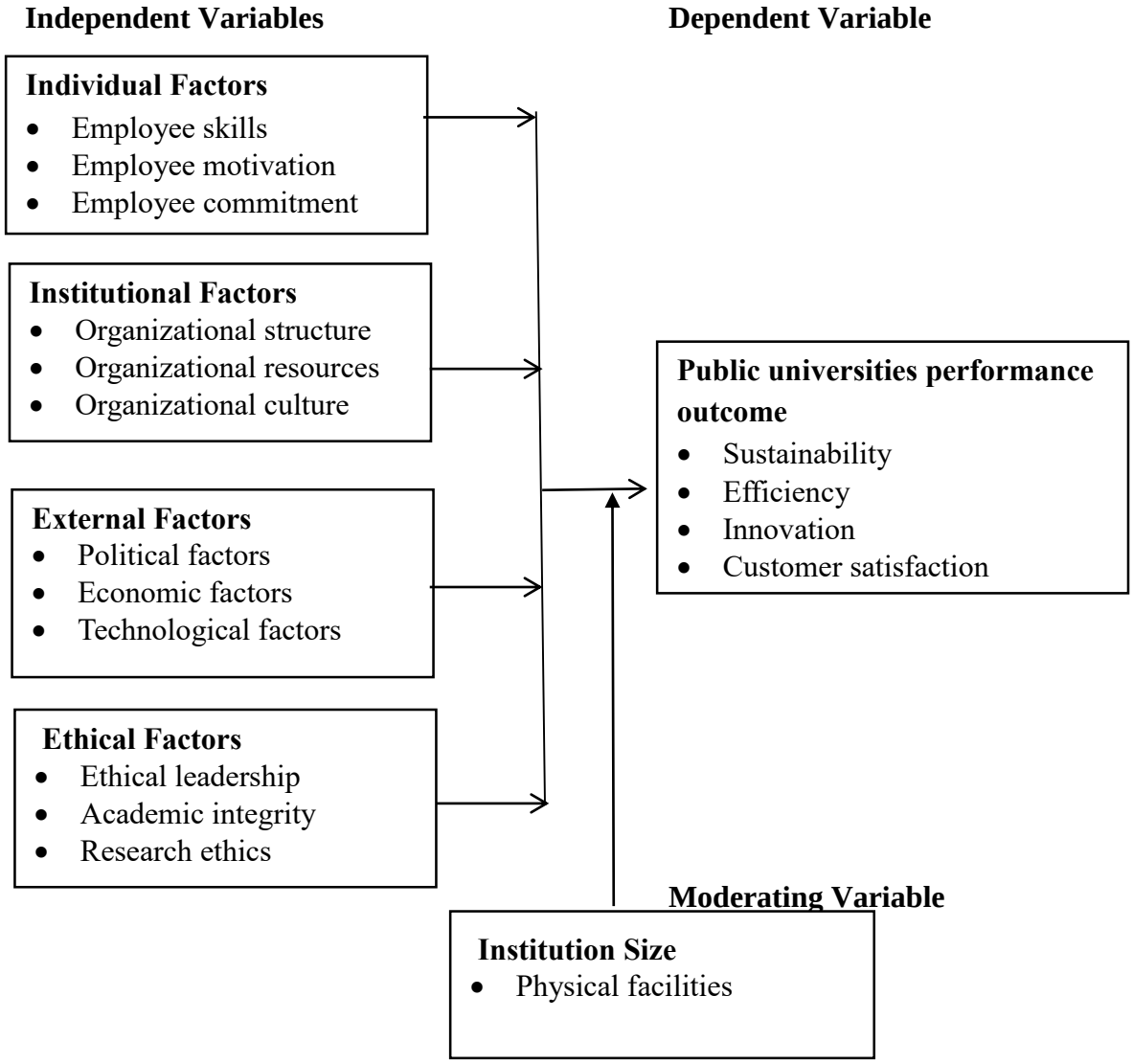



**Figure 1.1 Conceptual Framework**

In this study, university performance was conceptualized as the extent to which public universities achieve desired institutional outcomes through sustainability, efficiency, innovation and customer satisfaction. Sustainability refers to the ability of a university to maintain its academic and institutional operations and outcomes over time. Efficiency refers to the ability of the university to utilize available resources to achieve its intended

academic and administrative outcomes. Innovation refers to the university's ability to introduce and apply new ideas, approaches, processes and practices in teaching, research and administration. Customer satisfaction refers to the extent to which the needs and expectations of key university service users, particularly students and other relevant stakeholders, are satisfactorily addressed. These dimensions provided the basis for measuring university performance in the present study.

The conceptual framework was developed from the theoretical and empirical literature reviewed in this study. Resource-Based View, Institutional, Complexity and Deontological theories informed the selection of the explanatory variables, while empirical studies informed their specific dimensions and relationships with university performance. The framework therefore represents the researcher's synthesis of the reviewed literature in the context of public universities in Kinshasa, DRC.

According to the conceptual framework, various factors such as individual factors, institutional factors, external factors and ethical factors could impact the success of public universities under the dimensions of sustainability, efficiency, innovation, and customer satisfaction. The institution size could moderate this relationship under the parameter of physical facilities.

# CHAPTER TWO: LITERATURE REVIEW

## 2.1 Introduction

This chapter reviews existing literature on factors and public universities performance. The first section reviews the theories that anchor the study's specific objectives showing their relevancy and the criticism. The second section reviews empirical literature in relation to individual factors, institutional factors, external factors, ethical factors and institution size while the third section highlights the research gap that has been identified after reviewing the existing literature.

## 2.2 Theoretical Review

### 2.2.1 Resource Based View Theory

Resource Based View (RBV) theory was put forward by (Penrose, 1959). The theory was later refined by (Barney, 1991). It usually focuses at the diverse ways institutions succeed based on their resources. Immobility and heterogeneity are the two basic conjectures of the RBV theory. They highlight that an organization's competences, talents and resources differ from one to the other. This is because if organizations adopt similar methodologies in carrying out their tasks using their resources, they will not be able to gain a competitive advantage. Therefore, organizations have to bundle their different resources in an endeavour to gain a competitive advantage (Barney, 1991).

The other assumption is that resources are immovable and cannot be shifted from one organization to another. Organizations are not able to replicate their rivals' resources and implement strategies due to their immobility. Insubstantial resources include business processes, brand equity, intellectual property and employees can mostly not be moved. Therefore, the main area of an organization's competitive advantage in their internal immovable resources (Peteraf & Barney, 2003).

According to Barney et al. Ketchen (2001), physical items including land, structures, machinery, equipment, and money are considered tangible assets. Physical resources can be freely gotten in a market, thus offering minimal long-term value to organizations as others in the industry can also get hold of them. The theory therefore concentrates on each organization's core uniqueness. The capabilities and resources controlled by a company

are what makes it stand out and lead to the variation in its success. RBV therefore clarifies the importance of an institution being distinct as this will lead it to outlast its competitors. This can only be achieved through the emphasis on the distinctness based on effectiveness and not on other differences with others in the industry (Hoopes et al., 2003).

Rather than focusing on learning a new skill for each different chance, an organization can easily take advantage of other opportunities through the innovative use of the resources they own which can lead them to gain a competitive advantage. According to the theory, resources are critical in enabling an organization boost its effectiveness. Therefore, a company stands to gain a competitive advantage in the long term by effectively making use of the resources they are that are not easy to replace, duplicate, are valuable and rare. It is thus the responsibility of the leadership in a university to come up with ways that their available resources can be effectively and wisely utilized to become more competitive than other universities (Barney & Clark, 2007).

This theory was pertinent in this study as it supported the individual factors whereby by having employees who had the right skills, knowledge, know their role they were playing in the public universities, were motivated and committed to their work could enhance the performance of public universities in Kinshasa, DRC. Therefore, when public universities in Kinshasa understood the benefits, they could gain from the individual factors among their employees they would exploit them by ensuring that the employees were placed appropriately in different departments to exploit these resources.

According to Sheehan and Foss (2007), the theory had won accolades for giving an organization's strategy direction. This is because according to the principle, a business can achieve a competitive advantage by having valuable managerial abilities, information capabilities, and administrative procedures. Therefore, leaders may safeguard and enhance the crucial resources and competencies by identifying the real factors that affect performance in an organization. It has also been remarked that the RBV theory is straightforward and has immediate face validity because its main concepts are appealing and easy enough to be taught and understood (Kraaijenbrink, et al., 2010).

However, the idea has been criticized for lacking management applications. This is due to the fact that it only instructs managers to acquire the precious, uncommon, imperfectly imitable, and non-substitutable resources without providing any instructions on how to do so (Miller, 2003). The idea also presupposes that managers have complete control over their resources or have the ability to foresee their future value (Thompson & Morgenstern, 2009). It has also been noted that the idea ignores the sources of resources used by organizations. Additionally, the organizational context is not dissociated from how an organization gets or uses its resources (Barney & Clark, 2007).

The idea has been heavily criticized for treating resources and capacities, whether static or dynamic, as if they were all equal (Kraaijenbrink et al., 2010). Although resources and capabilities have varied definitions, all resources are generally regarded the same. No consideration has been given to the various ways that resources can contribute to a company's long-term competitive advantage (Newbert, 2007).

### 2.2.2 Institutional Theory

The institutional theory has been conceptualized from research literature on institutional sociology (Meyer & Rowan, 1977; DiMaggio & Powell, 1983; Scott, 1987). The institutional theory encompasses the stability and change of institutions. It helps in the understanding the pressure that institutions undergo to become more similar. This is because institutions work towards becoming easily acceptable and recognizable within their environment thus being legitimized. The theory postulates how through accidental and deliberate choices, institutions somehow mirror values, ideologies and norms of the field they are operating in (Saebo, 2017). This eventually leads to the institution meeting the expected characteristics in the environment thus receiving legitimacy and worthy in the society (Toma, et al., 2005).

According to the theory, institutional organizations use ambiguous technologies such as teaching to produce outputs which are new knowledge where efficiency and quality is difficult to determine (Morphew & Huisman, 2002). This leads the institutions to work towards having structures and activities which are identifiable both externally and internally. The theory shows that the environment in an institution can influence the development of formal structures. It shows that organizations usually adopt structures that

are prevalent in their environment, for example the procedures, job titles and roles (DiMaggio & Powell, 1983). The institutional environment legitimacy therefore helps the survival of organizations. According to the theory, the legitimacy that comes with the institutional environment can hinder the competitive advantage of the organization and also reduce its efficiency. Organizations usually counter this by decoupling their technical core from the legitimized structures. This ensures that they maintain confidence in their internal and external structures (Meyer & Rowan, 1977).

This theory was relevant to the study because public universities operate in an institutional environment in which the government and the university council determine in part the expectations for the university practices and behaviour. Public universities that exploited their institutional factors such as organizational resources, management capabilities were able to come up with strategies to ensure they perform better. In addition, the public universities must conform to certain laid structures in the institutional environment in order to be considered legitimate. The theory was also relevant to the study because public universities were expected to operate within set guidelines that are viewed as legitimate within the education sector. Therefore, this study sought to find out how the institutional theory could inform the institutional factors and the physical facilities to enhance the relationship between factors and public universities performance. The theory was important in this study as it highlighted how public universities should consider and streamline the various institutional factors such as their structure, culture, and resources, to improve their performance.

Many organizational difficulties, particularly those in the realm of higher education, may be better understood via the lens of institutional theory. The theory also provides a framework for understanding cultural understandings, shared expectations, and the processes involved in producing institutional change. Institutional theory also helps organizations increase their legitimacy by conforming to widely accepted practices, leading to acceptance and support from their environment. The theory also explains the adoption and the spread of formal organizational structure, such as written policies and standard practices (Amenta & Ramsey, 2009).

According to Mohammed (2017), the institutional theory is static in nature. Its efforts to conceptualize the formal structure is wanting as it does not consider dimensions such as centralization, complexity and formalization. Further, the theory is criticizing for showing that institutional arrangements are dominated by particular groups and interests who can be challenged (Suddaby, 2010). The institutional theory is also criticized because it neglects broad patterns of social change.

This theory has been criticized because by being limited to operate in accordance with the institutional environment, it limits the discretion in choices that an institution can make. The external pressure also limits the management of institutions to conform to a limited range of decisions (Saebo, 2017). The institutional theory has also been criticized for assuming that organizations are passive. The theory also fails to address the strategic behaviour of institutions and the influence of strategies on the concepts of institutionalization (Scott. 2005).

### 2.2.3 Complexity Theory

Complexity theory was introduced by (Rosser, 1999; and Beinhocker, 2006). The theory is based on four assumptions: an organization’s inherent size is usually measured in terms of value, the degree of technical difficulty in creating outputs, the degree of uncertainty involved and the complexity of the relationships both within and the surrounding (Rosser, 1999). The theory therefore helps managers comprehend the social behaviours of their employees and how they network as they align with the various work processes. The theory also emphasizes interactions and the accompanying feedback loops that constantly change systems (Beinhocker, 2006).

It is necessary to understand the systems' environment before one can understand the systems themselves, according to complexity theory, which posits that complex systems are best understood as open structures that interact with their surroundings. The idea shows how institutions within organizations create patterns that might lead to strategic change via a myriad of tiny non-linear events at the organizational or departmental level. This is relevant to strategic management. As a result, the theory provides a more thorough understanding of how complex systems function, which improves our knowledge of the strategic context and our capacity to foresee sudden shifts (Turner & Baker, 2019).

The theory's explanation of the significance of knowing how to cope with the many stakeholders in the external environment surrounding a public university and their role in influencing its performance made it applicable to this research. The reason for this is because the success of public universities may be impacted by political factors, such as the nomination of influential council members, the distribution of funds, and the admissions process. Public universities may also be impacted by political instability. The allocation of cash to public universities was, however, dictated by external economic factors; schools with weak economic standing would not get sufficient funding. The many technologies that public universities may use to improve their performance were defined by the technical environment.

When applied to economic and financial systems, complexity theory has the ability to improve monitoring and management, which in turn may aid in the prevention and mitigation of future crises. Complexity theory, as it pertains to education in the workplace, stresses the importance of collaborative learning and the potential for unexpected and fresh insights to emerge from classroom discussions. A non-linear, holistic, and systemic approach is provided by the theory, which may also be used to address issues (Turner & Baker, 2019).

Critics of complexity theory point out that the theory isn't rigorous or innovative enough, and that its claimed benefits—such as multidisciplinary work, theoretical advancement, and empirical progress—are overblown and grounded in wishful thinking rather than reality. Some have also pointed out that the theory has substantial conceptual and theoretical hurdles that make it difficult to use as an explanatory model in the social sciences (Blackman, 2001). Some argue that the theory can't handle complicated events or outcomes, especially in rare or unexpected cases, and thus isn't useful for making predictions. On top of that, without checking its explaining power, complexity theory might be mistaken for an explanation tool, which could further impede research and comprehension of a particular context. Cairney (2017) notes that there are no concrete instances of its use in policy settings.

### 2.2.4 Deontological Theory

Deontological theory was conceptualized by (Kant, 1945). It posits that decrees and decency are intensely linked though not similar. Humans are therefore guided by their human nature to figure out what laws are, which ones to conform to and how to be ethical in their operations (Kainz, 2004). Deontological theory illustrates the obligations that employees have towards each other. It is founded on the supposition that each person has the control to decide their honourable decree which is crucial in the education sector where the morals of the stakeholders such as lecturers, administrators and students enhance the quality of education and research outputs. Therefore, the key spotlight on deontological theory is obligation and purpose. The theory concedes that deeds are ethically autonomous of results because good deeds can lead to appalling results and vice versa. Thus, an action can only be moral if it has goodwill behind it and if the action is necessary (Barrow, 2023).

Deontological ethics therefore is based on four types: duty to non-maleficence that is to avoid causing harm to other people, duty to justice so as to ensure that people get what they deserve, duty to self-improvement and duty of reparation that is to right someone if he has acted wrongly towards others (Wang, 2019). In education, lecturer's deontology points to the rights and obligations that have to be met as lecturers' moral duty in the process of achievement interpersonal relations between them and the students (Rosic, 2011).

This theory was relevant in this study as it supported the ethical factors whereby through ethical leadership, academic integrity, and research ethics public universities could boost their performance as there would be no discrimination and fairness would be encouraged among the staff and students. Ethical leaders could promote transparency in administrative operations which motivates the employees to perform better. In addition, lecturers as they teach and assess students could practice academic integrity and also teach students to be ethical while through research ethics, researchers could ensure there was no plagiarism which would improve the quality of publications.

Everyone thinks every person is valuable, and that's why the philosophy is so well-received. As a result, everyone is guaranteed the dignity and fair treatment that each person deserves. Thus, the idea counteracts the human propensity toward egocentrism. There is no religious prejudice and everyone is encouraged to operate from a place of morality.

Intentions and motives are also rewarded in deontology. Consequently, the concept of universally applicable right and wrong is well-established. Consequently, the principle may be used wherever. Harmony, order, reason, and universal obligations are all compatible with deontological theory (Alexander, 2007).

One criticism levelled against deontological theory is that it is too strict, which some say is counterproductive. The categorical imperative does not apply in all cases since circumstances vary; for example, if you believe lying to be ethically wrong yet a certain circumstance implies that it would be the right thing to do, you should lie. Consequently, the focus is on the outcome rather than the individual and their ethics. Furthermore, individuals might be illogical at times, rendering the idea unworkable. Another point of contention is the potential for incorrect results due to competing moral standards; after all, not everyone thinks that duty should take precedence. All parties involved must be on board for this to be successful (Heinzelmann, 2018).

### 2.2.5 Theory of Performance

The theory of performance was developed by (Egler, 2000). The theory explains that organizational success involves the invention of treasured outcomes and a player can be a person or a group of persons dealing in a mutual effort. It also postulates that developing organizational success is a drive, and the level of performance describes the setting in the expedition. For effective performance improvements, the theory proposes the participation of a player's state of mind, concentration in an educational surrounding, and commitment in meditative custom. In an organization, the current level of performance dependents holistically on context, level of knowledge, levels of skills, level of identify, personal factors and fixed factors (Egler, 2000).

These mechanisms thus have to interrelate to create the level of performance. Under the height of distinctiveness, as the institute grows it expands its mission and its inimitability. This interrelates with the levels of expertise which depict specific actions that are used by persons, crowds or institutes in numerous categories of performance. In the level of facts, values attained by an individual through practice or instruction add to the level of performance. In addition, the context of performance which includes the variables associated with the organization performs in as well as the personal factors and fixed

factors such as the unique attributes that cannot be altered also establish the level of performance (Egler, 2007).

Thus, the idea sheds light on knowledge in academic settings, such as classrooms. Some examples of these are professional research groups, colleges, departments, academic committees, academic advising, and self-development. Organizational learning is therefore informed by the theory of learning via the concept of evaluating the organization's performance level (Egler, 2000). Building an integrated and related syllabus, identifying fundamental factors unfavourably affecting an academic institution and working to mitigate them, persuading a dean to fund faculty expansion, and delivering a research paper at a conference are all seen as performance areas in this theory as they pertain to educational institutions. As a result, expenses go down, capabilities go up, knowledge goes up, skills go up, and motivation goes up (Egler, 2007).

According to Redfield and Hurley (2009), the conditions for optimal performance and improvements in performance can be synthesized into engaging the performer in an optimal emotional state, immersing the performer in an enriching environment and engaging the performance in reflective practice.

The theory was relevant in this study because it explained how the management of public universities in Kinshasa could improve their performance by understanding the personal factors and fixed factors as they could influence the level of performance. This was because by understanding the level of performance of the public universities, the management would be able to create an integrated curriculum, engage in research activities and encourage their employees to upgrade their skills through self-development which would boost the performance.

The theory of performance has been praised for suggesting that satisfied employees are more productive, fostering a positive work environment that enhances overall organizational performance. However, the theory has been noted to be limited for not fully utilizing existing theories of work motivation and being predominantly top-down in nature. Another limitation is its relation to the inability to uniformly reduce the overall regulation cost to zero in strict feedback nonlinear systems with more outputs than inputs (Buchner,

2007). The theory has also been criticized because of its instability with increased gains and constraints on achievable rates of change due to equipment limitations (Leigh, 2004).

## 2.3 Empirical Review

This sub-section reviewed empirical studies on individual factors and public universities performance, institutional factors and public universities performance, external factors and public universities performance, ethical factors and public universities performance. The moderating role of institution size on the relationship between factors and public universities performance was also empirically reviewed.

### 2.3.1 Individual Factors and Performance

Research in the United Kingdom by Dey and Chaturvedi (2023) examined the role of self-confidence, personal vision, adaptability, organization, initiative, and problem-solving skills in developed nations. The research surveyed workers from a variety of industries using an online survey and made use of correlation analysis. The results demonstrated a favourable correlation between individual factors and the efficiency of the business. Good performance is a direct result of rules that encourage the growth of employees' unique qualities, according to the research. Improving performance may be as simple as eliminating barriers to the growth of certain elements, according to the research. The relationship between individual factors and performance was investigated by Mercier et al. (2020) in a survey study. Cross-sectional research approach was used. The results showed that performance was positively correlated with individual factors. In Sri Lanka, individual variables in relationship with performance, were evaluated by Silver (2019) in the field of emerging economies using the dimensions of human capital, social learning, and financial competence. Researcher relied on convenience sampling while collecting data and ran regression and correlation in data analysis. The findings demonstrated that mentoring improves performance by increasing financial capabilities. Individual factors were positively correlated with organizational performance, according to the findings. Leadership, recognition and reward, employee development, and communication were the individual characteristics that Rajapaksha and Tilakasiri (2021) emphasized. The research indicated a favourable association between performance and individual factors, using structural equation modelling and correlation analysis.

Using employee engagement as variable, Novitasari et al. (2021) investigated personal elements in Indonesia. The research surveyed 221 workers using structural equation modelling. There was a positive correlation between performance and individual factors. A research conclusion drawn that employee involvement may boost organizational performance. In a similar study, Helmy and Wiwoho (2020) investigated the correlation between individual factors and performance in microfinance institutions, paying special attention to job engagement, core self-evaluation, and proactive personality. The study showed a favourable correlation between individual factors and performance.

In their study of agricultural scientists in India, Veldandi et al. (2022) examined individual aspects within the frameworks of psycho-social and psychomotor factors. Confidence in one's abilities, originality, self-control, and research acumen were the main components. Institutions of higher education provided the data used in the research, which used factor analysis. According to the findings, enhancing research productivity requires a greater focus on certain elements. The research also found that colleges' performance improved when their administrations instituted regular training programs as it boosted faculty members' motivation, inventiveness, and innovativeness.

In their study on individual factors, Taofeeq et al. (2019) focused on four aspects: educational background, job experience, emotional intelligence, and professional competence. The research was conducted in Malasia. Data analysis in the research was done using structural equation modelling. Findings demonstrated that There was a strong correlation between individual factors and organizational success. In Bangladesh Milon and Shuvco (2022) investigated on the following individual factors: instructors' higher education, time management abilities, teaching experiences, and teaching skills. Researchers used a correlational research approach to survey professors. The research concluded that poor academic achievement might arise from failing to improve individual factors. The research also found that universities' performance was positively correlated with individual factors.

Otegbayo et al. (2023) investigated the impact of many factors on the performance of public universities in Nigeria, with a particular emphasis on the concept of peer attachment. The study used a correlational approach and a cross-sectional research methodology. The

findings demonstrated that changes in individual and altruistic conduct may impact the efficacy of educational institutions. A positive correlation between individual factors and performance of public universities was also discovered. Oluwag bohunmi (2023) also examined the individual factors, focusing on study materials and time management. The study used a convenience sample. Findings demonstrated that academic success was attained by those who set priorities and used time management skills.

Raphael et al. (2018) investigated the correlation between personal factors and academic institutions' output in Tanzania. Age, years of experience in the workforce, degree of education, and occupational status were the main constructs examined in the research. The study used regression analysis to examine data collected from faculty members. The results showed that if administration and management position does not interfere with the individual factors, employees perform well. Individual factors and university performance were also shown to be positively correlated.

According to the empirical studies conducted in the relationship between individual factors and performance, there have been more research undertaken in emerging countries than in advanced countries. In addition, the studies have highlighted that the parameters of individual factors are quite diverse as none of the studies reviewed the same aspects. The studies also show that there was a positive relationship between individual factors and performance. It is also concluded that most of the research collected primary data as only one research reviewed existing literature. The studies had used a variety of methods and sample approaches to collect and analyse data on the relationship between individual factors and performance.

#### 2.3.1.1 Employee Skills and Performance

The impact of staff expertise on the efficiency of public universities was investigated in a research by Day et al. (2023) in two industrialized nations: China and Australia. A convenience sample was used in the research. According to the findings, having excellent instructors has a positive effect on student outcomes at public colleges. Another finding was that public universities benefit from increased employee skills. This, in turn, improves faculty professionalism.

Caena and Redecker (2019) examined teacher competency frameworks as a means of evaluating personnel abilities and performance in Europe. According to the research, students' grades may be improved by teacher ability to share knowledge. Educators who adapt their teaching methods to meet the demands of the modern classroom outperform their peers. The impact of employees' abilities on their companies' productivity was examined in a literature study by Jaya and Maryanto (2023). Skills, both soft and hard, were the primary focus of the research. The results demonstrated that companies may boost performance by improving employee's hard and soft talents.

An analysis of the correlation between university performance and employee skills was conducted by Sultanova et al. (2018) in Kazakhstan, a developing country. Academic staff members were the subjects of the study's data collection and regression analysis, which adopted a case study research methodology. The findings demonstrated that university success is directly related to staff competence levels. In Indonesia, an investigation on the relationship between employee skills in the workplace and business outcomes was carried out by Purba et al. (2020). Professional competence was the primary area of investigation. The results revealed that employee skills have a direct impact on the performance of universities. Another finding was that skills enable employees to complete tasks and job responsibilities in time. The research also discovered that training programs improve organizational effectiveness by honing abilities.

In a similar research, Mukarromah et al. (2019) examined how employees' abilities impacted their grades. School administrators' administrative abilities were the primary focus of the research. High school administrators were the subjects of this quantitative investigation. The results indicated that management skills affect school effectiveness. In Kenya, Wakahiu and Yatich (2023) explored the link between employee skills and the performance of universities. The study was conducted in chartered private universities and adopted cross-sectional research design. The results showed that there was a positive relationship between employee skills and the performance of universities. The research also found that when staff are valued and paid for their talents, it pushes them to provide better training.

Research on employee skills and university performance had been conducted in both developed and developing nations, according to the analysed studies. Research had also been conducted at public and private high schools, as well as universities. There had been studies that compared the performance of public and private universities. Other fields, such as the health sector, had also conducted studies. Research had consistently shown that universities benefit from having skilled employees. Researchers had used a variety of methodologies to show that university performance was significantly impacted by staff skill sets.

#### 2.3.1.2 Employee Motivation and Performance

The impact of employee motivation on public sector organizations' productivity was studied by Kalogiannidis (2021). The study reviewed existing literature. According to the findings, organizational performance was positively correlated with employee motivation. Although employee motivation is associated with better performance, the research found that other variables also play a role in an employee's capacity to meet or exceed expectations. Similarly, Mehran et al. (2022) conducted a study on employee motivation and performance of manufacturing firms in Malaysia. The study reviewed existing literature. The findings showed that motivation plays a vital role in improving staff efficacy and effectiveness. It was also established that keeping employees motivated should be a priority for organizations. The research also found that a favourable correlation existed between employee motivation and organizational performance.

Public and private universities research by Sharif et al. (2022) in Pakistan, was to determine the correlation between motivated employees and their performance. Using structural equation modelling and easy sampling, the study embraced a survey research methodology. The results demonstrated that workers are more likely to impart their expertise to pupils who demonstrate improved performance when they are motivated to do so. Creating motivation practices in educational institutions is a proven way to boost performance, according to the research. To determine if there is a correlation between highly motivated employee and university performance, Galili and Skov (2023) used a qualitative study strategy based on in-depth interviews. Public universities performed better when their employees were more motivated, according to the research.

The impact of staff performance on school efficiency was studied by Heystek and Emekako (2020) in South Africa. Interviews, focus groups, and a qualitative research approach were used in the study. The results indicated that teaching motivation and collaboration are strategies used to improve school performance. In Ghana, Okine et al. (2021) conducted a study on the link between employee motivation and organizational performance. The study noted that employee motivation can increase or decrease organizational performance. The study also noted that the chosen form of employee motivation by an organization will determine performance. Musangi et al. (2023) examined the impact of employee motivation on health-related organizational performance in Kenya. Organizational performance was positively correlated with employee motivation, according to the mixed-methods research.

According to the reviewed literature, research on the relationship between employee motivation and public university performance was lacking in industrialized nations. The studies have also shown that employee motivation is essential for improving the performance of public universities as none of the studies were of a contrary opinion. Research had showed that both primary and secondary data collected, stressed the significance of employee motivation in improving public university performance.

#### 2.3.1.3 Employee Commitment and Performance

Camilleri et al. (2023) looked at the connection between employee commitment and successful hospitality organizations in industrialized nations. Primary data for the research was gathered using an online questionnaire. The study's findings demonstrated that providing a wonderful work environment and fairly paying people for their hard work increased organizational performance. Employee commitment and organizational performance were shown to be positively correlated, according to the research. In Italy, Lombardi et al. (2019) assessed the link between employee commitment and organizational performance. The study specifically looked at the construct of personal attitude. The study adopted survey design and sampled employees from museums. The findings showed that employee commitment is more stable thus organizations should recruit those with commitment and attitude aligned to organizational goals. Additionally, the research found that organizational performance was positively correlated with employee commitment.

Stackhouse et al. (2022) looked at textile companies in Sweden to see how employee commitment affected organizational performance. A descriptive research approach was used in the study. The results demonstrated that in order for any business to achieve success, employee buy-in is crucial. Additionally, the research discovered that committed workers provide more value to the company, offer proactive assistance, and are reasonably productive. A favourable correlation between employee commitment and productive businesses was also found. In Serbia, Dordevic et al (2020) study was carried out in 17 organizations and data was analysed using correlation analysis and regression analysis. The findings showed that there was a positive relationship between employee commitment and organizational performance. The study also noted that affective, continuous, normative commitment influences performance. Participation in decision-making by workers increases their loyalty to the company, according to the research.

Among emerging nations, Ogala (2020) studied a subset of Nigerian businesses. A survey research design was used for the research. Employee commitment and organizational performance were shown to be positively correlated, according to the research. The research also discovered that a systematic assessment of human capital development increases performance by boosting employee commitment. Similarly, Abasilim et al. (2019) assessed the link between employee commitment and public universities performance. The study adopted survey research design and data was analysed using regression analysis. Research shows that when certain demographic factors, such as education level and work position, are considered, employee commitment is more likely to be attained.

According to the reviewed literature, research on the relationship between employee commitment and organizational performance has been not much undertaken in general. Nonetheless, research had been conducted in the industrial and hospitality industries. More studies have been conducted in developed countries than in developing countries. It had not been shown in any of the research that employee commitment negatively impacts performance.

### 2.3.2 Institutional Factors and Performance

Ozgenel (2020) investigated the influence of institutional factors on the performance of schools by specifically focusing on school climate, principal behaviour and teacher behaviour. The study adopted correlational survey design and the sample consisted of teachers. Data analysis was done using regression analysis and correlation analysis. The results showed that the administration plays an important role in the formation of school climate. The study also found that there was a positive relationship between institutional factors and performance. In Thailand, Channuwong et al. (2022) evaluated the institutional factors that affect universities performance by focusing on organizational policy, organizational leadership, organizational structure and organizational culture. The study was carried out in private universities and used correlation analysis and regression analysis. The findings indicated that there was a positive relationship between institutional factors and the performance of universities. Work performance, organizational efficiency, and leadership to accomplish organizational objectives may all be enhanced by addressing institutional factors, according to the research.

Using the concept of research productivity, Battol et al. (2018) investigated institutional factors in Pakistan. Teachers at public universities participated in the survey research that formed the basis of the study, and t-tests were used to evaluate the obtained data. The results demonstrated that department chairs' expressions of gratitude and support had a favourable effect on faculty members' scholarly output. The study also found that extra administrative duties affect research productivity. Similarly, Batool, et al. (2021) focused on the parameters of research procedure, job and compensation, assets and instructional material. The study adopted correlational research design where data was collected from academic staff. The research found that public universities' performance was positively correlated with institutional factors.

Infrastructure, personnel, instructional materials, and usefulness were the main variables of Santos and Celis (2020) research in the Philippines. Data was gathered from marketing students at private universities and colleges using a descriptive research approach. According to the research, infrastructure and personnel have a moderate impact on students' academic achievement, but instructional materials and practicality have a little one. The

research also found that the most important factor influencing the success of universities is lecturer's teaching method. Fehanand Aigbogun (2021) research in Syria looked at the concepts of good communication and leadership style. Structural equation modelling was used in the investigation. Institutional factors and organizational performance were shown to be positively related, according to the findings.

Mwanthi (2018) examined institutional factors in Kenyan organizations by analysing their structures, cultures, and systems. The research used a cross-sectional design and was conducted at ten different institutions, some of which were public and some private. The findings demonstrated a favourable correlation between institutional factors and university performance. Additionally, the research found that universities perform better when their processes and procedures are aligned with the execution of their strategies. Leadership, growth and training, organizational culture, and structure were the four main concepts investigated by Ongwae et al. (2028) on university campuses in Kenya. Data was gathered from both academic and non-academic staff members through survey research methodology. The findings showed that public universities perform better when their leaders have a common vision, their workers have confidence and trust in them, and when leaders encourage staff to share what they know. Additionally, the research found that public university performance was positively correlated with institutional factors.

Down his research on the relationship between institutional factors and organizational performance, Wamuyu (2024) discussed on procurement method, organizational culture, institutional resources, and organizational resources. The research was conducted using a descriptive research approach, and regression analysis was used to examine the data. The results showed that organizational resources are effectively distributed and the recruitment of skills employees enhances organizational performance. Physical facility features and worker workload were the primary areas of concern for Adesola and Ekundago (2022) in Nigeria. Department chairs and other academic staff members provided data, which was then examined by correlation analysis. Public university performance is determined by institutional factors, according to the research.

According to the empirical studies, public university performance is impacted by a wide range of institutional factors. Since no study discovered a negative correlation, it followed

that these institutional factors impact the performance of universities. Both public and private institutions had participated in the investigations, and researchers had used a variety of approaches. None of the studies reviewed existing literature as data was collected from teachers, non-academic staff and in some studies from students. Additionally, emerging nations had been the subjects of more research than industrialized ones.

#### 2.3.2.1 Organizational Structure and Performance

Ellerbrock et al. (2018) studied middle school students in the United States and Australia, developed countries, to determine the impact of organizational structure on the performance of public universities. The study reviewed existing literature. The results showed that organizational structures of people, place, and time boost academic performance. Academic performance was positively correlated with organizational structure, according to the research.

Abdulrahaman (2019) studied the relationship between organizational structure and performance at Nigeria's Yusuf Maitama Sule University, focusing on developing economies. Descriptive research methods, including regression and correlation analyses, were used in the study. Academic staff members provided the study's primary data. The results showed that academic performance is greatly affected by the kind of organizational barrier and hierarchical layer. The research also discovered that organization structure was positively correlated with university performance. Similarly, Ogosi and Agbaeze (2018) carried out a study on organizational structure by reviewing existing literature. The findings noted that organizational structure in terms of branches and departments have a positive effect on performance as they enhance efficiency and collaboration.

Organizational structure and performance were investigated by Chizyuka and Daka (2021) in Zambia. The study used a qualitative research approach and was carried out in both public and private secondary schools. According to the research, while public schools were structured hierarchically, private schools were found to employ a team-based approach. Nyathi and Bhebhe (2019) looked on the correlation between school administration and student achievement in Swaziland's secondary schools. Principals and classroom instructors made up the study's sample population, and the researchers used a case study approach. Interviews and focus groups were used to gather data. The research proved that

organizations with highly adaptable structures are better able to create an environment that is favourable to education.

Kintu and Waal (2021) investigated the effect of firm structure on productivity in Ugandan organizations. Data analysis in the research was done using regression analysis. The findings demonstrated a favourable correlation between organizational structure and performance. Furthermore, Mugizi et al. (2019) evaluated a private university's performance in relation to its organizational structure. Factor analysis and a cross-sectional research methodology were used in the study. High levels of formalization and centralization were associated with improved university performance, according to the data.

More research on the impact of university organizational structure on performance had been conducted in developing countries than in developed ones, according to the reviewed literature. The research also showed that hierarchical organizational structures were preferred by the majority of public universities. The studies had also used a variety of study designs, including descriptive and cross-sectional approaches.

#### 2.3.2.2 Organizational Resources and Performance

Public university performance in the United States was studied by Colvard et al. (2018) in relation to organizational resources. The study examined existing literature. The findings showed that organizational resources address affordability, completion, attainment gap concerns, and learning which contributes to higher performance. In Uzbekistan, Zakhro (2020) investigated the link between organizational resources and public university performance by specifically looking at the construct of media resources. According to the results, universities may improve their performance by incorporating media resources into the educational process, which can inspire the development of novel approaches to instruction.

Omondi and Koskei (2024) looked at classroom resources in Kenya to see how organizational resources affected performance. Public elementary schools served as the settings for this descriptive study. According to the findings, classroom resources have an effect on both educators and students. Academic performance is improved when class

resources are well-managed. Furthermore, a research on organizational resources and public sector organizations was carried out by Ongeti and Machuki (2018). The research used a descriptive cross-sectional survey. The research proved that organization resource was positively correlated with organization success. Performance is enhanced by enhancing organizational resource integration.

The impact of organizational resources on the efficiency and effectiveness of public universities was investigated by Otiende et al. (2024). Regression analysis was used to examine the data, and the research used a mixed-methods approach. The findings demonstrated that public universities' performance was positively correlated with organizational resources. The research also found that universities perform better when their human, financial, and physical resources are effective. In Nigeria, Ofem et al. (2021) explored the impact of organizational resources and performance of public universities. The study adopted ex-post facto research design and data was collected from students and analysed using regression analysis. According to the results, academic performance was enhanced by organizational resources, which included investments in school infrastructure, resource allocation, and financial resource structure.

Using financial resources as a case study, Mukolo (2023) examined the impact of organizational resources on DRC's higher education institutions. There was a favourable correlation between organizational resources and the performance of higher education institutions. According to the report, if universities want to improve their performance, they need to rethink their educational funding process from the ground up.

The above literature reviewed found that public universities' success was highly dependent on a number of organizational resources, including physical, financial, human, and media resources. Research had also focused more on developing nations than developed ones. Public university performance was positively correlated with organizational resources, according to the research. This was established by analysing several study approaches, the majority of which included regression analysis.

#### 2.3.2.3 Organizational Culture and Performance

Bamber (2019) examined the impact of company culture on academic institutions' performance in the UK. The majority of colleges adhere to a hierarchical culture, whereas a small number follow either a market-driven or clan-based model, according to the survey research that was conducted for this study. Volkova and Plakhotnik (2019) conducted a research at a Russian university that used English as its language of instruction. Academic and non-academic staff members were both surveyed. Market culture was prevalent, according to the data. Additionally, the research demonstrated that the chosen clan culture differed from the perceived market culture. Clan culture was shown to boost organizational performance and employee dedication, which is why it was implemented.

The impact of organizational culture on the performance of higher education institutions in Turkey was investigated by Ozsoy and Uslu (2019) using convenience sampling. Organizational culture showed to be favourable to educational institutions, according to the research. Key factors in increasing the effectiveness of higher education institutions, include commitment, symbols, power distance, and communication connection dimensions. The research by Khan and Ahmed (2022) in Pakistan was carried out at academic libraries. University performance was positively correlated with corporate culture, according to the study's quantitative research approach.

Public universities in Kosovo were studied by Tahiraj and Krek (2022) to see how organizational culture affected their performance. Data was gathered from faculty members as part of the study's quantitative research approach. The findings demonstrated that the performance of the organization is significantly impacted by the fact that the prevailing culture works against the key intended reforms. Cruz (2019) used a descriptive correlational research strategy in the Philippines. According to the research, school organizations are now favouring clan culture as their preferred culture. This is because clan culture has the power to impact employee behaviour and attitudes, leading to more loyalty and dedication on the job and ultimately better performance.

Indiya et al. (2018) looked at how corporate culture affected public universities in Kenya. Data was gathered from management professionals at eleven public institutions, and the study used a correlation research methodology. Public university performance was

positively correlated with organizational culture, according to the research. The study also found that performance may be boost by enhancing and sustaining culture-based quality management systems.

From the reviewed empirical studies, university campuses tend to favour clan cultures. Research had also shown a dearth of research examining the relationship between organizational culture and the performance of public colleges in Africa. Although the studies analysed used a variety of methods, they all reached the same conclusion: public colleges benefit from a positive organisational culture.

### 2.3.3 External Factors and Performance

Chinese researchers Chen et al. (2023) examined the characteristics of extracurricular activities in developed countries. The data gathered from the questionnaire was analysed using regression and correlation analysis in the research. The findings demonstrated that students' ability to learn is influenced by their participation in extracurricular activities. In South Korea, Seo and Lee (2019) conducted a study on the effect of external factors on organizational performance. Community support and external partnerships were the primary research focus. Data was examined using structural equation modelling and the method adopted was survey research. According to the findings, external factors have a positive effect on organizational effectiveness.

An analysis of the external factors impacting building sector performance in developing country was carried out by Khalid (2020). The research employed a survey methodology and used PESTLE analysis. Structural equation modelling was used to examine the data. All of the PESTLE elements showed to significantly impact performance, but the impacts of economic and technical factors were found to be the most pronounced. Sadiku (2022) examined the literature on external factors and organizational performance in Macedonia, taking a look at the measures of competitive, social, technical, economic, and environmental aspects. The research found that external factors and organizational performance had a favourable correlation. The research also found that management may reduce risks by being timely informed about changes that external factors are projected to bring.

Khotimah (2020) examined Indonesia's external factors through the lenses of environmental and infrastructural structures. A descriptive research approach was used in the study. Findings indicate that external factors may affect the learner final product. Workplace atmosphere, dynamism, autonomy, and vision were all evaluated by Barasa (2023). Regression analysis and a survey research approach were used in the study. Organizational performance was positively affected by external factors, according to the data.

The impact of the campus environment on performance at a state polytechnic university in Taiwan was the subject of research by Bustami and Tri (2022). The study analysed data using factor analysis and a survey research approach. According to the results, the attitude of the instructor has the greatest impact on the academic achievement of the students. Hussain et al. (2023) examined economic and political aspects in Pakistan. A quantitative research design was used in the investigation. Organizational performance is affected by political and economic issues, according to the findings. Incorporating technology into departmental operations boosts performance, according to the report.

The social, policy, and political context were examined by Guerra et al. (2022) in the Philippines. The study used a correlational analysis and survey research approach. Results demonstrated a positive relationship between external influences and the efficiency of educational institutions. The elements of extracurricular activities, family difficulties, employment and financial considerations, and social factors were the primary emphasis of a study by Al-Muslimawi and Hamid (2019) in Iraq. Finding the connection between external factors and university performance was achieved using ANOVA. While social issues may have a little impact on quality performance, they are simpler to overcome, according to the research, which found that extracurricular activities may aid boost academic achievement.

Engidaw (2021) investigated the impact of external factors on Ethiopian organizations performance by focusing on marketing, finance, infrastructure, trade fair, work premise, political, and legal aspects. A combination of descriptive and explanatory research methods was used in the study. Organizational performance is enhanced by reducing infrastructure difficulties and establishing an appealing atmosphere, according to the research.

Additionally, the research found that external factors had a positive correlation with organizational success.

From the empirical studies, emerging nations in Asia, in particular, had done more research on how external factors affect university performance. The majority of the researchers also used a survey study method, according to the studies. Public university performance was not negatively correlated with external factors, according to the studies.

#### 2.3.3.1 Political Factors and Performance

The relationship between political factors and the performance of China's public universities was investigated by Yang et al. (2018). Structural equation modelling was used in the investigation. Public universities perform better when their political environment is stable, according to the results. Public university performance was positively correlated with political factors. Papanikolaou et al. (2020) examined a research on the relationship between public university performance and political factors in Greece. The research used a case study methodology. According to the results, political power and ideology have a significant impact on the performance of higher education. Additionally, the research discovered that HEIs are mainly impacted by political factors that affect negatively or positively the execution of national goals for higher education.

Research on the impact of political factors on the efficiency of Nigerian public universities was carried out by Ogunode and Musa (2022). The research used survey approaches. The results demonstrated that the performance of public universities is impacted by political factors. Public university recruiting, administrator appointments, site selection, growth, council membership, and student admissions were all shown to be politically influenced, according to the report. Corruption, ineffective leadership, wrong rankings, and unequal progress were the results. Shamaki et al. (2020) assessed the influence of politics on students' academic performance in public senior secondary schools. The study adopted descriptive research design and was carried out in 20 schools. Data was analyzed using regression analysis. The results indicated that political systems promote the attainment of educational goals. Politics also contributes to educational inequality, according to another report.

Furthermore, the research on political issues and organizational performance in SMEs was conducted by Onoriode et al. (2020). The research used a descriptive survey approach and analysed correlations. According to the results, a company's productivity is affected by the political aspects. Customer happiness is impacted by a stable political business activity. In Ivory Coast, Ouedraogo et al. (2020) explored the link between political factors of organizational performance. The study reviewed existing data. It was proved that Organizational performance is adversely impacted by political uncertainty, according to the data.

The impact of political factors on organizational performance was studied by Chege et al. (2020) in Kenya. The analysis used a descriptive methodology and included 118 registered business process outsourcing firms. According to the results, the political environment has an effect on performance and is critical to a company's success. Organizational performance is improved by factors that provide a positive political environment, according to the research.

Although more studies had been carried out in developing countries, research had been carried out in both developed and developing countries, as seen in the literature review. Although the studies had employed a variety of approaches, the most common ones included descriptive study designs and regression analyses. While research had shown that political instability negatively impacts organizational performance, it had also shown that political considerations positively affect performance.

#### 2.3.3.2 Economic Factors and Performance

Dvorsky et al. (2020) looked at the monetary aspects impacting the efficiency of Polish organizations. The research was conducted in a few nations in Eastern Europe. The research used statistical methods including regression and correlation analysis. Based on the results, the quality of the business environment is affected by interest rates, monetary policy, and the macroeconomic environment. Economic factors were also shown to positively correlate with organizational effectiveness, according to the research.

Reddy et al. (2023) investigated the relationship between economic factors and event management performance in India. A descriptive research approach was used in the study.

The findings demonstrated that organizational performance is affected by economic issues. Hussain et al. (2023) investigated the correlation between financial factors and business output in Pakistan. A quantitative research design was used in the investigation. The findings demonstrated that organizational effectiveness is affected by economic factors. It was also determined that a company may achieve its objectives with the support of smart investments that boost resources.

Organizational performance in Nigeria's industrial sector was studied by Oga and Onouha (2020) in relation to economic factors. The study used correlation analysis and a quasi-experimental research approach. Economic factors and organizational performance were shown to be positively correlated, according to the findings. The research also discovered that interest and inflation rates had an effect on how well organizations performed. Additionally, the research found that keeping an eye on the economy's predicted movements helps businesses make better judgments. Ojimba et al. (2023) focused on the constructs of interest rate, inflation rate and exchange rate and how the factors affect organizational performance in the pharmaceutical sector. The study used regression analysis. The results showed that financial considerations had a detrimental effect on business performance. Organizations may protect themselves from potential dangers, according to the report, by studying economic trends and formulating policies.

Economic factors on academic achievement in elementary schools were studied by Ndemwa and Ngesu (2021) in Kenya. The research used regression analysis. According to the findings, parental income significantly affects their children's academic achievement. Mutisya and Mutilu (2024) looked at how financial circumstances impact students' grades in Kenya. A descriptive survey research approach was used in the study. Academic performance might be impacted when parents' income is insufficient. Finding ways to make the most of one's income is another way to improve performance, according to the research.

Research on the impact of economic factors on organizational performance was more prevalent in developing countries, according to the evaluated empirical studies. There was a lack of information on economic factors and public university performance in the education industry. Research had shown that economic factors might either improve or

worsen an organization's performance, while the majority of research had shown a positive correlation.

#### 2.3.3.3 Technological Factors and Performance

Resuli (2022) looked at how technological factors affect university performance. Research confirmed that new methods of technology in teaching inspire the creation of effective pedagogical practices. The study also found that there was a positive relationship between technological factors and performance of higher education institutions. In the Paraguay, Ferres-Davalos (2023) assessed the influence of technological factors on organizational performance. The study adopted exploratory research design. Technology improves jobs and processes, leading to faster, more precise, and more efficient work overall, according to the research.

Al-Rahmi et al. (2020) investigated the relationship between technological factors and the efficiency of Saudi Arabian universities. Data was gathered from students and analysed using structural equation modelling. The findings demonstrated that technological factors improve performance by facilitating the sharing of information and expertise within organizations. In 2018, Mullakhmetov surveyed the research on the topic of technological factors and organizational performance. Because they improve procedures and communication, new technologies boost performance, according to the research.

Ismail and Mahmood (2018) investigated the correlation between technological factors and academic excellence in Malaysian universities. A survey research design was used for the investigation. The results showed that technological factors enhance performance as they enable blended learning. In Ghana, Amaniampong and Hartman (2023) examined the technological factors influencing the performance of colleges. The study adopted descriptive research design. The study noted that technology enhances content management, lesson presentation, curriculum design, competences development and assessment. In addition, the research found that technological factors had a favourable impact on the performance of universities.

According to the reviewed studies, technological factors have a positive effect on universities performance. The studies also show that more studies have been undertaken in

emerging economies than in advanced economies. In addition, most of the studies collected primary data and the outcome was similar to those studies that reviewed existing data.

### 2.3.4 Ethical Factors and Performance

Lee and Cho (2021) investigated the relationship between ethical factors and organizational effectiveness in China. Openness, internal integrity, and transparency were the primary variables examined in the research. Analyses of correlation and regression were used to determine how positively correlates ethical factors with organizational performance. Abalala et al. (2021) examined the criteria of ethical commitment and ethical policy in a Saudi Arabian research that focused on developing economies. Structural equation modelling was used in the research. The findings demonstrated that an organization's performance is improved when senior management commits to ethical policies and practices. In Jordan, Bataineh (2020) conducted a study on ethical factors and their effect on organizational performance. The study specifically looked at the dimensions of integrity, responsibility, equality and self-discipline. The study adopted survey research design and hierarchical regression analysis. The results indicated that there was a positive relationship between ethical factors and organizational performance. Equal treatment of workers and encouragement to self-monitor were the two factors that boost performance, according to the research.

South Asian organizations in Bangladesh, India, and Pakistan were studied by Ahmed et al. (2023) to determine the ethical factors impacting organizational performance. Human resource ethics, corporate governance ethics, and marketing and sales ethics were the primary areas of investigation. Structural equation modelling was adopted in the research. The findings showed that there is a positive relationship between ethical factors and organizational performance. Tziner and Persoff (2024) reviewed existing literature on ethical factors and organizational performance. The study specifically looked at the dimensions of justice and corporate social responsibility. According to the findings, moral leadership in the workplace boosts productivity.

Focusing on ethical code, Kozakova et al. (2021) conducted a research on the ethical factors and organizational performance in Slovakia. The study reviewed existing data from 225 multinational companies and also used factor analysis. The results showed that companies

with lower extent of ethical code use, experience lower performance. Another finding was that lack of clear policy and rules leads to employees engaging in unethical behaviour. In Iran, Dehghani (2019) study focused on the constructs of personal factors such as tendencies, interpersonal factors and background such as role of teachers. Research shows that students' and employees' personal histories and experiences have a role in shaping their professional ethics.

Keludia (2019) investigated the impact of ethical factors on the performance of Ugandan organizations. Research methods used in the study included a descriptive design and regression analysis. According to the research, poor performance is the result of low ethical standards. Additionally, the research found that ethical factors had a positive impact on organizational success. In Ethiopia, Gorfie and Wube (2023) focused on the parameter of business ethics. The study used structural equation modelling. The results showed that there is a positive relationship between ethical factors and organizational performance. The importance of corporate ethics was also mentioned as a critical factor that improves performance, much as financial earnings.

Workplace ethics in Ghana's health industry was investigated by Yeboah et al. (2022). The study used a qualitative approach. The findings demonstrated that doing the right thing and getting better performance are strongly correlated actions. It was also found that when an employee may experience ethical dilemma, the consideration of the available rules, proper supervision and channel of communication can address them. In Nigeria, Zayum and Ijir (2024) focused on the dimensions of work ethics on timelines and quality of work. The study adopted descriptive survey design, multi stage sampling and Chi-square tests. According to the findings, organizational success was positively correlated with ethical factors. The implementation of work ethics procedures for the timeliness of employee-produced work also assures improved performance, concluded the research.

According to the reviewed literature, there was a scarcity of research on the relationship between public university performance and ethical factors. In addition, more studies have been carried out in developing economies than in developed economies. Researchers have also used different methodologies to conclude that ethical factors affect organizational performance. Survey research design and regression analysis have been used the most by

researchers. The studies have also showed that there are diverse ethical factors that affect performance in different sectors and countries.

#### 2.3.4.1 Ethical Leadership and Performance

Mseti (2023) investigated how ethical leadership affects the performance of Indonesia's publicly funded universities. The research used a causal approach and surveyed 11 different public institutions. The results showed that lack of ethical guidance causes unsatisfactory performance. The study also found that role clarification and integrity have a positive relationship with the performance of public universities. The study further revealed that ensuring employees comply with ethics codes enhances performance. In Iraq, Amin and Wali (2022) conducted a study on ethical leadership style and performance of private universities. A quantitative research approach and correlation analysis were used in the study. The research concluded that ethical leadership is positively correlated with university success. Performance improves, when ethical conduct practices are more widely used, according to the research.

The link between ethical leadership and school administrators in Malaysia, a developing country, was examined by Vikaraman et al. (2020). High school administrators were the focus of the research, which used a case study approach. According to the research, principals don't know how to lead ethically, which has a negative impact on student achievement. Similarly, Vikaraman et al. (2021) explored ethical leadership practices among public school leaders. Data was gathered from elementary and high schools using the QUAN-Qual method. Teachers' confidence in their leaders has a positive effect on student performance, according to the findings.

Public university performance and ethical leadership were the subjects of research by Salarzai and Abdullah (2023) in Afghanistan. The study focused on ten different institutions and used a correlational research approach. The findings indicated that public universities' performance was positively correlated with ethical leadership. The research also discovered that faculty deans have been following ethical practices, which impacts faculty and student performance in three ways: cognitively, socially, and emotionally. Fatuma and Gatobu (2022) investigated the correlation between moral leadership and business performance in Kenya. Statistical methods such as correlation and regression

analyses were used into the study's descriptive research approach. According to the results, ethical leadership's character and technical dimensions both contribute to better business outcomes.

Mugizi et al. (2019) looked at how ethical leadership affected school performance in Uganda. Secondary school teachers were the intended participants in the research. The study used regression analysis to examine the data and used a correlational research methodology. The findings demonstrated that workers will be able to perform better when leaders provide ethical direction, share authority fairly, are honest, and fair.

Developing nations were the sites of all of the research that were reviewed. Ethical leadership improves university performance, according to the studies that used a variety of research methods. Primary and secondary schools as well as public and private colleges and universities had all participated in the research. Many other aspects of ethical leadership have also been studied.

#### 2.3.4.2 Academic Integrity and Performance

Canadian researchers Miron et al. (2021) looked at how university performance can be affected by students' honesty in the classroom. A survey research design was used for the investigation. The study established that academic integrity tutorials are inconsistent across higher education. Mutongoza and Olawale (2022) conducted a study in developing countries on academic integrity and performance of higher education institutions. Mixed methods research was used in the research. Based on the findings, universities have come up with innovative ways to ensure that online courses and assessments adhere to the highest standards of academic integrity.

The correlation between online university students' honesty and their grades was investigated by Al-Salim and Aladwan (2021) in Malaysia. Correlation analysis was used in the research. According to the findings, academic integrity and university success were shown to be positively correlated. The research also found that academic performance increases when administrators prioritize teacher training to emphasize and inculcate strong ethical ideals, such academic honesty. Alias et al. (2023) looked at the relationship between academic honesty and student performance in public colleges and universities. A survey

research design was used for the investigation. In terms of the general task, instruction and learning, research and publishing, and community service, the survey found that universities have achieved excellent levels of academic integrity.

Academic integrity and the performance of public universities in the Philippines were the subjects of a research by Escober (2023). This study aimed to examine engineering students using an exploratory research approach. According to the findings, the most prevalent personal-intrinsic reason that motivates students to participate in behavioural misconducts is the fear of failing. Academic integrity and its impact on the performance of public universities in Pakistan were investigated by Sarwar et al. (2023). Student interviews served as the primary data source for this qualitative study. The findings demonstrated that academic dishonesty is caused by regulatory flaws. Mulenga and Shilongo (2024) investigated how academic integrity affects academic achievement in higher education focusing on plagiarism aspects. The research found that factors such as academic pressure, time restrictions, and ignorance of citation norms might lead to plagiarism.

It was determined from the studies reviewed that the majority of research on academic honesty and the effectiveness of public institutions had taken place in Asian countries. There is also scarcity of such studies in developed countries and in African countries. The studies reviewed have also shown that academic integrity has a positive effect of performance of public universities. The studies showed the favourable correlation between academic integrity and performance using various research approaches.

#### 2.3.4.3 Research Ethics and Performance

In the United States, Agunloye (2019) aimed to prove that colleges' success is related to how ethically they do research. The study reviewed existing literature. The results indicated that ethics should be adhered to during different typologies of research studies such as data collection, planning, conducting, analysing and reporting research work. University research ethics in Scotland were studied by Dove and Douglas (2023). Data was gathered for the research using observation and interviews. According to the results, research ethics committees evaluate standards differently; and their perceptions on the nation of ethics differ.

Research ethics and performance of public universities were examined in a literature study conducted by Ederio et al. (2023). According to the report, schools may guarantee high-quality academic and scientific research by establishing research ethics committees and technical review boards. Vatca et al. (2021) looked at how institutions handle research ethics. According to the findings research ethics principles should be made known to all researchers. It was also revealed that intellectual property is the most important set of exclusive rights granted to original creations or extraordinary research results.

Research ethics and university performance were subjects to a study by Bassey and Owan (2019) in Nigeria. The study reviewed existing literature. The results showed that misconduct such as data fabrication, falsification and plagiarism when totally avoided by researchers and scholars boost universities performance. In Benin, Mawussi et al. (2021) study explored research ethics by academicians in the University of Parakou. A survey research design was used for the investigation. The majority of university personnel do not understand the concept of research ethics, according to the report.

Research on the relationship between research ethics and university performance had frequently been taken in emerging countries, according to the reviewed literature. Researchers and academics were all subject to academic research ethics and norms. Some of the empirical research had relied on literature reviews, while others had relied on primary data collection techniques including surveys, interviews, and observations.

### 2.3.5 Moderating Role of Institution Size on the Relationship between Factors and Performance

The moderating effect of business size was investigated by Waseemullah et al. (2020) in Pakistan. Panel data and regression analysis were used in the research. According to the results, there was little moderating influence of company size. El-Rabat et al. (2023) also used panel data to examine the role of company size as moderator. The findings showed that the size of the company played an important role moderating. In a research gathering 29 nations in Eastern Europe and Central Asia, Kijksiwat and Phuensane (2020) examined the moderating effect of company on SMEs. Data analysis in the research was conducted using PLS-SEM. Firm size was shown to have a moderating effect that was beneficial in the research.

Using a survey approach and structural equation modelling, Qazi et al. (2023) investigated the moderating effect of organizational size. The results showed that organizational size had a moderating effect. Nguyen (2022) assessed the moderating effect of firm size using secondary data obtained between 2010 and 2020. The results showed that firm size had a positive moderating effect. Roespinoedi et al. (2019) further explored the moderating effect of organizational size in Indonesia. The study used structural equation modelling to analyse data. The results showed that the size of the organization acted with moderating relationship.

The moderating effect of institution size was studied in Palestine by Salah et al. (2021). Structural equation modelling was used to examine the data. The research indicated that the size of the institution played an important role in the relationship. In their research, Fianko et al. (2021) used a quantitative survey approach to determine the moderating effect of institution size. Institution size was shown to have a moderating influence on the research. In Kenya, Kivaya et al. (2020) looked at how business size played moderating role. Size, year of existence, composition, and independence were the four main variables that were examined. The data was analysed using Pearson correlation. Firm size was shown to have a moderating influence that was beneficial.

The moderating effect of institution size was also examined by Muange and Kiptoo (2020). The study used a correlational approach and an explanatory research methodology. A moderating influence of institution size was seen in the findings. Also aiming to ascertain the moderating role of institution size was a research conducted by Kirimi et al. (2022) in Kenya. Panel data and regression analysis were used in the research. According to the results, there was no moderating influence of institution size. Similarly, Mwangi et al. (2019) study on the moderating role of organization size adopted descriptive research design and regression. A negative influence of organization size was shown in the findings.

The researcher concludes that studies on the moderating effect of institution size have been conducted mostly in developing economies than in developed economies. It is also concluded that most of the studies established a positive moderating effect. The studies have also used primary data for analysis with structural equation modeling being the most used method for data analysis.

#### 2.3.5.1 Physical Facilities

In this study, physical facilities are considered as an indicator of institution size rather than as a separate study variable. Institution size refers to the scale and physical dimension of a university, which can be reflected in the extent and availability of its physical facilities. The physical facilities considered in this study therefore provide an observable basis for assessing institution size and its potential moderating role in the relationship between the explanatory factors and university performance. Accordingly, the discussion of physical facilities in this section is intended to support the conceptualization and measurement of institution size, rather than to introduce physical facilities as an independent or dependent variable.

Tarigan et al. (2022) investigated the relationship between physical infrastructure and organizational performance in Indonesia. Structural equation modelling was used for data analysis. According to the results, physical facilities was positively correlated with Organizational success. Employees were able to focus on their task and get it done without distractions when given a suitable work environment, according to the research. Nugroho and Wibowo (2019) conducted a study on the effect of physical facilities on academic performance. The study systematically reviewed existing literature. The results showed that physical facilities had a significant influence on the effectiveness of the learning process in the classroom. The findings demonstrated that classroom infrastructure significantly affects student achievement. The report also highlighted that universities faced several facility-related problems.

Mgimba and Mwila (2022) looked at the impact of public secondary schools' physical facilities on student achievement in Tanzania. Based on Maslow's hierarchy of needs theory, the study used a convergent parallel research methodology. Inadequate physical facilities, including libraries, labs, classrooms, dormitories, and instructional materials, were shown to be the root cause of academic performance issues. The research also found that, in order to build and provide high-quality education, physical facilities were crucial. The research also found that students' academic performance suffers when the school's physical facilities are poor. Assoumpta and Andala (2020) investigated the correlation between physical infrastructure and student achievement in Rwanda's elementary schools.

Both the research planning and the data analysis used in the study were based on correlation. According to the research, physical facilities has a negative impact on student' academic achievement. In addition, the research discovered that the relationship between physical facilities and university performance was weakly favourable.

An analysis of the impact of physical facilities on the performance of medium manufacturing firms in Kenya was conducted by Muturi et al. (2019). Regression analysis and causal effect research methodology were used to examine the data, while Resource-Based View theory anchored the research. According to the research, physical facilities was associated with better organizational performance. Investing in physical infrastructure allowed a company to optimize its performance. Three schools in the DRC were studied by Yangambi (2023) to determine the effect of physical infrastructure on academic achievement. The research used a survey methodology and analysed the data gathered from questionnaires and interviews using descriptive statistics. According to the research, physical facilities, including well-maintained classrooms, restrooms, labs, and recreational areas significantly affect student performance. The research also found that both student accomplishment and teacher’s methods of teaching, were optimized as a result of the ongoing development of physical facilities.

**Table 2.1 Literature Review Matrix**

| Individual Factors | | | | | |
|---|---|---|---|---|---|
| **Author** | Concepts | Research methodology | Findings | Research gap | Focus of the study |
| Silva (2019) | Human capital, social learning and financial capability | Convenience sampling, regression analysis and correlation analysis | There is a positive relationship between individual performance and organizational performance | Did not focus on employee commitment, employee skills and employee motivation | Focused on employee commitment, employee skills and employee motivation |
| Novitasari et al. (2021) | Employee engagement | SEM | Employee engagement enhances organizational performance | Did not focus on employee commitment, employee skills and employee motivation | Focused on employee commitment, employee skills and employee motivation |
| Veldandi et al. (2022) | Psycho-social factors and psychomotor factors | Factor analysis | Individual factors need more emphasis for improving research productivity | Did not focus on employee commitment, employee skills and employee motivation | Focused on employee commitment, employee skills and employee motivation |
| Dey and Chaturvedi (2023) | Self-assurance, personal vision, flexibility, organized, proactive, problem solver | Correlation analysis, online survey | Having policies that promote the development of individual factors in employees leads to better performance | Used correlation analysis and online survey | Used SEM and collect data through pick and drop method |

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| Mercier et al. (2020) | Personal characteristics | Cross-sectional research design | There is a positive relationship between individual factors and universities performance | Used cross-sectional research design | Used SEM and regression analysis |
| Taofeeq et al. (2019) | Education background, work experience, emotional intelligence, professional competence | SEM | There is a positive relationship between individual factors and universities performance | Did not focus on employee commitment, employee skills and employee motivation | Focused on employee commitment, employee skills and employee motivation |
| Helmy & Wiwoho (2020) | Proactive personality, core self-evaluation, work engagement | Sampled employees from microfinance institutions | There is a positive relationship between individual factors and organizational performance | Did not focus on employee commitment, employee skills and employee motivation | Focused on employee commitment, employee skills and employee motivation |
| Otegbaye et al. (2023) | Peer attachment | Cross-sectional research design, correlation analysis | Changes in personal and prosocial behaviour can influence performance | Used cross-sectional research design and correlation analysis | Used descriptive research design, regression analysis and SEM |
| Rajapaksha &Tilakasiri (2020) | Employee communication, employee development, rewards &recognition, leadership | SEM and correlation analysis | There is a positive correlation between individual factors and organizational performance | Did not focus on employee commitment, employee skills and employee motivation | Focused on employee commitment, employee skills and employee motivation |
| Raphael et al. (2018) | Age, work experience, education level, designation | Regression analysis | If administration and management position do not interfere with individual factors, employees perform better | Did not focus on employee commitment, employee skills and employee motivation | Focused on employee commitment, employee skills and employee motivation |

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|---|---|---|---|---|---|
| Oluwagbohunmi (2023) | Learning materials, time management | Convenience sampling split-half method | Personal factors influence performance | Did not focus on employee commitment, employee skills and employee motivation | Focused on employee commitment, employee skills and employee motivation |
| Milon and Shuvro (2022) | Teaching experiences, teaching skills, time management, teachers' higher education | Correlational research design, correlation analysis | There is a positive correlation between individual factors and universities performance | Used correlational research design and correlation analysis | Used descriptive research design, regression analysis and SEM |
| | | | **Institutional Factors** | | |
| Batool et al. (2018) | Research productivity | Survey research design | Appreciation and encouragement by heads of department positively influences performance | Did not focus on organizational resources, organizational structure and organizational culture | Focused on organizational resources, organizational structure and organizational culture |
| Ozgenel (2020) | School climate, principal behaviour, teacher behaviour | Correlational survey design, regression analysis, correlation analysis | There is a positive relationship between institutional factors and performance | Used correlational survey design, regression analysis and correlation analysis | Used descriptive research design, regression and SEM |
| Santos & Celis (2020) | Infrastructure, people, instructional material, utility | Descriptive research design | Method of delivery is the most influential factors affecting performance | Did not focus on organizational resources, organizational structure and organizational culture | Focused on organizational resources, organizational structure and organizational culture |
| Mwanthi (2018) | Organizational culture, structure, organizational systems | Cross-sectional research design | There is a positive relationship between institutional factors and universities performance | Used cross-sectional research design | Used descriptive research design |

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| Adesola & Ekundayo (2022) | Physical facilities, staff workload | Correlation analysis | Institutional factors determine the performance of employees | Did not focus on organizational resources, organizational structure and organizational culture | Focused on organizational resources, organizational structure and organizational culture |
| Batool et al. (2021) | Research procedure, job and compensation, assets, instructional materials | Correlational research design, correlation analysis | There is a positive correlation between institutional factors and universities performance | Used correlational research design and correlation analysis | Used descriptive research design, regression analysis and SEM |
| Ongwae et al. (2018) | Leadership, training and development, organizational culture, organizational structure | Survey design, | There is a positive relationship between institutional factors and universities performance | Used survey design | Used descriptive research design |
| Fehan & Aigbogun (2021) | Leadership style, effective communication | SEM | There is a positive relationship between institutional factors and organizational performance | Did not focus on organizational resources, organizational structure and organizational culture | Focused on organizational resources, organizational structure, and organizational culture |
| Channuwong et al. (2022) | organizational policy, organizational leadership, organizational structure, organizational culture | Sampled employees from private universities in Thailand | Institutional factors can increase work performance, organizational efficiency to achieve organizational goals | Sampled employees from private universities | Sampled employees and students from public universities in DRC |
| | | | **External Factors** | | |
| Khalid (2020) | PESTLE factors | Survey research design | There is a positive relationship between | Used survey research design | Used descriptive research design |

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| | | | external factors and org. performance | | |
| Sadiku (2022) | Political, economic, social, technological, environmental and competitive factors | Desktop review | There is a positive relationship between external factors and org. performance | Reviewed existing literature | Collected primary data from academic staff, non- academic staff and students |
| Khotima (2020) | Environmental and infrastructure factors | Descriptive research design | External factors have an influence on the learning outcomes | Did not focus on political, economic and technological factors | Focused on political, economic and technological factors |
| Bustami & Tri (2022) | Campus environment | Survey research design, factor analysis | The most dominant factor influencing student academic achievement is the attitude of the lecturer | Used survey research design and factor analysis | Used descriptive research design, regression analysis and SEM |
| Guerra et al. (2022) | Social, policy and political factors | Survey research design, correlation analysis | There is a positive correlation between external factors and universities performance | Used survey research design and correlation analysis | Used descriptive research design, regression analysis and SEM |
| Al-Muslimawi & Hamid (2019) | Extracurricular activities, family problems, work and financial factors, social factors | Sampled students from University of Kufa | Extracurricular activities can help heighten academic performance | Did not focus on political, economic and technological factors | Focused on political, economic and technological factors |
| Barasa (2023) | Work environment, climate, dynamics, autonomy, vision | Survey research design, regression analysis | There is a positive relationship between external factors and organizational performance | Did not focus on political, economic and technological factors | Focused on political, economic and technological factors |
| Hussain et al. (2023) | PESTEL factors | Sampled employees from SMEs in Pakistan | Embracing use of technology in department | Sampled employees from SMES | Sampled employees from public universities in DRC |

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| | | | processes improves performance | | |
| Seo &Lee (2019) | Community support, external partnership | Survey research design, SEM | There is a positive relationship between external factors and performance | Did not focus on political, economic and technological factors | Focused on political, economic and technological factors |
| | | | **Ethical Factors** | | |
| Lee &Cho (2021) | Openness, internal integrity, transparency | Correlation analysis, regression analysis | There is a positive relationship between ethical factors and organizational performance | Did not focus on ethical leadership, academic integrity and research ethics | Focused on ethical leadership, academic integrity and research ethics |
| Abalala et al. (2021) | Ethical commitment, ethical policy | SEM | Top management characters and ethical commitment, ethical policy and culture enhance performance | Did not focus on ethical leadership, academic integrity and research ethics | Focused on ethical leadership, academic integrity and research ethics |
| Bataineh (2020) | Integrity, responsibility, equality, self-discipline | Survey research design, hierarchical regression analysis | There is a positive relationship between ethical factors and performance | Used survey research design and hierarchical regression analysis | Used descriptive research design, multiple regression analysis and SEM |
| Keludia (2019) | Respect, integrity | Descriptive research design, regression analysis | If ethical standards are poor, the performance will be unsatisfactory | Did not focus on ethical leadership, academic integrity and research ethics | Focused on ethical leadership, academic integrity and research ethics |
| Ahmed et al. (2023) | Hr ethics, ethics in corporate governance, | Sampled employees from India, Pakistan and Bangladesh | There is a positive relationship between | Did not focus on ethical leadership, academic | Focused on ethical leadership, academic |

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|---|---|---|---|---|---|
| | ethics in sales and marketing | | ethical factors and performance | integrity, research ethics, CSR and equity | integrity and research ethics |
| Tziner & Persoff (2024) | Justice CSR | Desktop review | Encouraging ethical behaviour in the workplace enhances performance | Reviewed existing literature | Collected primary data from academic, non-academic staff and students |
| Kozakova et al. (2021) | Ethical code | Factor analysis | Lack of clear policy and rules leads to employees engaging in unethical behaviour | Did not focus on ethical leadership, academic integrity and research ethics | Focused on ethical leadership, academic integrity and research ethics |
| Dehghani (2019) | Personal factors, background | Interviews and focus groups | Both individual and background factors affect development of ethics in students | Used interviews and focus groups to collect data | Used a questionnaire to collect data |
| Zayum & Ijir (2024) | Work ethics on timelines, quality of work | Descriptive survey design, multistage sampling, chi square tests | There is a positive relationship between ethical factors and universities performance. | Did not focus on ethical leadership, academic integrity and research ethics | Focused on ethical leadership, academic integrity and research ethics |
| | | | **Institution size** | | |
| Waseemullah et al. (2020) | Moderating role of organization size | Desktop review | Organization size has little effect on the relationship between governance and performance | Did not look at physical facilities | Focused on physical facilities,<br>Collected primary data and use regression analysis and PLS-SEM |
| Kijksiwat & Phuensane (2020) | Moderating role of innovation and processes | PLS-SEM | Organization size moderates the relationship between governance and performance | Did not look at physical facilities | Focused on physical facilities |

| | | | | | |
|---|---|---|---|---|---|
| Nguyen (2022) | Moderating effect of organization size | Desktop review | Organization size moderates the relationship between governance and performance | Reviewed existing data | Collected primary data and use regression analysis and PLS-SEM |
| Kivaya et al. (2020) | Board size, board durability, board composition, board independence | Pearson correlation analysis | Organization size moderates the relationship between governance and performance | Did not look at physical facilities | Focused on physical facilities |

## 2.4 Summary of Research Gaps

The reviewed empirical studies highlighted that studies on factors and public universities performance had been carried out at international, regional and local level; carried out in various sector; focused on various concepts and used various methodologies. As presented in the literature matrix, there were various conceptual gaps that had been highlighted. None of the studies had reviewed all the dimensions being researched under the current study which were individual factors (employee skills, employee motivation and employee commitment), institutional factors (organizational resources, organizational structure and organizational culture), external factors (political, economic and technological), and ethical factors (ethical leadership, academic integrity and research ethics). Further, none of the studies had used institution size (physical facilities) as a moderating variable and this highlighted a conceptual gap.

In addition, the reviewed studies had also been anchored on various theories. In terms of contextual gaps, reviewed studies had been carried out in various sectors: Bataineh (2020) in SMEs; Keludia (2019) banking sector; Gichunge et al. (2021) manufacturing sector; Kintu and Waal (2021) legal sector. Further, studies had been carried out in different countries: Acosta-Prado et al. (2020) Colomgia; Wamuyu (2020) Kenya; Santos and Celis (2020) Philippines; Helmy and Wiwoho (2020) Indonesia; Lombardi et al (2019) Italy. This highlighted a contextual gap as the current study were carried out in public universities in DRC.

Further, the studies had used various methodologies. Ogala (20200 used survey design; Mercier et al. (2020) used cross-sectional design; Paoloni et al. (2020) used desktop review; Adhikari and Shresha (2022) used exploratory design; Shanahan et al. (2023) used hierarchical regression analysis. Heystek and Emekako (2020) used focus groups; Sharif et al. (2022) used convenience sampling technique; Purba et al. (2020) used causal design; and Sultanova et al. (2018) used case study design. The current study used descriptive research design and explanatory cross-sectional research design, stratified sampling technique and collect primary data using a structured questionnaire and this highlighted a methodological gap.

Although the reviewed studies provide useful insights into factors associated with organizational and university performance, the identified conceptual, contextual and methodological gaps indicate areas where the studies could have been approached differently to add further value. Conceptually, the studies could have integrated individual, institutional, external and ethical dimensions rather than examining selected factors in isolation. Contextually, greater attention to public universities in the Democratic Republic of the Congo, particularly those located in Kinshasa, could have generated evidence that is more relevant to the local institutional environment. Methodologically, the use of complementary research designs, appropriate sampling approaches and empirical analysis of the relationships among the identified dimensions could have provided a more comprehensive understanding of university performance. Addressing these gaps would have strengthened the explanatory value of the existing studies and provided a basis for the present study to examine the specified factors and the moderating role of institution size within public universities in Kinshasa, DRC.

# CHAPTER THREE: RESEARCH METHODOLOGY

## 3.1 Introduction

This chapter discusses the research methods used in this study. The chapter is subdivided into the following sections: research philosophy, research design, target population, description of the sample size and sampling technique, description of research instruments, data analysis procedure, operationalization of variables and finally ethical considerations for the study.

## 3.2 Research Philosophy

A research philosophy lays forth the ground rules for doing research in accordance with preconceived notions about what constitutes knowledge and the nature of reality (Ramsberg, 2018). The study adopted the positivism paradigm which adheres to the view that only factual knowledge gained through observation, including measurement, is trustworthy. Furthermore, according to positivism philosophy, the researcher must limit themselves to the objective gathering and interpretation of facts, and the results must be observable and quantifiable. The positivist philosophy was adopted because the purpose of this study was to objectively examine the relationships between individual, institutional, external and ethical factors and the performance of public universities in Kinshasa, DRC, and to assess the moderating role of institution size. The philosophy was considered appropriate because the study relied on quantitative data collected through a structured questionnaire and statistical analysis to test the stated hypotheses. It therefore enabled the researcher to examine the identified relationships objectively and systematically in line with the study objectives. The choice of positivism is also consistent with previous quantitative studies that have employed this philosophy to examine relationships among organizational factors and performance using structured instruments and statistical hypothesis testing.

According to Kuwornu-Adjaottor (2020), the positivism paradigm ensured that the research was independent and there were no provisions for human interests within the study, but only relied on facts to deduce results from the research. The positivism philosophy also enabled the study to use large sample sizes and to produce precise,

objective and quantitative data. The study was also able to cover a wide range of situations in short amount of time.

### 3.3 Research Design

To ensure the research topic is adequately addressed, researchers use research designs that provide a coherent and logical framework for integrating the various study components (Jain, 2024). This study used the descriptive research design and the explanatory cross-sectional research design. Descriptive research design enabled the study to get precise answers to who, what, when, where, and how questions related to a given topic (Pawar, 2020). Information about the factors and public universities performance in Kinshasa, DRC was gathered using the descriptive research design. On the other hand, the explanatory cross-sectional research design enabled the study to collect data from the public universities at a specific point in time to explain the how and why behind the factors influencing performance. The design also enabled the study to measure both the outcome and the suspected causes simultaneously to identify the associations between the various factors and universities performance.

The use of an explanatory cross-sectional research design in this study is intended to examine the relationships between the identified explanatory factors and the performance of public universities at a single point in time. The reference to how and why in the description of the design should therefore be understood in relation to the examination of relationships among the study variables, rather than as an indication that the study adopted an exploratory research design. The study does not seek to explore an unknown phenomenon or generate preliminary insights; instead, it empirically tests the specified relationships between individual factors, institutional factors, external factors, ethical factors, institution size and university performance using quantitative data.

The explanatory cross-sectional research design was considered appropriate because the study sought to examine the relationships between individual factors, institutional factors, external factors and ethical factors and the performance of public universities in Kinshasa, DRC, as well as the moderating role of institution size. The cross-sectional design enabled the researcher to collect quantitative data from the selected respondents at a single point in

time and analyse the relationships among the study variables in line with the specific objectives and hypotheses of the study.

In addition, using a descriptive research design allowed the study to collect, examine, and present data while also assisting others in understanding the necessity for the study (Siedlecki, 2020). Descriptive research allowed the study to identify study-relevant characteristics, frequency, trends, and classifications. The explanatory cross-sectional design further ensured that participants were surveyed only once, entirely eliminating the issue of them leaving the study before completion. The research was also able to analyse a wide variety of variables simultaneously (Orodho, 2004).

## 3.4 Target Population

The term population refers to the sum of all things, people, or groups that meet certain criteria (Willie, 2022). Board of directors of university, university council, faculty council, and departmental council members composed the target population of this research. The unit of observation comprised of board of directors, university council, faculty council, and departmental council members, while the three public universities in Kinshasa, DRC, served as units of analysis. The target population is broken down in Table 3.1. The study focused on the three public universities in Kinshasa, DRC, and specifically targeted members of the Board of Directors, University Council, Faculty Council and Departmental Council. These groups were selected because they constitute key governance and academic decision-making structures within public universities and are involved in academic, administrative and financial matters. Other employees and university stakeholders who were not members of these bodies were excluded because they did not form part of the governance groups defined for the study. The inclusion of these groups was therefore guided by their institutional roles and their relevance to the study variables and research questions.

According to the Ministry of Higher and University Education of the Democratic Republic of Congo, the public university sector in Kinshasa comprises three public universities. Therefore, the study included all three public universities in Kinshasa rather than selecting a sample of public universities. These universities constituted the units of analysis, while the Board of Directors, University Council, Faculty Council and Departmental Council

constituted the target respondents. The inclusion of all public universities in Kinshasa provides a basis for generalizing the findings to the public universities within Kinshasa, DRC, while generalization beyond Kinshasa should be made with consideration of the geographical scope of the study (*Ministère de L'Enseignement Supérieur et Universitaire de la RDC, 2026).*

**Table 3.1 Distribution of the Target Population**

| Category | Target Population |
|---|---|
| The board of directors of universities | 17 |
| University council | 51 |
| Faculty council | 515 |
| Departmental council | 476 |
| **Total** | **1059** |

**Source :** ***Ministère de L'Enseignement Supérieur et Universitaire de la RDC*****, 2026**

## 3.5 Sample Size and Sampling Procedures

### 3.5.1 Sample Size

A sample size refers to the number of participants or observations included in a study to represent the target population (Cooper & Schindler, 2014). This study used Yamane formula to calculate the sample size as shown below. The Yamane's formula was selected because the study had a known and finite target population of 1,059 respondents, and the formula provides a simple and appropriate approach for determining a representative sample size when the population size is known and a specified level of precision is required. The formula was therefore considered suitable for the present study because it enabled the researcher to determine the required sample size of 290 respondents from the identified target population using a 5% level of precision.

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

Where

N = represent size of the population.

n = represent the size of the sample

e = precision level (at 0.95 confidence interval, e=0.05)

N=1059

$$n = \frac{1059}{1 + 1059(0.05^2)} = 290$$

The sample size for the study therefore comprised of 290 respondents. The distribution of the sample size was shown in Table 3.2.

**Table 3.2 Sample Size Distribution**

| Category | Target Population | Actual Sample Size | Percentage (%) |
|---|---|---|---|
| The board of directors of universities | 17 | 5 | 2 |
| University council | 51 | 14 | 4 |
| Faculty council | 515 | 141 | 49 |
| Departmental council | 476 | 130 | 45 |
| **Total** | **1059** | **290** | **100** |

**Source:** ***Ministère de L'Enseignement Supérieur et Universitaire de la RDC, 2026***

The total sample of 290 respondents obtained using the Yamane formula was proportionately distributed across the four categories of the target population. The proportionate allocation was calculated by dividing the population of each category by the total target population of 1,059 and multiplying the result by the total sample size of 290. Thus, the sample for each category was determined using the formula: \(n_i = (N_i/N) \times n\), where \(n_i\) represents the sample allocated to a category, \(N_i\) represents the population of that category, \(N\) represents the total target population of 1,059, and \(n\) represents the total sample size of 290. Applying this procedure resulted in 5 respondents from the Board of Directors, 14 from the University Council, 141 from the Faculty Council, and 130 from the Departmental Council. The resulting allocations sum to the total sample of 290 respondents.

### 3.5.2 Sampling Procedures

According to Taherdoost (2016), a sampling method is a well-defined process for collecting data and samples from a certain population. In order to guarantee that the respondents were not biased, this research used a probability sampling technique. Due to the hierarchical nature of the public universities included in this study, stratified random

sampling was used. These included board of directors, university council, faculty council and departmental council.

The stratification process involved dividing the target population into four distinct strata according to the hierarchical structure of the public universities, namely the Board of Directors, University Council, Faculty Council and Departmental Council. The number of respondents allocated to each stratum was determined proportionately from the total sample of 290 respondents based on the size of each stratum. After determining the required sample for each stratum, simple random sampling was applied within each stratum to select the individual respondents. Each eligible member within a stratum had an equal opportunity of being selected, thereby reducing selection bias and ensuring that the different categories of respondents were represented in the final sample. Researchers used simple random selection to choose participants from each of the study's strata, which represented the hierarchy of the respondents.

The four respondent categories constituted the sampling strata. Following determination of the overall sample size using the Yamane formula, the sample was proportionally allocated to each stratum based on the size of the stratum relative to the total target population. This proportional allocation resulted in 5 respondents from the Board of Directors, 14 from the University Council, 141 from the Faculty Councils and 130 from the Departmental Councils. Simple random sampling was then used to select respondents within each stratum. The approach ensured that each identified governance group was represented in the final sample according to its proportion in the target population

### 3.6 Description of Research Instruments

A research instrument is a tool used to collect data that is relevant to the study (Cooper & Schindler, 2016). In this study, the researcher used a structured questionnaire to collect the primary data from respondents. The questionnaire was subdivided into seven sections. Section one had questions on the demographic characteristics of the respondents while section two had questions on public universities performance. Section three had questions on individual factors while section four had questions on institutional factors. Section five had questions on external factors while section six had questions on ethical factors. Section seven had questions on the moderating variable institution size. A five-point Likert scale

was used to assess the study's variables: 1 for Strongly disagree, 2 for Disagree, 3 for Neutral, 4 for Agree, and 5 for Strongly Agree.

### 3.7 Data Collection Procedures

The Catholic University of Eastern Africa's Graduate Business Department provided the researcher with an introduction letter that allowed him to collect data. Thereafter, the study sought approval from DRC university general secretariat. Upon approval, data was gathered using a self-administered questionnaire where the researcher with the help of research assistants identified those to take part in the study and gave them questionnaires to fill. The participants were given a week to fill the questionnaire before the researcher/research assistants picked them up.

### 3.8 Operationalization of Study Variables

According to Kothari and Garg (2014), operationalization is the process of taking a conceptual definition and making it more precise by linking it to one or more specific operational definition. The operationalization was done by identifying the sub-constructs from the main construct which were performance, individual factors, institutional factors, external factors, ethical factors and institution size, and then determine the indicators of each variable and measure them using a five-point Likert scale. Table 3.3 showed how the study variables were operationalized.

In this study, the operational definitions specify how each study variable was translated into measurable indicators for empirical assessment. Individual factors were measured through employee skills, employee motivation and employee commitment; institutional factors were measured through organizational structure, organizational resources and organizational culture; external factors were measured through political, economic and technological conditions; and ethical factors were measured through ethical leadership, academic integrity and research ethics. University performance was measured through sustainability, efficiency, innovation and customer satisfaction, while institution size was considered as a moderating variable based on the physical facilities of the university. The researcher’s operationalization reflects the specific context of public universities in Kinshasa, DRC, and guided the development of the questionnaire items used to obtain respondents’ assessments of these constructs.

The operationalization of the study variables was informed by the theoretical and empirical literature reviewed in Chapter Two. The selected dimensions were drawn from the theories underpinning the study and from empirical studies that examined factors associated with university and organizational performance. Individual factors were therefore measured through employee skills, motivation and commitment; institutional factors through organizational structure, resources and culture; external factors through political, economic and technological conditions; and ethical factors through ethical leadership, academic integrity and research ethics. University performance was measured through sustainability, efficiency, innovation and customer satisfaction, while physical facilities were used as an indicator of institution size. The selected indicators were considered appropriate for capturing the study constructs within the context of public universities in Kinshasa, DRC.

**Table 3.3 Operationalization of Study Variables**

| Variable | Indicators | Scale of Measurements |
|---|---|---|
| Public universities performance | • Sustainability<br>• Efficiency<br>• Innovation<br>• Customer satisfaction | • Nominal |
| Individual factors | • Employee skills<br>• Employee motivation<br>• Employee commitment | • Nominal |
| Institutional factors | • Organizational structure<br>• Organizational resources<br>• Organizational culture | • Nominal |
| External factors | • Political factors<br>• Economic factors<br>• Technological factors | • Nominal |
| Ethical factors | • Ethical leadership<br>• Academic integrity<br>• Research ethics | • Nominal |
| Institution size | • Physical facilities | • Nominal |

## 3.9 Pilot Study

### 3.9.1 Validity of Research Instruments

According to Cooper and Schindler (2014), the questionnaire's validity is determined by how well the data collecting tool measures the target variables and accomplishes its intended goals. Content, construct and face validity were used in validating the instruments

for this study. This technique enabled the researcher to weigh the extent by which data collected utilizing the intended instruments would represent a particular domain or content of a definite idea. To ascertain the face validity of the research instrument, the researcher sought the views of experts in the field of study, especially the supervisors. These views were incorporated into the questionnaire to enhance its validity. Construct validity was attained by confirmatory factor analysis, while content validity was attained by reviewing previous studies, which allowed the researcher to conceptualize and cover all parts of the investigation. The following diagnostic tests were also conducted:

#### 3.9.1.1 Normality Test

The study generated significant summary statistics and ran a normality test. The concept of normality is central to statistics and so the test examines whether the data is normal or non-normal. For data to be normal, they must have the form of a bell curve, or Gaussian distribution with values dropping off in a particular fashion as they increase or decrease from the mean. Associations were examined using multiple regression analysis, based on a significance level of 0.05 (that is, $P<0.05$) as recommended by Cooper and Schindler (2011). A critical requirement in the classical linear regression is that the residuals must be normally distributed with zero mean and constant variance. Hence normality and other SPSS assumptions should be taken seriously, for when these assumptions do not hold, it is impossible to draw accurate and reliable conclusions about reality.

#### 3.9.1.2 Multicollinearity Test

A Multicollinearity test was also conducted. Multicollinearity is a statistical phenomenon in which two or more predictor variables in a multiple regression model are highly correlated. It affects calculations regarding individual predictors. That is, a multiple regression model with correlated predictors can indicate how well the entire set of predictors predict the outcome variable, but it may not give valid results about any individual predictor. Multicollinearity affects calculations regarding individual predictors. As such, a multiple regression model with correlated predictors can indicate how well the entire bundle of predictors predicts the outcome, but it may not give valid results about any individual predictor, or about which predictors are redundant with respect to others (Daoud,

2017). Consequently, the route analysis model's VIF (Variance Inflation Factor) value was examined to see whether multicollinearity was present.

#### 3.9.1.3 Heteroscedasticity Test

The study also checked for heteroscedasticity. The data set's variance should be constant for parametric statistics to function properly (Hayes & Cai, 2007). Heteroscedasticity refers to the inverse situation, whereas homogeneity of variance describes the former. Heteroscedasticity occurs when the variance of the subpopulations of the response variable is not constant, that is, they diverge or converge. The presence of heteroscedasticity can invalidate statistical tests of significance that assume that the modelling errors are uncorrelated and normally distributed and that their variances do not vary with the effects being modelled. In this study, a Breusch-Pagan test was conducted. The Breusch-Pagan test assumes the presence of homoscedasticity under the null hypothesis ($H_0$), while heteroscedasticity forms the basis of the alternative hypothesis (Ha).

#### 3.9.1.4 Root Mean Square Error of Approximation (RMSEA)

The Root Mean Square Error of Approximation (RMSEA) was used to assess the goodness of fit of the measurement models. An RMSEA value of less than or equal to 0.08 indicates an acceptable model fit (Loiacono et al., 2002). In this study, RMSEA was used alongside other goodness-of-fit indices to determine whether the specified measurement models adequately fitted the observed data.

### 3.9.2 Reliability of Research Instruments

Drost (2011) defines reliability as the degree to which research method produces stable and consistent results. It is usually used to check whether or not the researcher will get the same answer by using an instrument to measure something more than once. A pilot test is a pretest study involving administration of research data collection tools in order to determine their accuracy and reliability. Pilot testing was conducted in public universities in Lumbumbashi, DRC. Those to take part in the pilot study are normally determined to be 10% of a sample size. In this study, they were approximated to be 29 participants who were considered essential in establishing whether the research techniques and instruments are effective and could help to uncover internal variability within the dataset. To allow each

category contributes to the pilot test in approximately the same proportion as it contributes to the total sample, 2 participants (6.9%) were drawn from the Boad of Directors, 4 participants (13.8%) from the University Council, 9 participants (31.0%) from the Faculty Council, and 14 participants (48.3%) from the Department Council. It actually helped to establish whether the instrument measures what is intended to measure. This helped in making the instrument more objective. Those who participated in the pilot study did not take part in the actual study as they were not part of the target population. Thereafter, a reliability test was tested using Cronbach's alpha test where by a reliability scale of 0.7 and above would indicate reliable information while a scale below 0.7 would call for an improvement of the research tool to make the questions clear.

### 3.10 Data Analysis Procedures

Kelley (2023) states that data analysis is the process of cleaning, changing and processing raw data and extracting actionable, relevant information that helps a researcher make informed decisions. The data collected was first checked to ensure accuracy, consistency, completeness and quality. Thereafter, the Statistical Package for Social Science (SPSS) version 27.0 was used to generate both descriptive and inferential statistics in line with the research objectives. Descriptive statistics were produced in terms of percentages, means and standard deviations and presented in terms of graphs, charts and tables while for the inferential statistics, structural equation modelling (SEM) was used to test the relationship among the variables.

This study preferred the use of SEM method because it estimated the multiple and interrelated dependence in a single analysis. The researcher therefore defined individual constructs using exploratory factor analysis (EFA), developed the overall measurement model which was also known as path analysis, designed the study to produce the empirical results so as to minimize the likelihood of an identification problem, assessed the measurement model validity and specified the structural model whereby structural paths were drawn between constructs before finally examining the structural model validity. According to Byrne (2001), a model is considered a good fit if the value of the chi-square test is insignificant, and at least one incremental fit index like Comparative Fit Index (CFI), Goodness of Fit index (GFI), Adjusted Goodness of Fit Index (AGFI), Tucker-Lewis Index

(TLI) and one badness of fit index like Root Mean Square Error Approximation (RMSEA) meet the predetermined criteria. While RMSEA values below 0.08 are advised by Hooper et al. (2008), Byrne (2010) states that a GFI of 0.90 or a value closer to 0.90 is preferred. Moderation testing was conducted to evaluate whether the strength or direction of a relationship between an independent variable (factors) and a dependent variable (public universities performance) depended on a third variable (institution size). Figure 3.1 showed the structural equation modelling structure.

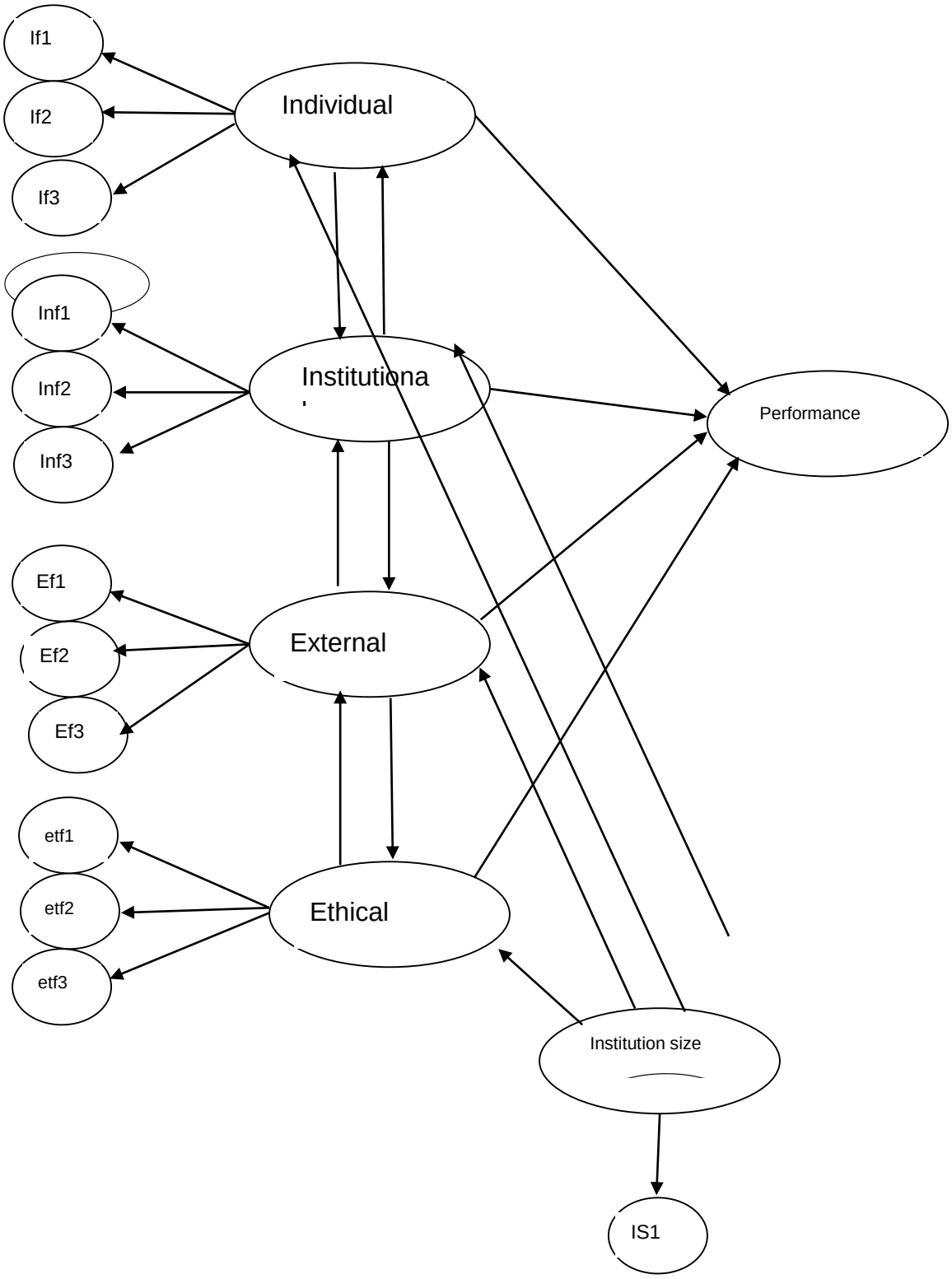



**Figure 3.1 Structural Equation Modelling Structure**

### 3.11 Ethical Considerations

The study observed the main ethical principles relevant to the collection and use of research data. These included informed consent, voluntary participation, confidentiality and anonymity, privacy, protection of participants from harm, and integrity in the collection, analysis and reporting of data. Informed consent was obtained from participants after explaining the purpose of the study and their participation. Participation was voluntary, and respondents were informed of their right to decline participation or withdraw without penalty. Confidentiality and anonymity were maintained by protecting respondents' identities and using the information collected strictly for academic purposes. Privacy was respected during data collection, while care was taken to ensure that participation did not expose respondents to unnecessary harm or discomfort. Research integrity was maintained through accurate collection, analysis and reporting of the findings without fabrication, falsification or inappropriate alteration of the data. The study also obtained the required institutional and research permissions before data collection.

The study sought for approval from the DRC general secretariat of universities to collect data. In addition, the participants were allowed to participate in an open and voluntary basis and they also had a right to withdraw at their wish. The respondents were assured confidentiality of their data which they provided and thus the privacy of the respondents was upheld and none were coerced to participate. The respondents were also treated with respect and courtesy. In addition, the researcher also considered the safety of participants by avoiding situations that might result to physical or psychological harm. The study also took great care to avoid plagiarizing or otherwise compromise the findings in any way possible.

# CHAPTER FOUR: DATA ANALYSIS, INTERPRETATION AND DISCUSSION OF FINDINGS

## 4.1 Introduction

This chapter contains an explanation of the data analysis process whereby the findings of the study are presented, discussed and interpreted. The chapter commences with information on the response rate and explanation on how data screening was conducted to check for errors. Thereafter, the demographic characteristics of the respondents in terms of their gender, length of time the institution has been in operation, highest level of education, length of service in the institution and position in the public university are highlighted. The results of the various diagnostic tests of structural equation modelling tested including normality test, multicollinearity test and heteroscedasticity test are also presented. In addition, the descriptive results for the study variables are presented using mean scores and standard deviation. The inferential results which include construct reliability and validity measurement results are also presented in this chapter. Further, the structural equation model to hypothesis testing and the structural fit of the anticipated model evaluation using the goodness of fit measurements are also presented. The chapter ends with a discussion of the research findings, whereby the explanation of their implications while providing interpretation within the framework of earlier studies are highlighted.

## 4.2 Presentation of Findings

### 4.2.1 Response Rate

The study sought to establish the response rate achieved during data collection in order to determine the adequacy of the responses obtained for subsequent analysis. The response rate is an important indicator of data quality as it reflects the extent to which the sampled respondents participated in the study (Wu et al., 2022). 290 questionnaires were distributed and 200 questionnaires were returned. The results are shown in Table 4.1.

**Table 4.1 Response Rate**

| Category | Response Rate | Percentage |
|---|---|---|
| Returned questionnaires | 200 | 69% |
| Non-returned questionnaires | 90 | 31% |
| **Total** | **290** | **100%** |

The results presented in Table 4.1 indicate that out of the 290 questionnaires distributed to members of the board of directors, university council, faculty council, and departmental council across the three public universities in Kinshasa, DRC, a total of 200 questionnaires were successfully completed and returned. This represented a response rate of 69%, while 90 questionnaires, representing 31% of the sample, were not returned. The response rate achieved in this study is considered satisfactory for statistical analysis and generalization of the findings. A response rate of 69% suggests a relatively high level of participation among the targeted respondents and minimizes the likelihood of non-response bias (Sataloff & Vontela, 2021). The high participation rate may be attributed to the relevance of the study topic to the respondents and the data collection procedures employed by the researcher. Based on the response rate obtained, the study concluded that the data collected were adequate and representative of the target population, thereby providing a sufficient basis for examining the factors influencing the performance of public universities in Kinshasa, DRC. This is supported by Wu et al. (2022) who noted that a high response rate is directly driven by topic relevance which ensures that the participants actually care about the subject matter and effective data collection procedures.

### 4.2.2 Demographic Information of the Respondents

This study was interested in the demographic information of the respondents comprising of their gender, length of time the institution has been in operation, highest level of education, length of service in the institution and position in the public university. The results are presented in the sub-sections below.

Overall, the demographic characteristics provide a profile of the respondents whose views informed the assessment of factors impacting the performance of public universities in Kinshasa, DRC. The composition of the respondents is relevant to the study because they were drawn from key university governance structures and therefore provided perspectives relevant to the study objectives and the assessment of individual, institutional, external and ethical factors and university performance.

#### 4.2.2.1 Gender of the Respondents

The researcher requested the respondents to indicate their gender and data obtained was statistically analysed. The majority of the respondents 132 (66%) were male while the

remaining 68 (34%) were female. The findings indicate that male respondents constituted the majority of the study participants. This suggests that leadership and governance structures within public universities in Kinshasa may be male-dominated. Since the study examined factors affecting university performance, the inclusion of both male and female respondents was important in capturing diverse perspectives on individual, institutional, external, and ethical factors influencing performance. Gender parity is an important consideration in university governance because it promotes inclusiveness, equal opportunities, and balanced decision-making. The participation of both men and women in leadership and institutional processes brings diverse experiences and perspectives, which can enhance the quality of decisions and contribute to improved organizational performance. Universities that promote gender equality are also more likely to foster innovation, collaboration, and fairness among staff and students.

#### 4.2.2.2 Length of Time the Institution has been in Operation

The study was also interested in finding out the length of time the institution had been in operation. The majority of the respondents 128 (64%) indicated that the institution had been in operation for more than 20 years, 53(27%) indicated between 16-20 years, 7(4%) indicated 0-5 years, while the remaining 6 (3%) each indicated 11-15 years and 6-10 years. This is an indication that public universities in Kinshasa had been in operation for more than 20 years. This suggests that most of the universities had established administrative structures, governance systems, and operational procedures, enabling respondents to provide informed opinions regarding the influence of individual, institutional, external, and ethical factors on organizational performance.

The long operational history of these universities also suggests that they have accumulated substantial institutional experience in managing academic, administrative, and governance processes. Such experience is likely to enhance organizational learning, policy implementation, and the capacity to respond to internal and external challenges affecting university performance. Furthermore, institutions that have operated for many years are generally better positioned to evaluate long-term trends in performance and the effectiveness of their governance practices.

#### 4.2.2.3 Highest Level of Education

The study requested the respondents to indicate their highest level of education and data obtained was statistically analysed. Most of the respondents 116(58%) indicated that their highest level of education was a master's degree while 62(31%) of the respondents had a PhD. In addition, 22(11%) of the respondents indicated that their highest level of education was an undergraduate degree. The high proportion of respondents holding master's and doctoral degrees suggests that the respondents possessed the academic and professional competence necessary to understand and evaluate the factors affecting university performance. Their educational background therefore enhanced the credibility and reliability of the information provided. Furthermore, respondents with advanced academic qualifications are more likely to have substantial experience in institutional management, research, and policy implementation, making their perspectives particularly valuable. Their ability to critically assess organizational practices and strategic issues strengthened the quality of the data collected for the study. The findings therefore reflect informed opinions grounded in both academic knowledge and practical experience within the higher education sector. Consequently, the educational profile of the respondents provided a strong foundation for generating valid and dependable conclusions regarding the variables investigated in this study.

#### 4.2.2.4 Working Duration in the Institution

The study sought to establish how long the respondents had been working in the institution and the results of the statistically analysed data were obtained. The majority of respondents indicated that they had been working in the institution for more than 9 years while 58(29%) indicated between 5-9 years. Further, 24(12%) of the respondents indicated that they had been working in the institution for between 1-4 years while the remaining 12(6%) had been working for less than a year. This showed that the majority of respondents had served in the public universities in Kinshasa for more than five years. This implies that they had accumulated sufficient institutional knowledge and experience to provide reliable assessments of the factors influencing university performance. Long-serving employees are also more likely to have witnessed changes in institutional practices and performance over time. The high academic qualifications of the respondents also imply that they were

familiar with university governance, policy implementation, and quality assurance processes, enabling them to provide informed judgments on institutional performance. Furthermore, respondents with postgraduate qualifications are generally expected to possess strong analytical and critical thinking skills, which enhance the quality of their responses to research questions. Their extensive academic experience also increases the likelihood that they have been exposed to institutional challenges and best practices in higher education management.

#### 4.2.2.5 Current Position in the Institution

The study sought to establish the current position of the respondents in the public universities and the results of the statistically analysed data showed that most of the respondents (90, or 45%) were listed as departmental council members, while 70, or 35%, were listed as faculty council members, according to Figure 4.5's data. In addition, 18 people (or 9% of the total) said they were board members, while 22 people (or 11% of the total) said they were members of the university council. The respondents occupied various governance and management positions within the universities, including university council members, board members, faculty council members, and departmental council members. This diversity ensured that the study captured views from different levels of university governance and administration, thereby providing a comprehensive understanding of the factors influencing organizational performance. The representation of respondents from different governance bodies also enhanced the depth of the information collected, as each governance level performs distinct roles in university management and decision-making. Their varied responsibilities provided multiple perspectives on how individual, institutional, external, and ethical factors influence organizational performance. Moreover, involving respondents from both strategic and operational governance structures reduced the likelihood of obtaining one-sided views and increased the objectivity of the findings.

### 4.2.3 Measures of Reliability: Cronbach's Coefficient

Cronbach's alpha coefficient was used to assess the research variable's internal consistency. The variables included individual factors, institutional factors, external factors, ethical factors, institution size and performance. The results are presented in Table 4.2.

**Table 4.2 Results of Reliability – Cronbach Alpha Coefficient**

| S/N | Research Variable | Number of Items | Cronbach's alpha coefficient | Recommended value |
|---|---|---|---|---|
| 1 | Individual factors | 15 | 0.937 | 0.7 |
| 2 | Institutional factors | 15 | 0.976 | 0.7 |
| 3 | External factors | 15 | 0.869 | 0.7 |
| 4 | Ethical factors | 15 | 0.973 | 0.7 |
| 5 | Institution size | 5 | 0.906 | 0.7 |
| 6 | Performance | 12 | 0.959 | 0.7 |

The findings in Table 4.2 revealed that all the study variables attained Cronbach's alpha coefficients above the recommended threshold of 0.70, indicating that the measurement items were reliable and internally consistent. Specifically, individual factors recorded a reliability coefficient of 0.937, institutional factors 0.976, external factors 0.869, ethical factors 0.973, institution size 0.906, and performance 0.959. Among the study variables, institutional factors ($\alpha = 0.976$) exhibited the highest level of internal consistency, followed by ethical factors ($\alpha = 0.973$) and performance ($\alpha = 0.959$). Individual factors ($\alpha = 0.937$) and institution size ($\alpha = 0.906$) also demonstrated excellent reliability. Although external factors recorded the lowest Cronbach's alpha coefficient ($\alpha = 0.869$), the value remained substantially above the recommended threshold, indicating good reliability. The results therefore demonstrate that all measurement scales consistently measured their respective constructs and were suitable for subsequent statistical analyses. Consequently, none of the items were dropped from the instrument since all variables met the acceptable reliability requirements for social science research. According to George and Mallery (2003), a Cronbach's alpha value of 0.70 or higher indicates acceptable reliability.

### 4.2.4 Descriptive Analysis of Study Variables

The researcher used mean scores and standard deviation to rank the items under each variable. According to Oxford (1990), mean scores fall into three categories: low, medium and high as a likelihood of a particular response or event. The ranges for high incidence are 3.5 - 5.0, medium incidence range is 2.5 - 3.4and low incidence range is 1.0 - 2.4. The results for the descriptive results are presented in the following subsections.

#### 4.2.4.1 Individual Factors

The individual factors variable was measured using items that were categorized into employee skills, employee motivation and employee commitment. The results on the extent to which the respondents agreed/disagreed with the statements are presented in Table 4.3.

**Table 4.3 Descriptive Scores on Individual Factors**

| | **Mean** | **Std. Deviation (%)** | **N** |
|---|---|---|---|
| Skills have enabled employees to complete tasks on time | 3.01 | 1.234 | 200 |
| Skills have enhanced the professionalism of employees | 3.16 | 1.274 | 200 |
| Skills have enabled lecturers offer quality teaching | 3.25 | 1.235 | 200 |
| The management compensates employees based on their skills | 2.54 | 1.399 | 200 |
| The university organizes for trainings to enhance employee skills | 2.31 | 1.237 | 200 |
| The university has developed an infrastructure to motivate employees | 2.48 | 1.295 | 200 |
| The university motivates employees in different ways | 2.67 | 1.297 | 200 |
| Employee motivation has been used as a strategy to improve performance | 2.42 | 1.254 | 200 |
| Motivation has improved staff efficacy | 2.41 | 1.312 | 200 |
| The university has made it a priority to keep employees motivated | 2.48 | 1.371 | 200 |
| The university recruits employees who are committed to achieve organizational goals | 2.54 | 1.403 | 200 |
| Rewarding employees based on their qualifications has made them more committed | 2.56 | 1.384 | 200 |
| Committed employees have brought more value to the university | 3.27 | 1.321 | 200 |
| Organizing for professional development programmes have made the employees more committed | 2.68 | 1.382 | 200 |
| Employees who are involved in decision making are more committed | 2.98 | 1.299 | 200 |
| **Total** | **2.72** | **1.313** | **200** |

Table 4.3 presents the respondents' perceptions regarding individual factors in public universities in Kinshasa. The descriptive analysis revealed a composite mean score of 2.72 (SD = 1.313) for the individual factors (employee skills, motivation and commitment). Based on the interpretation scale adopted in this study, this represents a moderate level of individual factors among the sampled public universities. The relatively high standard deviation indicates considerable variation in respondents' perceptions, suggesting that experiences regarding individual factors differed across the public universities. Although the overall level was moderate, analysis of the individual indicators shows that employee skills were rated moderately, while staff training, employee motivation, and reward systems received comparatively lower ratings, indicating areas requiring improvement

In addition, the findings suggest that employee skills play a moderate role in enhancing employee performance and service delivery. This is evidenced by the moderate mean scores recorded for the statements that skills have enabled employees to complete tasks on time (M = 3.01, SD = 1.234), enhanced employee professionalism (M = 3.16, SD = 1.274), and enabled lecturers to offer quality teaching (M = 3.25, SD = 1.235). Although the mean scores indicate moderate agreement, the relatively high standard deviations imply considerable variation in respondents' views, suggesting that the benefits of employee skills may not be experienced uniformly across the universities. The findings further reveal weaknesses in the institutional mechanisms for developing and rewarding employee skills. This is demonstrated by the lower mean scores for the statements that management compensates employees based on their skills (M = 2.54, SD = 1.399) and that the university organizes training programs to enhance employee skills (M = 2.31, SD = 1.237). The high standard deviation for skill-based compensation indicates substantial disagreement among respondents, implying inconsistencies in the implementation of compensation policies. Similarly, the low mean score on training opportunities suggests that universities may not be investing adequately in continuous professional development. These findings imply that while employee skills contribute to improved professionalism, teaching quality, and timely task completion, universities have not sufficiently institutionalized practices that support the continuous development and recognition of these skills. Consequently, the potential benefits of employee skills may not be fully realized due to inadequate training opportunities and limited use of skill-based reward systems.

The results are consistent with the study of Day et al. (2023), who established that employee skills enhance professionalism and consequently improve the performance of public universities. Similarly, the findings support Caena and Redecker (2019) who found that employees who update their skills are better equipped to address emerging workplace challenges and achieve superior performance. The positive perception regarding the role of skills in improving teaching quality and task completion also corroborates the findings of Jaya and Maryanto (2023), who observed that organizations that invest in both hard and soft skills development experience improved employee performance. However, the low ratings regarding training opportunities suggest a gap in institutional support for continuous learning. This observation is in agreement with Purba et al. (2020), who noted that employee skills are strengthened through training programmes and are critical for effective execution of job responsibilities. Furthermore, the moderate disagreement regarding skill-based compensation supports the findings of Wakahiu and Yatich (2023), who established that recognizing and rewarding employees based on their competencies motivates them to improve performance and enhance the quality of service delivery. Therefore, although employee skills were found to contribute positively to university performance, the limited emphasis on training and skill-based rewards may constrain the full realization of these benefits.

In addition, the findings on employee motivation indicate that motivation practices were not adequately implemented in public universities in Kinshasa. This is evidenced by the low mean scores recorded for the statements that the university had developed infrastructure to motivate employees ($M = 2.48$, $SD = 1.295$), employee motivation had been used as a strategy to improve performance ($M = 2.42$, $SD = 1.254$), and motivation had improved staff efficacy ($M = 2.41$, $SD = 1.312$). The relatively high standard deviations associated with these statements suggest substantial variation in respondents' perceptions, implying that motivation initiatives were not consistently experienced across the universities. Respondents further indicated to a moderate extent that the university motivated employees in different ways ($M = 2.67$, $SD = 1.297$). Moreover, respondents disagreed that the university had made it a priority to keep employees motivated ($M = 2.48$, $SD = 1.371$), with the high standard deviation indicating divergent opinions regarding the institution's commitment to employee motivation.

These findings suggest that employee motivation was inadequately supported through organizational infrastructure and strategic initiatives. Consequently, the limited emphasis on employee motivation may have constrained staff efficacy and overall organizational performance. The findings are consistent with those of Mehran et al. (2022), who established that motivation plays a critical role in enhancing employee efficacy and effectiveness. Similarly, Sharif et al. (2022) found that motivated employees are more likely to transfer knowledge effectively to students, thereby improving learning outcomes. The findings further support Sharif et al. (2022), who argued that developing appropriate motivational infrastructure within universities enhances employee performance. Likewise, Heystek and Emekako (2020) identified motivation and collaboration as important strategies for improving institutional performance, while Okine et al. (2021) observed that the effectiveness of employee motivation depends largely on the motivational approaches adopted by the organization. Therefore, the low ratings on motivation-related practices suggest that public universities in Kinshasa may not be fully leveraging employee motivation as a strategic tool for enhancing performance.

Regarding employee commitment, the findings indicate a moderate level of commitment practices within public universities. Respondents moderately disagreed that the university recruits' employees who are committed to achieving organizational goals ($M = 2.54$, $SD = 1.403$) and that rewarding employees based on their qualifications enhances commitment ($M = 2.56$, $SD = 1.384$). The high standard deviations associated with these statements indicate considerable differences in opinion among respondents, suggesting inconsistencies in recruitment and reward practices across the institutions. Respondents, however, moderately agreed that committed employees bring more value to the university ($M = 3.27$, $SD = 1.321$), although the high standard deviation suggests varying experiences regarding the contribution of committed employees. In addition, respondents moderately agreed that professional development programmes enhance employee commitment ($M = 2.68$, $SD = 1.382$) and that employee involvement in decision-making increases commitment ($M = 2.98$, $SD = 1.299$). The relatively high standard deviations across these items indicate that perceptions of commitment-enhancing practices differed considerably among respondents.

The findings imply that although public universities recognize the importance of employee commitment, the mechanisms used to foster commitment, such as recruitment, rewards, professional development, and participatory decision-making, are only moderately implemented. This may limit the ability of universities to maximize the benefits associated with a committed workforce. The findings are consistent with Wakahiu and Yatich (2023), who established that recognizing and rewarding employees for their competencies enhances commitment and improves service delivery. Similarly, Camilleri et al. (2023) found that fair rewards and supportive working environments strengthen employee commitment and organizational performance. The findings also support Stackhouse et al. (2022), who reported that committed employees contribute additional value to organizations through enhanced productivity and proactive support. Furthermore, Lombardi et al. (2019) argued that organizations should recruit employees whose attitudes and values align with organizational goals in order to sustain commitment. The findings are also in agreement with Dordevic et al. (2020), who established that involving employees in decision-making strengthens their commitment to the organization. Finally, Ogala (2020) observed that systematic human capital development initiatives contribute significantly to employee commitment and improved organizational performance. Therefore, strengthening commitment-enhancing practices could improve employee engagement and performance in public universities in Kinshasa.

The moderate rating suggests that respondents perceived employee skills to be present but not fully developed across the public universities. This is relevant to Objective One because employee skills constitute one of the individual factors examined in relation to university performance. The finding suggests that strengthening employees' professional and academic competencies may provide an opportunity for improving the delivery of university functions. The finding is consistent with Mukarromah et al. (2019) who established that management skills affect school effectiveness.

The average mean of individual factors is 2.72, indicating that respondents generally agreed to the measurement items of individual factors.

### 4.5.2 Institutional Factors

The institutional factors variable was measured using items that were categorized into organizational structure, organizational resources and organizational culture. The results on the extent to which the respondents agreed/disagreed with the statements are presented in Table 4.4.

**Table 4.4 Descriptive Statistics on Institutional Factors**

| | **Mean** | **Std. Deviation (%)** | **N** |
|---|---|---|---|
| The organization structure promotes effective communication in the university | 3.21 | 1.448 | 200 |
| The organization structure ensures there is flow of information in different departments | 3.18 | 1.357 | 200 |
| The organization structures ensure all work processes are efficiently functioning | 3.08 | 1.449 | 200 |
| the organization structures ensure that there is no overlapping of functions | 3.10 | 1.439 | 200 |
| The organization structure boosts performance | 3.10 | 1.409 | 200 |
| The university budgets for the available financial resources | 3.09 | 1.462 | 200 |
| The university has recruited adequate human resources to manage all operations | 2.71 | 1.388 | 200 |
| The university has adequate physical resources to boost learning outcomes | 2.79 | 1.421 | 200 |
| The university has acquired technological resources to enhance efficiency of operations | 2.77 | 1.377 | 200 |
| The organizational resources influence performance | 3.00 | 1.448 | 200 |
| The university has shared assumptions known by all stakeholders | 2.76 | 1.495 | 200 |
| The university has a motto that is known by all stakeholders | 2.90 | 1.507 | 200 |
| The university has core values that are known by all stakeholders | 2.98 | 1.482 | 200 |
| The university has shared beliefs that are known by all stakeholders | 2.84 | 1.447 | 200 |
| The organizational culture has influenced the work behavior of employees | 3.08 | 1.414 | 200 |
| **Total** | **2.97** | **1.436** | **200** |

Table 4.4 presents the respondents' perceptions regarding institutional factors in public universities in Kinshasa. An analysis of the institutional factors highlights a critical point of systemic divergence. While the composite mean of 2.97 suggests a moderate or near-neutral baseline, the high standard deviation (SD = 1.436) indicates that this average is heavily polarized. In practical terms, this suggests an unequal distribution of institutional capacity. For instance, certain campuses, departments, or faculties may be well-resourced and structurally sound, while others face moderate institutional deficits. This stark internal variance implies that institutional factors do not affect the university performance uniformly, pointing to pockets of institutional strength alongside moderate systemic bottlenecks.

Further, the findings suggest that organizational structure plays a moderate role in enhancing internal coordination, workflow, and performance. This is evidenced by the moderate mean scores recorded for the statements that structure promotes effective communication (M = 3.21, SD = 1.448), facilitates the flow of information across different departments (M = 3.18, SD = 1.357), and ensures the efficient functioning of all work processes (M = 3.08, SD = 1.449). Although these mean scores indicate moderate agreement, the relatively high standard deviations imply considerable variation in respondents' views, suggesting that operational clarity and communication efficiency are not experienced uniformly across all departments or universities. The findings further reveal structural weaknesses in optimizing institutional roles and maximizing productivity. This is demonstrated by the moderate and tightly aligned mean scores for the statements that the structure ensures functions do not overlap (M = 3.10, SD = 1.439) and directly boosts organizational performance (M = 3.10, SD = 1.409). Despite these moderate averages, the high standard deviations indicate substantial disagreement among respondents. This divergence implies that role duplication and fragmentation may be significant in specific sectors of the universities, which consequently hinders overall performance. These findings imply that while the organizational structure provides a basic framework for communication and work processes, it has not been sufficiently optimized to eliminate departmental silos or role ambiguity. Consequently, the potential for public universities in Kinshasa to achieve high operational efficiency and performance remains

constrained due to inconsistent information flow, overlapping functions, and structural bottlenecks.

The findings are corroborated by those of Ellerbrock et al. (2018) showed that organizational structures of people, place, and time boost academic performance. Another study by Abdulrahaman (2019) indicated that the nature of hierarchical layer and organizational boundary significantly influence academic performance. The results also conform with those of Nyathi and Bhebhe (2019) which showed that there are benefits of high flexible organizational structures which foster conditions that are more conducive to teaching and learning. Therefore, although organization structure was found to improve performance by enhancing effective communication, functionality of work processes, and minimizing the overlapping of functions.

Under organizational resources, the analysis suggests that critical financial, human, physical, and technological resources have been moderately institutionalized or deployed. This neutrality is evidenced by the mean scores recorded for the statements that a sufficient number of employees have been recruited to effectively manage operations (M = 2.71, SD = 1.388), that adequate physical resources are available to boost learning outcomes (M = 2.79, SD = 1.421), and that the acquisition of technological resources has enhanced institutional efficiency (M = 2.77, SD = 1.377). Although these moderate mean scores reflect a neutral satisfaction, the relatively high standard deviations reveal substantial variation in the respondents' views. This divergence implies that resource deficits are not felt equally, suggesting an inequitable or fragmented distribution of organizational assets across the universities. The findings further reveal that while the strategic importance of resources is recognized, execution gaps persist at the administrative level. This is demonstrated by the moderate mean scores for the statements that available financial resources are adequately budgeted for (M = 3.09, SD = 1.462) and that organizational resources highly influence performance (M = 3.00, SD = 1.448). However, the high standard deviations associated with these scores point to considerable variance in opinions, indicating systemic inconsistencies and localized gaps in the budgeting process that leave specific departments vulnerable. Consequently, these findings imply that while organizational resources are fundamentally understood to drive institutional operations and

learning outcomes, public universities remain moderately underfunded and under-equipped. Without sufficient manpower, robust physical assets, and up-to-date technological infrastructure, these institutions cannot fully leverage their resource capacity to optimize academic and administrative performance.

This analysis is supported by those of Colvard et al. (2018) which found that organizational resources address affordability, completion, attainment gap concerns, and learning which contributes to higher performance. Zakhro (2020) also established that media resources in education process can lead to creation of new innovative ways of teaching and learning practices which boost universities performance. Omondi and Koskei (2024) also found that well managed class resources enhance academic performance while Ongeti and Machuki (2018) established that strengthening organizational resources integration boosts performance. According to Otiende et al. (2024) effective human, financial and physical resources lead to improved universities performance. The results are also in line with those of Ofem et al. (2021) which indicated that organizational resources in terms of investment in school facilities, allocation of resources and structure of financial resources improved academic performance. As such, the limitation of organizational resources within public university may constrain the efficiency of operations as well as the learning outcomes expected from the learners.

Regarding organizational culture, the analysis indicates that the adoption of an institutional culture tailored to improving performance remains at a moderate and inconsistent level. This challenge is evidenced by the low-to-moderate mean scores recorded for stakeholders' awareness of foundational cultural markers, with respondents moderately disagreeing that stakeholders possess a strong knowledge of the university's shared assumptions ($M = 2.76$, $SD = 1.495$), institutional motto ($M = 2.90$, $SD = 1.507$), core values ($M = 2.98$, $SD = 1.447$), and shared values ($M = 2.84$, $SD = 1.447$). Furthermore, the high standard deviations associated with these statements indicate significant polarization in opinions among the respondents. This widespread divergence suggests a noticeable lack of cultural alignment, implying that core values and institutional philosophies are not communicated or internalized uniformly by all stakeholders across the various institutions. In addition to these alignment gaps, the findings reveal a moderate acknowledgment of culture as a driver

of employee action. This is demonstrated by the moderate mean score for the statement that organizational culture directly influences the work behavior of employees (M = 3.08, SD = 1.414). However, the relatively high standard deviation serves as a clear illustration that perceptions regarding this behavioral influence differ considerably among the respondents. Consequently, these findings imply that while there is an underlying recognition of culture's potential to shape employee behavior, public universities have failed to deeply embed and standardize their identity systems. Without a cohesive, well-communicated framework of shared assumptions and values, the organizational culture cannot effectively serve as a unified strategic tool to optimize employee behavior and enhance institutional performance.

The analysis implies that although public universities recognize the impact organizational culture, the mechanisms used to entrench it among all the stakeholders are only moderately implemented. This may limit the ability of the universities to influence the work behaviour of the employees which is crucial in boosting organizational performance. The findings are in tandem with those of Ozsoy and Uslu (2019) noted that commitment, symbols, power distance and communication relationship dimensions are key in improving the performance of higher education institutions. The results are also supported by those of Cruz (2019) who found that organization culture influences work behaviour, attitudes of employees, increasing their loyalty and commitment thus increased performance. In addition, Indiya et al. (2018) also noted that having positive believes can enhance performance through improving and maintaining quality management systems basing on the existing culture.

Overall, the moderate descriptive rating indicates that respondents perceived the institutional factors to be present and operational within the public universities, but not at a high level. This finding is relevant to Objective Two because organizational structure, organizational resources and organizational culture constitute the institutional factors examined in relation to university performance. The finding suggests that strengthening organizational structures, improving resource management and reinforcing institutional culture may provide opportunities for improving university performance. The finding is consistent with the empirical literature reviewed in Chapter Two, which indicates that institutional factors are associated with the performance of universities.

The average mean of institutional factors is 2.97, indicating that respondents generally agreed to the measurement items of institutional factors.

### 4.5.3 External Factors

The external factors variable was measured using items that were categorized into political factors, economic factors and technological factors. The results on the extent to which the respondents agreed/disagreed with the statements are presented in Table 4. 5.

**Table 4.5 Descriptive Scores on External Factors**

| | Mean | Std. Deviation (%) | N |
|---|---|---|---|
| Political instability has affected the performance of the university | 3.66 | 1.383 | 200 |
| Political interference has influenced the appointment of staff members | 4.23 | 1.097 | 200 |
| Political interference has influenced the placement of students in the university | 4.08 | 1.125 | 200 |
| Political interference has influenced the expansion of the university | 3.13 | 1.624 | 200 |
| Political interference has influenced allocation of resources for the university | 3.27 | 1.555 | 200 |
| The economic status of the country has affected the allocation of resources for the university | 4.12 | 1.105 | 200 |
| The interest rate has affected the running of the university | 4.15 | 1.045 | 200 |
| The inflation rate has affected the running of the university | 4.22 | 0.871 | 200 |
| The income level of the parents and guardians has affected the admission of students in the university | 4.24 | 0.931 | 200 |
| The monitory policy of the country has affected the running of the university | 4.26 | 0.992 | 200 |
| Technology has enabled the university to enhance lesson presentation | 2.90 | 1.490 | 200 |
| Technology has enabled the university to improve its work processes | 2.88 | 1.463 | 200 |
| Technology has enabled the university to collaborate with other universities | 2.87 | 1.498 | 200 |
| Technology has enabled the university to improve the quality of research output | 2.84 | 1.488 | 200 |
| Technology has enabled the university to develop competences for its employees | 2.79 | 1.437 | 200 |

| | | | |
|---|---|---|---|
| **Total** | **3.58** | **1.274** | **200** |

Table 4.5 presents the respondents' perceptions regarding the impact of external factors on performance of public universities in Kinshasa. An evaluation of external factors reveals a pronounced recognition of macro-environmental influences, indicated by a composite mean of 3.58. This suggests that public universities do not operate in a vacuum; rather, their performance is heavily shaped by external political, economic, and technological dynamics. Nevertheless, the substantial standard deviation (SD = 1.274) signals that these external pressures are not felt uniformly. Institutional differences - such as geographical location, financial resilience, or technological infrastructure - likely dictate how moderately a specific university is impacted by shifting external landscapes.

The analysis also suggests that under political factors, political dynamics exert a highly influential, and potentially disruptive, role in institutional operations. This systemic influence is evidenced by the high mean scores recorded for the statements that political interference dictates the appointment of staff members (M = 4.23, SD = 1.097) and heavily influences the placement of students within the universities (M = 4.08, SD = 1.125). Despite the strong agreement on these points, the relatively high standard deviations indicate that the intensity of this political encroachment is not experienced uniformly, suggesting that certain institutions or faculties may face higher degrees of administrative penetration than others. The findings further reveal a more moderate, yet highly volatile, political influence over long-term strategic and structural outcomes. This is demonstrated by the moderate-to-high mean scores regarding the impact of political instability and interference on overall institutional performance (M = 3.66, SD = 1.383), the physical or academic expansion of the university (M = 3.13, SD = 1.624), and the strategic allocation of resources (M = 3.27, SD = 1.555). While these averages denote moderate agreement, the exceptionally high standard deviations highlight significant variation in respondents' viewpoints. This divergence implies that the ramifications of political instability and skewed resource allocation fluctuate dramatically across the academic landscape. Consequently, these findings imply that while political factors heavily compromise foundational personnel and enrollment decisions, their broader impact creates evident

operational instability. As a result, the capacity of public universities to realize their full academic and development potential is significantly restricted by the unpredictable nature of external political interference.

The outcomes are consistent with other research including Yang et al. (2018) which showed that political efficacy enhances the performance of public universities. In addition, Papanikolaou et al. (2020) findings showed that there is a strong link between political power and ideology, and determination of quality higher education. The study also found that political factors influenced the implementation of national strategies for higher education which strongly affects HEI's in all aspects. The results are also in tandem with those of Ogunode and Musa (2022) who found that the recruitment, appointment of school administrators, location, expansion, council members and admission of students were all politically influenced in public universities. This led to corruption, poor leadership, poor ranking and uneven development. Another study by Shamaki et al. (2020) also established that politics create inequalities in the education sector. The discoveries are further corroborated by those of Onoriode et al. (2020) which showed that efficiency of an organization is dependent on the political environment. Therefore, the high levels of political interference suggest that public universities in Kinshasa may not independently implement their strategies.

Regarding economic factors, the analysis suggests that macroeconomic dynamics exert a highly noticeable and pervasive influence on institutional viability and operations. This acute sensitivity is evidenced by the high mean scores recorded for the statements that the economic status of the country directly compromises the allocation of resources ($M = 4.12$, $SD = 1.105$), and that both fluctuating interest rates ($M = 4.15$, $SD = 1.045$) and rising inflation rates ($M = 4.22$, $SD = 0.871$) heavily disrupt the daily running of the universities. While the low standard deviation for inflation indicates a tight consensus on its damaging effects, the larger standard deviations for resource allocation and interest rates suggest that the severity of these fiscal pressures varies across different institutions, resulting in uneven operational strain. Beyond immediate operational hurdles, external economic conditions significantly dictate institutional access and broader financial administration. This is demonstrated by the exceptionally high mean scores regarding the statements that the

income levels of parents and guardians heavily dictate student admission trends (M = 4.24, SD = 0.931) and that national monetary policies deeply affect overall university management (M = 4.26, SD = 0.992). Although there is overarching agreement on these constraints, the standard deviations across these items indicate that the localized impacts of parental poverty and shifting monetary frameworks are felt with varying degrees of severity among the institutions. Consequently, these findings imply that public universities are highly vulnerable to macroeconomic instability, which simultaneously restricts student enrollment due to affordability barriers and diminishes institutional purchasing power. As a result, the capacity of these universities to maintain steady academic calendars and stable operations remains largely contingent upon an unpredictable and volatile national economic climate.

The present results mirrors with those of Dvorsky et al (2020) which showed that macroeconomic environment, monetary policy and interest rates affect the quality of business environment. The study by Hussain et al. (2023) also established that making strategic investments to increase resources helps an organization to meet its goals. The findings also align with those of Oga and Onouha (2020) which showed that inflation rate, interest rate affected organizational performance. The study also revealed that monitoring the likely changes in the economy can enable an organization make right decisions for better performance. In addition, Ndemwa and Ngesu (2021) results showed that the economic status of parents has a significant influence on academic performance. Another study by Mutisya and Mutilu (2024) corroborated this as it showed that when the level of parents' income if inadequate it can affect academic performance. Therefore, the high ratings on economic-related factors suggest that public universities in Kinshasa may not fully implement their strategies for enhancing performance.

On the role of technological factors in public universities in Kinshasa, the results indicate that technological integration remains at a moderate and largely inadequate level across these institutions. This deficit is evidenced by the low-to-moderate mean scores, with respondents moderately disagreeing with the statements that technology has enabled the enhancement of lesson presentations (M = 2.90, SD = 1.490), the improvement of operational work processes (M = 2.88, SD = 1.463), and effective academic collaboration

with other universities (M = 2.87, SD = 1.498). Furthermore, the high standard deviations associated with these items imply significant polarization in opinions among the respondents. This widespread divergence suggests significant inconsistencies in technological infrastructure, meaning that while minor digital tools may exist in isolated pockets, automated work processes and collaborative networks are not standardized across the institutions. The results further reveal critical weaknesses in leveraging technology for core academic advancements and human capital growth. This is demonstrated by the low mean scores regarding the statements that technology has enabled universities to improve the quality of research output (M = 2.84, SD = 1.488) and supported the continuous development of staff competencies (M = 2.79, SD = 1.437). The high standard deviations for both items underscore substantial disagreement among the respondents, implying localized discrepancies in how relevant technology is acquired, distributed, and utilized. Consequently, these findings imply that despite the global necessity for digital transformation, public universities in Kinshasa have not sufficiently institutionalized modern technological practices. Without uniform access to digital platforms, adequate training, and robust IT infrastructure, these universities remain restricted in their ability to elevate research quality, modernize instruction, and optimize institutional efficiency.

These findings imply that although public universities recognize the importance of technology, the mechanisms used to acquire the right technologies for lesson presentations, work processes, collaborations, research and staff development are only moderately implemented. The results concur with those of Amaniampong and Hartman (2023) which noted that technology enhances content management, lesson presentation, curriculum design, competences development and assessment. Resuli (2022) also established that innovation in technology encourages development of new teaching methods which improved performance. Another study by Ferres-Davalos (2023) revealed that technology leads to improvement in tasks and processes making overall work more efficient, more accurate and with greater speed. The outcomes are also supported by those of Al-Rahmi et al. (2020) which showed that technological factors enhance exchange of knowledge and information in institutions which boosts performance. Further, Mullakhmetov (2018) established that new technologies enhance performance as they improve processes and communication in the organization. The results are also aligned to those of Ismail and

Mahmood (2018) which showed that technological factors enhance performance as they enable blended learning. Consequently, the potential benefits of using advanced technology may not be fully realized due to limited acquisition and use.

Overall, the descriptive findings indicate that external factors had a notable influence on the performance of public universities in Kinshasa, as reflected by the overall mean of 3.58. This finding is relevant to Objective Three because political, economic and technological factors were examined as external conditions affecting university performance. The results show that political interference and economic conditions were perceived to have considerable effects on university operations, while the contribution of technology to lesson presentation, work processes, collaboration, research output and employee competence was reported at a comparatively lower level. The findings therefore suggest that the performance of public universities is influenced by the external environment, although the extent and nature of these influences vary across the different external factors

The average mean of external factors is 3.58, indicating that respondents generally agreed to the measurement items of external factors.

### 4.5.4 Ethical Factors

The ethical factors variable was measured using items that were categorized into ethical leadership, academic integrity and research ethics. The results on the extent to which the respondents agreed/disagreed with the statements are presented in Table 4.6.

**Table 4.6 Descriptive Scores on Ethical Factors**

| | Mean | Std. Deviation (%) | N |
|---|---|---|---|
| Leaders have been able to ensure there is fairness in the university | 2.84 | 1.398 | 200 |
| Leaders have been able to provide ethical guidance to the employees | 2.85 | 1.146 | 200 |
| Leaders have been able to ensure there is transparency in operations | 2.75 | 1.396 | 200 |
| Leaders have ensured that employees comply with the ethics code | 2.83 | 1.393 | 200 |
| Leaders have ensured that there is no discrimination | 3.11 | 1.377 | 200 |

| | | | |
|---|---|---|---|
| Lecturers have been able to instill ethical values to the students | 2.81 | 1.384 | 200 |
| Loopholes leading to academic dishonesty have been sealed | 2.66 | 1.343 | 200 |
| The university has attained high levels of ethics in service for community | 2.62 | 1.392 | 200 |
| The university has attained high levels of ethics in teaching and learning | 2.71 | 1.374 | 200 |
| The university has attained high levels of ethics in their generic work | 2.75 | 1.452 | 200 |
| The university has established a research ethics committee | 2.97 | 1.447 | 200 |
| Staff and students are encouraged to avoid plagiarism and falsification | 3.02 | 1.485 | 200 |
| The university has ensured academic and scientific work done is of good quality | 2.96 | 1.530 | 200 |
| The university has ensured that each researcher is aware of research ethics | 2.93 | 1.492 | 200 |
| The university has in place a policy to guide actions to be taken on those who do not adhere to research ethics | 2.73 | 1.479 | 200 |
| **Total** | **2.84** | **1.406** | **200** |

Table 4.6 presents the respondents' insights on ethical factors in public universities in Kinshasa. Descriptive analysis for the ethical factors, comprising ethical leadership, academic integrity, and research ethics, yielded a composite mean score of 2.84 (SD = 1.406). Based on the interpretation scale adopted in this study, this represents a moderate level of ethical factors in public universities in Kinshasa. The relatively high standard deviation indicates considerable variation in respondents' perceptions. Although the overall level was moderate, several ethical indicators recorded comparatively lower mean scores, suggesting that ethical leadership, academic integrity, and research ethics require further strengthening.

Under ethical leadership, the discoveries suggest that ethical governance and leadership play a moderate and highly inconsistent role in driving institutional efficacy and service delivery. This operational vulnerability is evidenced by the neutral mean scores recorded for foundational ethical metrics, including the perception of overall fairness within the university (M = 2.84, SD = 1.398), the active provision of ethical guidance by

administration (M = 2.85, SD = 1.146), operational transparency (M = 2.75, SD = 1.396), and strict compliance with the institutional code of ethics (M = 2.83, SD = 1.393). Although these scores point to a baseline of moderate alignment, the relatively high standard deviations reveal significant variation in respondents' insights. This volatility indicates that ethical leadership is not practiced uniformly across administrative levels, exposing systemic weaknesses in the institutionalization of ethical norms. Furthermore, the data reveals moderate success coupled with lingering disparity regarding equity and inclusivity. This is demonstrated by the moderate mean score for the statement that the university structure ensures an environment free from discrimination (M = 3.11, SD = 1.377). However, the associated high standard deviation indicates substantial disagreement among the respondents, implying localized inconsistencies and fragmented enforcement of non-discriminatory policies across different departments. Consequently, these findings imply that while ethical frameworks exist on paper, public universities have not sufficiently integrated accountability, transparency, and fairness into their core operational culture. Without a uniform, institutionalized commitment to ethical leadership, these universities risk undermining employee morale, which ultimately restricts the consistency and quality of institutional performance and service delivery.

The verdicts are in tandem with those of Mseti (2023) which showed that lack of ethical guidance causes unsatisfactory performance. The study further revealed that ensuring employees comply with ethics codes enhances performance. Another study by Amin and Wali (2022) also revealed that increased adoption of ethical behaviour practices leads to higher performance. The outcomes are also in tandem with those of Vikaraman et al. (2020) which indicated that principals lacked an understanding of ethical leadership style which affects performance. Similarly, Vikaraman et al. (2021) showed that teachers trust on their principals boosts academic performance. Salarzai and Abdullah (2023) showed that there was a positive correlation between ethical leadership and performance of public universities. The study by Salarzai and Abdullah (2023) also found that deans of faculties are moderate ethical leaders and this affects performance of students and teachers through cognitive engagement, social engagement and emotional engagement. The results are also supported by Mugizi et al. (2019) which showed that provision of ethical guidance, power sharing, integrity, and fairness by leaders will enable employees to perform better.

Therefore, moderate ratings on ethical leadership suggest that public universities in Kinshasa may not be fully adopting ethical leadership as a strategic tool for enhancing performance.

Regarding academic integrity, the analysis indicates that frameworks targeting academic integrity have not been adequately implemented or enforced. This institutional deficit is evidenced by the neutral mean scores recorded for the statements that lecturers have effectively instilled ethical values in students (M = 2.81, SD = 1.384), that existing loopholes for academic dishonesty have been successfully sealed (M = 2.66, SD = 1.343), and that high levels of ethics have been attained within community service initiatives (M = 2.62, SD = 1.392). The relatively high standard deviations associated with these dimensions suggest substantial variation in the respondents' viewpoints, implying that academic integrity initiatives are heavily fragmented and lack consistent execution across the university landscape. The findings further demonstrate a moderate yet highly unstable baseline regarding core academic and professional behavior. This is reflected in the moderate scores indicating that universities have attained high ethical standards specifically in teaching and learning (M = 2.71, SD = 1.374) and in their generic day-to-day operations (M = 2.75, SD = 1.452). However, the consistently high standard deviations underscore a evident lack of consensus among respondents, indicating that ethical practices in pedagogy and daily duties fluctuate wildly from one department or faculty to another. Consequently, these verdicts imply that academic integrity has not been comprehensively embraced or systemized within public universities in Kinshasa. Without uniform accountability mechanisms and a deeply embedded ethical culture, these institutions remain vulnerable to administrative and academic vulnerabilities, preventing the full realization of institutional credibility.

The discoveries mirror those of Miron et al. (2021) who established that academic integrity tutorials are inconsistent across higher education. In addition, the study by Mutongoza and Olawale (2022) showed that higher education institutions have created creative strategies to secure and safeguard academic integrity in teaching and assessment especially for online teaching. The results are also in agreement with those of Al-Salim and Aladwan (2021) which noted that when academic administrators focus on training their faculty to stress and

instil strong ethical values such as academic integrity, academic performance improves. Similarly, Alias, et al. (2023) noted that universities had attained high levels of academic integrity in their generic task, teaching and learning, research and publications, and service for community. Escober (2023) indicated that fear of failure is the most common personal-intrinsic factor why students engage in behavioural misconduct. The study by Sarwar et al. (2023) further showed that loopholes on policy lead to academic dishonesty. Mulenga and Shilongo (2024) also established that academic pressure, time constraints, lack of knowledge about citation rules as contributors of plagiarism. Consequently, the potential benefits of fully embracing academic integrity in public universities in Kinshasa may not fully be realized due to inconsistencies in its adoption.

In addition, the respondents' perceptions regarding research ethics in public universities in Kinshasa indicate that frameworks governing research ethics have not been adequately implemented or institutionalized across these campuses. This systemic vulnerability is evidenced by the moderate mean scores, with respondents moderately disagreeing regarding the functional establishment of a research ethics committee (M = 2.97, SD = 1.447), the widespread production of good quality academic and scientific work (M = 2.96, SD = 1.530), institutional awareness of research ethics (M = 2.93, SD = 1.492), and the operational presence of a formalized research policy (M = 2.73, SD = 1.479). The high standard deviations across these variables imply considerable variation in the respondents' perceptions. This divergence suggests that structural oversight and ethical compliance metrics fluctuate significantly, leaving research integrity unevenly applied across the academic landscape. In contrast to these institutional gaps, the findings reveal a moderate but inconsistent emphasis on academic dishonesty prevention at the individual level. This is demonstrated by the moderate mean score for the statement that staff and students are actively encouraged to avoid plagiarism and data falsification (M = 3.02, SD = 1.485). However, the high standard deviation for this item serves as a clear illustration that the enforcement and internal perception of these anti-plagiarism initiatives differ considerably among stakeholders. Consequently, these discoveries imply that research ethics are not prioritized or monitored with the necessary institutional rigor within public universities in Kinshasa. This critical gap can be largely attributed to the absence of a robust, uniform

policy framework capable of penalizing ethical breaches and systematically guiding academic and scientific production.

The results align with those of Agunloye (2019) which indicated that ethics should be adhered to during different typologies of research studies such as data collection, planning, conducting, analysing and reporting research work. The study by Dove and Douglas (2023) also indicated that research ethics committees have diverse operation and vary in terms of what members understand to be their duty. The analysis also aligns with those of Ederio et al. (2023) which noted that the establishment of research ethics committees and technical review boards in education institutions ensures academic and scientific research done in the school setting is of quality. In addition, Vatca et al. (2021) established that each researcher should be made aware of research ethics. The findings also mirror those of Bassey and Owan (2019) which showed that misconduct such as data fabrication, falsification and plagiarism when totally avoided by researchers and scholars, this boost universities performance. Therefore, strengthening research ethics practices could improve the quality of teaching and research output in public universities in Kinshasa.

Overall, the descriptive findings indicate that ethical factors were present to a moderate extent within the public universities. This finding is relevant to Objective Four because ethical leadership, academic integrity and research ethics constitute the ethical factors examined in relation to university performance. The findings suggest that although ethical practices are recognized within the universities, there remains scope for strengthening fairness and ethical guidance by leaders, promoting academic integrity, and reinforcing research ethics. Strengthening these ethical practices may contribute to improved university performance by supporting responsible leadership, academic standards, research quality and stakeholder confidence.

The average mean of ethical factors is 2.84, indicating that respondents generally agreed to the measurement items of ethical factors.

### 4.5.5 Institution Size

The moderating variable (institution size) was measured using items that were categorized into physical facilities. The results on the extent to which the respondents agreed/disagreed with the statements are presented in Table 4.7.

**Table 4.7 Descriptive Scores on Institution Size**

| | Mean | Std. Deviation (%) | N |
|---|---|---|---|
| I ensure there are adequate learning facilities for learners | 2.66 | 1.309 | 200 |
| I ensure there are adequate recreational facilities for learners | 2.49 | 1.182 | 200 |
| I ensure there are adequate offices for teachers and other staff | 2.65 | 1.275 | 200 |
| I ensure there are adequate washrooms for learners and staff | 3.12 | 1.327 | 200 |
| I ensure that all the facilities are regularly maintained | 2.91 | 1.318 | 200 |
| **Total** | **2.77** | **1.069** | **200** |

Table 4.7 presents the respondents' perceptions regarding the moderating role of institution size in public universities in Kinshasa. Table 4.7 presents the respondents' perceptions regarding the moderating role of institution size in public universities in Kinshasa. Descriptive analysis for the moderating variable, institution size (measured through physical facilities), yielded a composite mean score of 2.77 (SD = 1.069, subject to verification from the SPSS output). Based on the interpretation scale adopted in this study, this represents a moderate level of institution size. The relatively low standard deviation indicates that respondents held fairly consistent views regarding the availability and maintenance of physical facilities. Although the overall level was moderate, recreational facilities recorded comparatively lower ratings than the other indicators, suggesting that further investment in university infrastructure is required.

Under physical facilities, the results suggest that physical infrastructure plays a moderate and heavily constrained role in enhancing employee performance and service delivery.

This material deficit is evidenced by the moderate mean scores recorded for foundational infrastructure metrics, with respondents expressing neutral agreement regarding the adequacy of learning facilities (M = 2.66, SD = 1.309), recreational facilities for learners (M = 2.49, SD = 1.182), and dedicated office spaces for faculty members (M = 2.65, SD = 1.275), alongside similarly low scores for the regular maintenance of existing facilities (M = 2.91, SD = 1.318). The high standard deviations associated with these items indicate considerable variation in respondents' views. This volatility implies that the deficits in academic, recreational, and administrative spaces are not uniform, pointing to noticeable institutional disparities in infrastructure quality across the universities. Furthermore, the data highlights specific structural weaknesses regarding basic campus sanitation and welfare resources. This is demonstrated by the neutral mean score recorded for the statement that universities provide adequate washrooms (M = 3.12, SD = 1.327). However, the high standard deviation for this item underscores substantial polarization in the respondents' perceptions, exposing critical inconsistencies in the deployment and upkeep of basic sanitary facilities across different campus sectors. Consequently, these outcomes imply that public universities in Kinshasa face moderate structural constraints that undermine the day-to-day operations of both students and staff. Without systematic capital investment in facility expansion and standardized maintenance schedules, the physical environment will continue to cap institutional performance and compromise the quality of service delivery.

These results are supported by prior studies such as that of Tarigan et al. (2022) which found that providing employees is a proper place of working enabled them to be comfortable as they work and thus were able to complete their work without interruptions. In addition, the results by Nugroho and Wibowo (2019) also showed that physical facilities have a significant influence on the effectiveness of the learning process in the classroom. The study also noted that there were various challenges experienced by institutions on facilities. The outcomes are also corroborated by those of Mgimba and Mwila (2022) which revealed that academic performance was unsatisfactory due to inadequate physical facilities like libraries, laboratories, classes, dormitories and instructional materials. The study also established that physical facilities were essential to develop and provide quality education, which lead to growth and excellence. The study also noted that inadequate

physical facilities negatively influence academic performance. The judgements are also supported by those of Assoumpta and Andala (2020) which found that the inadequate physical facilities indicated a reduction of the academic performance of students. Consequently, the potential advantages of having adequate physical facilities in public universities in Kinshasa may have a negative influence on various factors and how they impact performance.

Overall, the descriptive findings indicate that institution size, measured through physical facilities, was perceived to be present to a moderate extent, as reflected by the average mean of 2.77. This finding is relevant to Objective Five because institution size was examined as a moderating variable in the relationship between the identified factors and the performance of public universities. The findings suggest that the availability and extent of physical facilities provide an important contextual dimension through which differences in institution size may be reflected. However, the descriptive finding alone does not establish a moderating effect; the actual moderating role of institution size is determined through the subsequent inferential analysis.

The average mean of institution size is 2.77, indicating that respondents generally agreed to the measurement items of institution size.

### 4.5.6 Performance of Public Universities

The performance of public universities variable was measured using items that were categorized into sustainability, efficiency, innovation and customer satisfaction. The results on the extent to which the respondents agreed/disagreed with the statements are presented in Table 4.8.

**Table 4.8 Descriptive Scores on Performance of Public Universities**

| | Mean | Std. Deviation (%) | N |
|---|---|---|---|
| Teaching and learning has been enhanced due to the various factors | 2.46 | 1.348 | 200 |
| Knowledge has been co-created among employees and shared to students | 3.38 | 1.406 | 200 |
| The university has engaged in more community activities | 2.86 | 1.480 | 200 |

| | | | |
|---|---|---|---|
| The university has been able to achieve its goals within the set time | 2.53 | 1.281 | 200 |
| The university has been able to improve its operations and processes | 2.53 | 1.333 | 200 |
| The university has been able to enhance its workforce efficiency | 2.34 | 1.179 | 200 |
| The university has been able to introduce new teaching methods | 2.82 | 1.461 | 200 |
| The university has been able to introduce new competitive courses | 2.75 | 1.399 | 200 |
| The university has introduced new work processes | 2.72 | 1.401 | 200 |
| The students are satisfied with services offered in the university | 2.95 | 0.892 | 200 |
| The parents are satisfied with the quality of education offered in the university | 2.87 | 0.963 | 200 |
| The industry/employers are satisfied with the quality of education offered in the university | 2.65 | 1.203 | 200 |
| **Total** | **2.53** | **1.180** | **200** |

Table 4.8 presents the respondents' insights regarding performance of public universities in Kinshasa. The descriptive statistics for the dependent variable, performance of public universities, conceptualized through sustainability, efficiency, innovation, and customer satisfaction, yielded a composite mean score of 2.53 (SD = 1.180). Based on the interpretation scale adopted in this study, this indicates a moderate level of performance among the sampled public universities. The standard deviation of 1.180 indicates moderate variation in respondents' perceptions. Although the overall performance was moderate, several individual performance indicators recorded relatively lower mean scores, suggesting that improvements are still required in key areas of university performance.

Under sustainability, the discoveries suggest that long-term institutional sustainability remains at a moderate and structurally fragile level. This operational stagnation is evidenced by the low-to-moderate mean scores recorded across core performance metrics, specifically the statements that strategic internal factors have successfully enhanced teaching and learning outcomes (M = 2.46, SD = 1.348), fostered the collaborative co-creation of knowledge between staff and students (M = 3.38, SD = 1.406), and driven active

engagement in community service initiatives (M = 2.86, SD = 1.480). While knowledge co-creation marks a relative highlight, the exceptionally low score for foundational teaching and learning optimization signals moderate systemic deficiencies. Furthermore, the relatively high standard deviations associated with all three dimensions indicate considerable polarization in opinions among the respondents. This widespread divergence suggests significant inconsistencies in how institutional performance and sustainability parameters are realized across campuses. Consequently, these findings imply that public universities in Kinshasa have not achieved a balanced or resilient model of institutional efficacy. Without uniform standards to guarantee teaching quality, institutionalized research collaboration, and stable civic engagement, the sustainability of these institutions remains highly vulnerable, preventing them from consistently fulfilling their broader academic and developmental mandates. This confirms what Tandilashvili (2019) found that university performance is affected by a myriad of variables, some of which are academic and others non-academic, as well as program-related, environmental, reputational, and access-related. The results also agreed with those of Alani and Hawas (2021), who noted that there is a positive correlation between university performance and personal, teacher-related, institutional, and environmental variables. Tiron-Tudor et al. (2022) confirmed previous findings that human and institutional variables significantly affect the research and teaching performance of public institutions in Romania.

Regarding efficiency, the outcomes suggest that operational efficiency remains heavily constrained, trending at a moderate baseline rather than showing robust improvement. This systemic inertia is structurally demonstrated by the neutral mean scores recorded across all primary efficiency indicators, including the statements that the universities successfully accomplish their core objectives within allocated timelines (M = 2.53, SD = 1.281), that there has been a demonstrable improvement in administrative operations and procedures (M = 2.53, SD = 1.333), and that day-to-day work efficiency has been enhanced (M = 2.34, SD = 1.179).The exceptionally low score for overall work efficiency underscores a deeply entrenched bureaucratic friction within the institutions. Furthermore, while these depressed mean scores indicate a general consensus regarding operational deficits, the relatively high standard deviations reveal significant variation among the respondents' views. This divergence implies that operational bottlenecks are felt unevenly, suggesting that while

certain departments or administrative units may maintain a baseline level of efficacy, moderate operational lag persists elsewhere across the university systems. Consequently, these findings imply that public universities in Kinshasa have not successfully modernized or optimized their administrative workflows. Without targeted procedural reforms, stricter timeline accountability, and uniform operational standards, these institutions will continue to experience suppressed efficiency, hindering their broader capacity to deliver timely and effective educational services. These results are in agreement with those of Rurofum (2020), who argued that public universities in the DRC are the most egregiously ineffective aspect of the country's higher education system. Bitamba and Ann (2020) found that management-related issues affected educational performance, and our findings are in line with that.

On innovation, the results suggest that innovative capacity remains at a moderate and largely restricted level. This stagnation is evidenced by the neutral mean scores recorded for the statements that progressive, innovative teaching techniques have been introduced into the curriculum (M = 2.82, SD = 1.461), that new competitive courses have been developed to meet evolving market demands (M = 2.75, SD = 1.399), and that modern work procedures have been successfully implemented to streamline administration (M = 2.72, SD = 1.401). Furthermore, the relatively high standard deviations associated with these scores point to heavily divergent opinions among the respondents. This polarization suggests distinct inconsistencies across the academic landscape, implying that while isolated faculties may pilot progressive adjustments, systemic innovation is not standardized across the universities. This institutional inertia is deeply rooted in the broader macro-environmental realities of the Democratic Republic of the Congo (DRC). These discoveries are in agreement with those of Menga-Mokombi (2020). Chen et al. (2021) found similar results, arguing that colleges and universities should use technology to improve student performance via online course platforms and pedagogical approaches.

Regarding customer satisfaction, the outcomes suggest that satisfaction levels across key constituent groups remain at a moderate baseline. This performance is evidenced by the neutral mean scores recorded for the statements that primary stakeholders - specifically students (M = 2.95, SD = 0.892), parents or guardians (M = 2.87, SD = 0.996), and industry

employers (M = 2.65, SD = 1.203) - are satisfied with the quality and standard of education delivered by these institutions. Notably, the lowest score is observed among industry employers, signaling some mismatch between academic outputs and the practical demands of the contemporary labor market. While the relatively low standard deviations for student and parental satisfaction indicate a tighter, more generalized consensus regarding institutional shortcomings, the higher standard deviation among industry respondents highlights a broader divergence in perspectives. Concurrent with these results are those of Le et al. (2020), who outlined a number of critical factors that contribute to better university performance, including professors' pedagogical knowledge and skills, students' motivation, course design, accessibility to learning materials, and environments that promote learning. Therefore, strengthening various factors such as individual, institutional, external and ethical could improve sustainability, efficiency, innovation and customer satisfaction in public universities in Kinshasa.

Overall, the descriptive findings indicate that the performance of public universities in Kinshasa was at a moderate level, as reflected by the composite mean of 2.53. This finding is relevant to the main purpose of the study because university performance was assessed through sustainability, efficiency, innovation and customer satisfaction. The results suggest that although the universities demonstrated some positive performance outcomes, there remain areas requiring improvement, particularly in strengthening teaching and learning, operational efficiency, innovation and stakeholder satisfaction. The moderate level of performance therefore provides an important basis for examining the individual, institutional, external and ethical factors that may be associated with the performance of public universities in the subsequent inferential analysis.

The average mean of performance of public universities is 2.53, indicating that respondents generally agreed to the measurement items of performance of public universities.

Following the preliminary and descriptive analyses, diagnostic tests were conducted to assess the suitability of the data for the subsequent inferential analysis. The diagnostic tests examined the assumptions relevant to the statistical procedures used in the study. The results of these tests provided a basis for determining the appropriateness of proceeding with the inferential analysis, including multiple regression analysis and Structural Equation

Modelling (SEM). The presentation of the results therefore follows the analytical sequence established in Chapter Three, moving from preliminary analysis to descriptive analysis, diagnostic tests and subsequently inferential analysis in accordance with the study objectives and hypotheses.

## 4.6 Inferential Results

The effects of internal factors, external factors, institutional factors and ethical factors variables on the performance of public universities were the focus of this research. Public university performance was also evaluated along direct connection and independent aspects like efficiency, innovation, customer satisfaction, and sustainability. In addition, the research examined how institution size, as a composite variable of physical facility items, moderated the association. Structured equation modelling (SEM) was used to assess the study's hypotheses. This section also covers the SEM assumptions, including normality, multicollinearity, and heteroscedasticity.

### 4.6.1 Testing of Assumptions

Testing of assumptions is crucial as the structural equation modelling relies upon certain assumptions about the variable used in the analysis. Therefore, according to Keith (2015), any violation of the assumptions could lead to the possibility of type one or two errors or in trustworthy results. This section discussed the tests of various assumptions of structural equation modelling such as the normality test, multicollinearity test and heteroscedasticity test.

#### 4.6.1.1 Normality Test Results

Normality test was conducted and important summary statistics computed. The concept of normality is central to statistics and so the test examines whether the data is normal or non-normal. For data to be normal, they must have the form of a bell curve, or Gaussian distribution with values dropping off in a particular fashion as they increase or decrease from the mean. Associations will be examined using multiple regression analysis, based on a significance level of 0.05 (that is, $P<0.05$) as recommended by Cooper and Schindler (2011). A critical requirement in the classical linear regression is that the residuals must be normally distributed with zero mean and constant variance. In order to determine whether

or not all of the model residuals were normally distributed, below we have histograms Kolmogorov-Smirnov results.

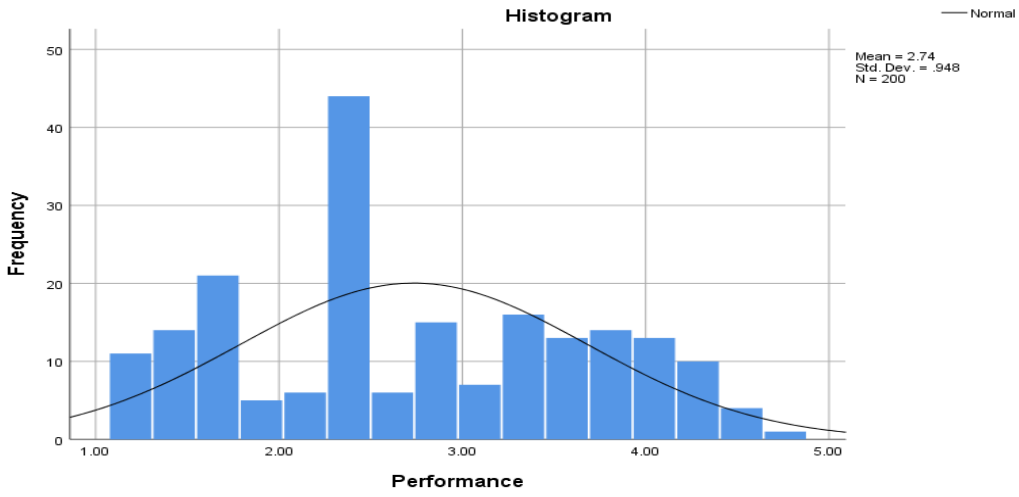



**Figure 4.1 Test of Normality for the Model**

The results in Figure 4.1 showed that the Kolmogorov-Smirnov test p=0.113 which is more than 0.05. In addition, the data formed a bell curve which was an indication that the model residuals were normally distributed.

### 4.6.1.2 Multicollinearity Test

Multicollinearity is a statistical phenomenon in which two or more predictor variables in a multiple regression model are highly correlated and it affects calculations regarding individual predictors. The study therefore examined if there was a collinearity problem within the data. The study used the Value Inflated Factor (VIF) and Tolerance Value (TV) to detect the collinearity problem. VIF in all predictors should be less than ten (10) and TVs should be greater than 0.1 to indicate that there is no collinearity problem among the variables (Williams, 2015). Table 4.9 showed multicollinearity test results.

**Table 4.9 Multicollinearity Test Results**

| | Collinearity Statistics | |
|---|---|---|
| **Variable** | **Tolerance Value** | **VIF** |
| Individual factors | 0.347 | 2.880 |
| Institutional factors | 0.215 | 3.734 |
| External factors | 0.501 | 1.995 |
| Ethical factors | 0.292 | 3.854 |
| Institution size | 0.248 | 3.039 |

The findings presented in Table 4.9 indicate that all the predictor variables met the recommended thresholds for multicollinearity diagnostics. Specifically, individual factors recorded a tolerance value of 0.347 and a VIF of 2.880, institutional factors had a tolerance value of 0.215 and a VIF of 3.734, while external factors recorded a tolerance value of 0.501 and a VIF of 1.995. Similarly, ethical factors had a tolerance value of 0.292 and a VIF of 3.854, whereas institution size recorded a tolerance value of 0.248 and a VIF of 3.039. These results provide evidence that the predictor variables were not highly correlated with one another. Although ethical factors (VIF = 3.854) and institutional factors (VIF = 3.734) recorded relatively higher VIF values compared to the other variables, their values remained substantially below the recommended threshold of 10. Likewise, all tolerance values exceeded the minimum acceptable value of 0.1, indicating that each predictor retained sufficient unique variance that was not explained by the other independent variables. The findings therefore suggest that multicollinearity was not a significant concern in the regression model. Consequently, the regression coefficients obtained from the analysis can be considered stable and reliable, allowing the individual effects of individual factors, institutional factors, external factors, ethical factors, and institution size on the performance of public universities in Kinshasa, DRC, to be estimated accurately. The absence of multicollinearity further implies that the predictor variables contributed distinct information to the model, thereby enhancing the validity and interpretability of the regression results (Williams, 2015).

#### 4.6.1.3 Heteroscedasticity Test

In order to examine heteroscedasticity, a Breusch-Pagan test was carried out. The Breusch-Pagan test assumes the presence of homoscedasticity under the null hypothesis ($H_0$), while

heteroscedasticity forms the basis of the alternative hypothesis (Ha). If the test generates a p-value that is below 0.05, we disown the null hypothesis. This leads us to infer the existence of heteroscedasticity within the regression framework. The results are presented in Table 4.10 below.

**Table 4.10 Heteroscedasticity Test Results**

| |
|---|
| Breusch-Pagan / Cook-Weisberg test for Homoscedasticity |
| Ho: Constant variance |
| Variables: Fitted values of Performance |
| chi2(1) =0.6175 |
| Prob>chi2 = 0.3867 |

The results presented in Table 4.10 indicate that the Breusch-Pagan test yielded a chi-square statistic of 0.6175 and a p-value of 0.3867. Since the obtained p-value was greater than the significance level of 0.05, the null hypothesis of constant variance was not rejected. This provides evidence that the variance of the residuals did not vary systematically across the fitted values of performance. The findings therefore suggest that heteroscedasticity was not a concern in the regression model. The absence of heteroscedasticity implies that the error terms were evenly distributed and that the regression estimates were unbiased and efficient (Yang, 2019). Consequently, the standard errors, significance tests, and confidence intervals generated by the regression model can be considered reliable. Based on these results, the assumption of homoscedasticity was satisfied, indicating that the regression model examining the influence of independent variable on the performance of public universities in Kinshasa, DRC, was appropriate for statistical inference and hypothesis testing.

Since the Breusch-Pagan test yielded a p-value of 0.3867, which is greater than 0.05, the null hypothesis of homoscedasticity was not rejected. This indicates that the variance of the residuals remained constant and therefore heteroscedasticity was not a problem in the regression model.

## 4.7 Confirmatory Factor Analysis

Confirmatory factor analysis is important in assessing the goodness of fit indices (GFI) to ascertain whether the model fits the data effectively. According to Ullman (1996), CFA evaluates model fit indices rather than reliability tests. As noted by Byrne (2010), the chi-square/degree of freedom (CMIN/df) should be less than 5, and the GFI should be greater than 0.90, AGFI more than 0.8 (Chau & Hu, 2001), and CFI more than 0.9 (Hair & Black, 2010). According to Loiacono et al. (2002), RMSEA should be less than or equal to 0.08. In addition, according to Wolfinbarger and Gilly (2003), standardized regression weights should be greater than 0.50 and squared multiple correlations should be greater than 0.40 when selecting items to evaluate the constructs. Therefore, the CFA was used to assess the adequacy of the measurement model and the extent to which the observed variables represent the underlying latent constructs. The inclusion of factor loading and squared multiple correlation thresholds is commendable, as these provide evidence of convergent validity.

### 4.7.1 Individual Factors

Individual factors were divided into employee skills, employee motivation and employee commitment and the model fit summary results were as shown in Table 4.11.

**Table 4.11 Model Fit Results on Individual Factors and Performance**

| Model | RMR | GFI | AGFI | PGFI |
|---|---|---|---|---|
| Default model | .000 | .954 | | |
| Saturated model | .000 | 1.000 | | |
| Independence model | .169 | .593 | .416 | .434 |

The RMSEA (Root Mean Square Error of Approximation) results presented in Table 4.12 indicate a good model fit for the relationship between individual factors and the performance of public universities in Kinshasa, DRC. The RMSEA value of 0.038, which is below the recommended threshold of 0.08, indicates that the model achieved a close approximation to the observed data, suggesting a good fit. The 90% confidence interval (LO 90 = 0.019, HI 90 = 0.058) further confirms the precision of the RMSEA estimate. In addition, the PCLOSE value of 0.500, being greater than 0.05, supports the hypothesis of

close fit. Taken together with the Goodness-of-Fit Index (GFI = 0.954) and the Root Mean Square Residual (RMR = 0.000), these findings provide strong evidence that the measurement model fits the observed data well and is appropriate for subsequent structural equation modelling analysis.

**Table 4.12 RMSEA Results for Individual Factors and Performance**

| Model | RMSEA | LO 90 | HI 90 | PCLOSE |
|---|---|---|---|---|
| Default model | .038 | .019 | .058 | .500 |

The RMSEA (Root Mean Square Error of Approximation) results presented in Table 4.12 indicate a good model fit for the default model in the context of individual factors and performance of public universities in Kinshasa, DRC. The RMSEA value of .038, which is less than 0.08, suggests that the model had a close approximation to the data, indicating a good fit. The low and high 90% confidence interval values (.019 and .058, respectively) further confirmed the precision of the RMSEA estimate, while the PCLOSE value of .500, supported the hypothesis of close fit.

### 4.7.2 Institutional Factors

Institutional factors were sub-divided into organizational structure, organizational resources and organizational culture and the model fit summary (GFI) results were as shown in Table 4.13 and 4.14.

**Table 4.13 GFI Results for Institutional Factors and Performance**

| Model | RMR | GFI | AGFI | PGFI |
|---|---|---|---|---|
| Default model | .001 | .9400 | | |
| Saturated model | .000 | 1.000 | | |
| Independence model | .110 | .722 | .582 | .460 |

The results of the SEM analysis demonstrated a strong model fit in assessing the influence of institutional factors on the performance of public universities in Kinshasa, DRC. The Goodness of Fit Index (GFI) value 0.940 in the default model and the Root Mean Square Residual (RMR) value of 0.000 suggest a good fit between the measurement model and

the observed data. This indicates that the covariance structure implied by the model is consistent with the observed data. The perfect GFI value indicates the importance of considering institutional factors during the strategic planning process in the public universities to improve performance. Table 4.14 showed RMSEA model results.

**Table 4.14 RMSEA Results for Institutional Factors and Performance**

| Model | RMSEA | LO 90 | HI 90 | PCLOSE |
|---|---|---|---|---|
| Default model | .049 | .074 | .013 | .075 |

The RMSEA results presented in Table 4.14 indicated a significant model fit for the default model in explaining the influence of institutional factors and performance of public universities in Kinshasa, DRC. The RMSEA value of .049 which is less than 0.08, suggested that the model has a close approximation to the data, indicating a good fit. The 90% confidence interval values (.074 and .013, respectively) further confirmed the precision of the RMSEA estimate, while the PCLOSE value of .075, supported the hypothesis of close fit.

### 4.7.3 External Factors

The model fit summary (GFI) results for external factors which were under the dimensions of political factors, economic factors and technological factors, and performance were as shown in Table 4.15 and 4.16.

**Table 4.15 GFI Results for External Factors and Performance**

| Model | RMR | GFI | AGFI | PGFI |
|---|---|---|---|---|
| Default model | .002 | .946 | | |
| Saturated model | .000 | 1.000 | | |
| Independence model | .146 | .608 | .592 | .464 |

The SEM analysis results depicted a perfect model fit in assessing how external factors influence the performance of public universities in Kinshasa, DRC. The Goodness of Fit Index (GFI) values of 0.946 in the default model and the Root Mean Square Residual (RMR) value of 0.002 suggest a good fit between the measurement model and the observed data. This indicates that the covariance structure implied by the model is consistent with

the observed data. The perfect GFI value indicates the importance of considering external factors during the strategic planning process in the public universities to improve performance. Table 4.16 showed RMSEA model results.

**Table 4.16 RMSEA Results for External Factors and Performance**

| Model | RMSEA | LO 90 | HI 90 | PCLOSE |
|---|---|---|---|---|
| Default model | .069 | .049 | .088 | .750 |

The RMSEA results presented in Table 4.16 demonstrated a satisfactory model fit in evaluating the influence of external factors on performance of public universities in Kinshasa, DRC. The RMSEA value of 0.069, which is less than 0.08, indicated that the model provided a close approximation to the observed data, suggesting a good fit. The 90% confidence interval values (LO 90: 0.049, HI 90: 0.088) supported this conclusion by showing that the RMSEA estimate fell within an acceptable range. Additionally, the PCLOSE value of 0.750, supported the hypothesis of close fit.

### 4.7.4 Ethical Factors

The model fit summary (GFI) results for ethical factors which were reviewed under the parameters of ethical leadership, academic integrity and research ethics, and performance were as shown in Table 4.17 and 4.18.

**Table 4.17 GFI Results for Ethical Factors and Performance**

| Model | RMR | GFI | AGFI | PGFI |
|---|---|---|---|---|
| Default model | .000 | .974 | | |
| Saturated model | .000 | 1.000 | | |
| Independence model | .199 | .717 | .698 | .544 |

The SEM analysis results for ethical factors influence on public universities performance in Kinshasa, DRC demonstrated a perfect model fit. The Goodness of Fit Index (GFI) value of 0.974 in the default model and the Root Mean Square Residual (RMR) value of 0.000 suggest a good fit between the measurement model and the observed data. This indicates that the covariance structure implied by the model is consistent with the observed data. The Root Mean Square Residual (RMR) of .000 further corroborated the model's precision,

indicating no differences between observed and predicted values. This perfect fit implied that the model effectively captured the relationship between ethical leadership and the performance of public universities in Kinshasa. Table 4.18 showed RMSEA model results.

**Table 4.18 RMSEA Results for Ethical Factors and Performance**

| Model | RMSEA | LO 90 | HI 90 | PCLOSE |
|---|---|---|---|---|
| Default model | .085 | .066 | .050 | .139 |

The RMSEA results for the ethical factors model indicated a good fit in assessing its influence on the performance of public universities in Kinshasa, DRC. The RMSEA value of 0.085 slightly exceeded the recommended threshold of 0.08, suggesting a marginal rather than excellent model fit. However, considering the other fit indices, the model was considered acceptable. The 90% confidence interval (LO 90: 0.066, HI 90: 0.050) further supported this conclusion, as it fell within an acceptable range. The PCLOSE value of 0.139 supported the hypothesis of close fit.

### 4.7.5 Institution Size

The model fit summary (GFI) for moderating role of institution size was presented in Table 4.19 and Table 4.20.

**Table 4.19 GFI Results for Moderating Influence of Institution Size**

| Model | RMR | GFI | AGFI | PGFI |
|---|---|---|---|---|
| Default model | .000 | 1.000 | | |
| Saturated model | .000 | 1.000 | | |
| Independence model | .211 | .237 | .144 | .158 |

The results in Table 4.19 for the moderating influence of institution size demonstrated a perfect model fit. The GFI values of 1.000 in the default model and the Root Mean Square Residual (RMR) value of 0.000 suggest a good fit between the measurement model and the observed data. This indicates that the covariance structure implied by the model is consistent with the observed data. This suggests that institution size moderates the relationship various factors and performance of public universities in Kinshasa, DRC. Table 4.20 showed RMSEA results for moderation.

**Table 4.20 RMSEA Results for Moderating Influence of Institution Size**

| Model | RMSEA | LO 90 | HI 90 | PCLOSE |
|---|---|---|---|---|
| Default Model | 0.086 | 0.049 | 0.023 | 0.180 |

Table 4.20 presented the RMSEA results for evaluating the moderating influence of institution size. The Default Model had an RMSEA of 0.086, with a 90% confidence interval ranging from 0.049 to 0.023 and a PCLOSE value of 0.180. This suggested that the model had a moderate fit.

### 4.7.6 Factors

The results of the model fit summary (GFI) for the overall model for the various factors (individual factors, institutional factors, external factors and ethical factors) were presented in Table 4.21 and 4.22.

**Table 4.21 GFI Results for the Overall Model**

| Model | RMR | GFI | AGFI | PGFI |
|---|---|---|---|---|
| Default model | .000 | 1.000 | | |
| Saturated model | .000 | 1.000 | | |
| Independence model | .189 | .105 | .358 | .237 |

The SEM analysis results for the overall model demonstrated a perfect model fit. The GFI value 1.000 in the default model and the Root Mean Square Residual (RMR) value of 0.000 suggest a good fit between the measurement model and the observed data. This indicates that the covariance structure implied by the model is consistent with the observed data. This suggested that the model reproduces the observed covariance matrix very closely. Table 4.22 showed RMSEA model results.

**Table 4.22 RMSEA Results for Factors and Performance**

| Model | RMSEA | LO 90 | HI 90 | PCLOSE |
|---|---|---|---|---|
| Default Model | .078 | .057 | .034 | .145 |

The RMSEA results for the various factors model indicated a good fit in assessing their influence on the performance of public universities in Kinshasa, DRC. With an RMSEA

value of 0.078<0.08, the model demonstrated a close fit to the observed data. The 90% confidence interval (LO 90: 0.057, HI 90: 0.034) further supported this conclusion, as it fell within an acceptable range. The PCLOSE value of 0.145 supported the hypothesis of close fit.

## 4.8 Hypotheses Testing

This study examined the factors influencing performance of public universities in Kinshasa, DRC. The factors were categorized into individual factors, institutional factors, external factors and ethical factors. The moderating role of institution size was also tested.

**Table 4.23 The Tested Hypotheses**

| **Direct Relationship** | |
|---|---|
| | There is no statistical impact of individual factors on performance of public universities in Kinshasa, DRC |
| $H_o1a$ | There is no statistical impact of employee skills on performance of public universities sustainability |
| $H_o1b$ | There is no statistical impact of employee motivation on performance of public universities efficiency |
| $H_o1c$ | There is no statistical impact of employee commitment on performance of public universities innovation |
| $H_o2$ | There is no statistical impact of institutional factors on performance of public universities in Kinshasa, DRC |
| $H_o2a$ | There is no statistical impact of organizational structure on performance of public universities sustainability |
| $H_o2b$ | There is no statistical impact of organizational resources on performance of public universities efficiency |
| $H_o2c$ | There is no statistical impact of organizational culture on performance of public universities innovation |
| $H_o3$ | There is no statistical impact of external factors on performance of public universities in Kinshasa, DRC |
| $H_o3a$ | There is no statistical impact of political factors on performance of public universities sustainability |
| $H_o3b$ | There is no statistical impact of economic factors on performance of public universities efficiency |
| $H_o3c$ | There is no statistical impact of technical factors on performance of public universities innovation |

There is no statistical impact of ethical factors on performance of public universities in Kinshasa, DRC

$H_o$4a There is no statistical impact of ethical leadership on performance of public universities sustainability

$H_o$4b There is no statistical impact of academic integrity on performance of public universities efficiency

$H_o$4c There is no statistical impact of research ethics on performance of public universities innovation

There is no statistical moderating impact of institution size on the relationship between factors and performance of public universities in Kinshasa, DRC

### 4.8.1 Individual Factors and Performance

The first hypothesis of the study was that "there is no statistical impact of individual factors on performance of public universities in Kinshasa, DRC". Performance was inspected as composite variable as well as its specific dimensions such as sustainability, efficiency, innovation and customer satisfaction. Individual factors were subdivided into employee skills, employees' motivation and employees' commitment. Table 4.24 showed structural path coefficients.

**Table 4.24 Structural Path Coefficients for Individual Factors and Performance**

| | | | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Performance | <--- | ES | .880 | .090 | 9.723 | *** |
| Performance | <--- | EM | .983 | .089 | 10.992 | *** |
| Performance | <--- | EC | 1.048 | .081 | 12.935 | *** |

The results in Table 4.24 revealed that individual factors variables employee skills, employee motivation and employee commitment positively and significantly influenced the performance of public universities. Specifically, the path coefficient for the first individual factor ES (employee skills) on performance was estimated at 0.880, with a standard error (S.E.) of 0.090 and a critical ratio (C.R.) of 9.723, significant at $p < 0.001$ (denoted by ***). This implied that hypothesis $H_o$1a was rejected. Employee skills had a positive and statistically significant effect on performance ($\beta = 0.880$, CR = 9.723, $p < 0.001$), indicating that improvements in employee skills were associated with higher levels of university performance.

The positive effect of employee skills on performance is consistent with Sultanova et al. (2018), Purba et al. (2020), Mukarromah et al. (2019), and Wakahiu and Yatich (2023), all of whom found that employee competencies enhance organizational effectiveness and institutional performance. These findings suggest that skilled employees contribute to improved service delivery, operational efficiency, and achievement of organizational goals.

Moreover, the influence of the second individual factor EM (employee motivation) on performance also had a strong impact, with a coefficient estimate of 0.983, an S.E. of 0.089, and a C.R. of 10.992, significant at $p < 0.001$ (denoted by ***). Hence, the $H_o1b$ was rejected. The findings indicated that employee motivation contributes more significantly to performance, with a unit change in employee motivation leading to a 0.983 change in the performance of public universities. The findings on the positive relationship between employee motivation and organizational performance are supported by Kalogiannidis (2021), Mehran et al. (2022), Galili and Skov (2023), Musangi et al. (2023) and Okine et al. (2021). These studies noted that employee motivation enhances the organizational efficiency, innovativeness and customer satisfaction.

Similarly, the third individual factor EC (employee commitment) exhibited a significant positive impact on performance, with a path coefficient estimate of 1.048, an S.E. of 0.081, and a C.R. of 12.935, significant at $p < 0.001$ (denoted by ***). This implied that hypothesis $H_o1c$ was rejected. This showed that a unit increase in employee commitment results in a 1.048 increase in the performance of public universities. As per the results from studies such as Lombardi et al. (2019), Camilleri et al. (2023), Stackhouse et al. (2022), Ogala (2020) and Dordevic et al (2020) employee commitment had a positive relationship with organizational performance, thus in line with the results.

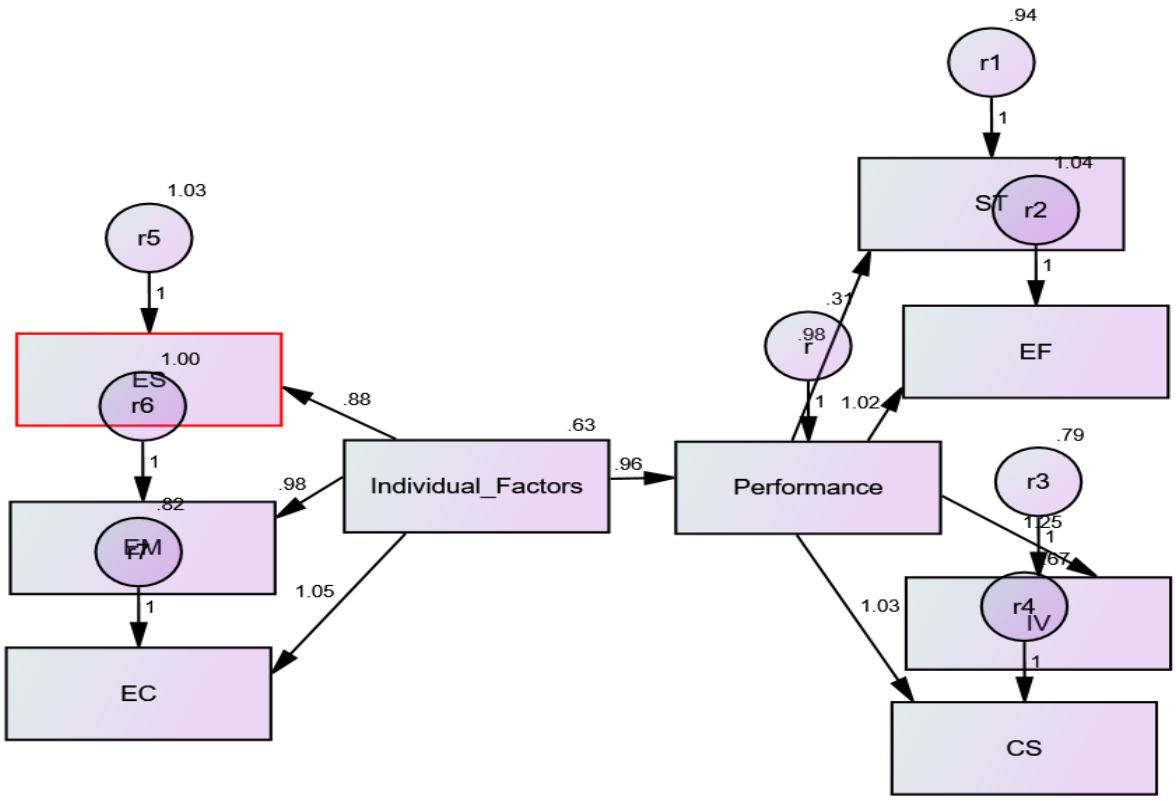



**Figure 4.2 SEM on Individual Factors and Performance**

Figure 4.2 presents the Structural Equation Model (SEM) examining the influence of individual factors on the performance of public universities in Kinshasa, DRC. The findings indicate that individual factors had a strong positive effect on performance. This is evidenced by the path coefficient of 0.96 between Individual Factors and Performance, suggesting that improvements in employee-related factors were associated with enhanced institutional performance. The high coefficient demonstrates that individual factors are important determinants of performance in public universities.

The results further show that employee commitment was the strongest indicator of individual factors, with a factor loading of 1.05, followed by employee motivation (0.98) and employee skills (0.88). These findings imply that employee commitment contributes most significantly to the formation of the individual factors construct. The relatively high loadings for all three indicators indicate that they adequately represent the latent construct

of individual factors. This suggests that universities that foster employee commitment, motivation, and skills are likely to experience improved institutional outcomes.

The findings also reveal that performance was effectively measured through sustainability, efficiency, innovation, and customer satisfaction. Among these dimensions, customer satisfaction exhibited the highest factor loading (1.03), followed by efficiency (1.02), sustainability (1.00), and innovation (0.67). This indicates that customer satisfaction and efficiency were the most prominent manifestations of performance within the public universities, while innovation, although important, contributed relatively less to the overall performance construct.

These findings imply that improvements in employee skills, motivation, and commitment are likely to enhance university performance through increased sustainability, operational efficiency, innovation, and customer satisfaction. The strong relationship between individual factors and performance further demonstrates the importance of investing in human capital development as a strategic approach to improving the effectiveness and competitiveness of public universities in Kinshasa, DRC.

The regression model therefore became;

Performance = 0.880 employee skills + 0.983 employee motivation + 1.048 employee commitment

The Confirmatory Factor Analysis (CFA) results indicate that the measurement model for individual factors achieved an acceptable fit to the observed data. This is evidenced by the Goodness-of-Fit Index (GFI) of 0.954, which exceeds the recommended threshold of 0.90, and the Root Mean Square Residual (RMR) of 0.000, which indicates minimal discrepancy between the observed and estimated covariance matrices. These results suggest that the measurement model adequately represents the underlying structure of individual factors.

The factor loadings further demonstrate that employee skills, employee motivation, and employee commitment are appropriate indicators of the individual factors construct. Specifically, employee commitment recorded the highest factor loading ($\lambda = 1.05$), followed by employee motivation ($\lambda = 0.98$) and employee skills ($\lambda = 0.88$). Since all factor

loadings exceeded the recommended threshold of 0.50, the indicators exhibited satisfactory convergent validity and adequately measured the latent construct.

The findings further suggest that employee commitment contributes most strongly to the measurement of individual factors, followed by employee motivation and employee skills. The relatively high factor loadings indicate that the indicators share a substantial proportion of variance with the underlying construct and therefore provide reliable measures of individual factors. This confirms that the selected dimensions adequately capture the concept of individual factors within public universities in Kinshasa, DRC.

Based on the model fit statistics and factor loadings, the measurement model for individual factors was deemed satisfactory and retained for subsequent structural analysis. The results therefore provide evidence that employee skills, employee motivation, and employee commitment are valid and reliable indicators for measuring individual factors in the context of public university performance.

The RMSEA value of .038, which is less than 0.08, suggests that the model had a close approximation to the data, indicating a good fit. The low and high 90% confidence interval values (.019 and .058, respectively) further confirmed the precision of the RMSEA estimate, while the PCLOSE value of .500, supported the hypothesis of close fit.

The findings are in agreement with those of Dey and Chaturvedi (2023), Mercier et al. (2020) and Silver (2019) which showed that there was a positive relationship between individual factors and organizational performance. This is an indication that individual factors such as employee skills, employee motivation and employee commitment significantly influence the sustainability, efficiency, innovativeness and customer satisfaction in organizations.

### 4.8.2 Institutional Factors and Performance

The second hypothesis of the study was that "there is no statistical impact of institutional factors on performance of public universities in Kinshasa, DRC". Institutional factors were subdivided into organizational structure, organizational resources and organizational culture while performance was subdivided into sustainability, efficiency, innovation and customer satisfaction. Table 4.25 showed structural path coefficients.

**Table 4.25 Structural Path Coefficients for Institutional Factors and Performance**

| | | | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Performance | <--- | OS | 1.031 | .056 | 18.446 | *** |
| Performance | <--- | ORS | .954 | .057 | 16.863 | *** |
| Performance | <--- | OC | 1.029 | .056 | 18.322 | *** |

The findings indicated that organizational structure (OS) had a positive and significant influence on the performance of public universities. The path coefficient for organizational structure was 1.031, with a standard error (S.E.) of 0.056, and a critical ratio (C.R.) of 18.446, which was significant at $p < 0.001$. This implied that the hypothesis related to organizational structure was rejected. The coefficient of 1.031 indicated that for every unit increase in organizational structure, the performance of public universities increases by 1.031. This result highlighted that organizational structured played a major role in enhancing the performance of public universities.

Previous studies such as those of Ellerbrock et al. (2018), Abdulrahaman (2019), Ogosi and Agbaeze (2018), Kintu and Waal (2021) and Mugizi et al. (2019) confirmed these findings as they noted that there was a positive relationship between organizational structure and academic performance. Therefore, the implementation of either formalized or centralized in organizations.

Similarly, organizational resources (ORS) were found to have a strong positive effect on performance, with a coefficient estimate of 0.954, an S.E. of 0.057, and a C.R. of 16.863, significant at $p < 0.001$. This suggested that the hypothesis related to organizational resources was rejected. The coefficient of 0.954 showed that a unit increase in organizational resources contributes to a 0.954 unit increase in the performance of public universities performance.

The findings mirror those of Omondi and Koskei (2024), Ongeti and Machuki (2018), Otiende et al. (2024) and Mukolo (2023) who noted that organizational resources and the performance of higher education institutions had a significant positive relationship. This is an indication that financial resources, human resources, physical resources and technological resource impact both students and teachers leading to better institutional outcomes.

Moreover, organizational culture (OC) exhibited a significant impact on performance, with a coefficient estimate of 1.029, an S.E. of 0.056, and a C.R. of 18.322, significant at p <0.001. This implied that the hypothesis concerning organizational culture was rejected. Therefore, the coefficient of 1.029 showed that a unit increase in organizational culture contributes to a 1.029 unit increase in the performance of public universities.

The positive relationship between organizational culture and the performance of universities is supported by Ozsoy and Uslu (2019), Khan and Ahmed (2022), Indiya et al. (2018) which confirmed that organizational culture predicts academic performance. As such, organizational culture aspects such as shared values, assumptions and motto contribute significantly to the performance of universities.

The results demonstrated that all three dimensions of institutional factors organizational structure, organizational resources and organizational culture positively and significantly influence the performance of public universities in Kinshasa. These findings highlighted the critical role institutional factors played in boosting the performance of public universities.

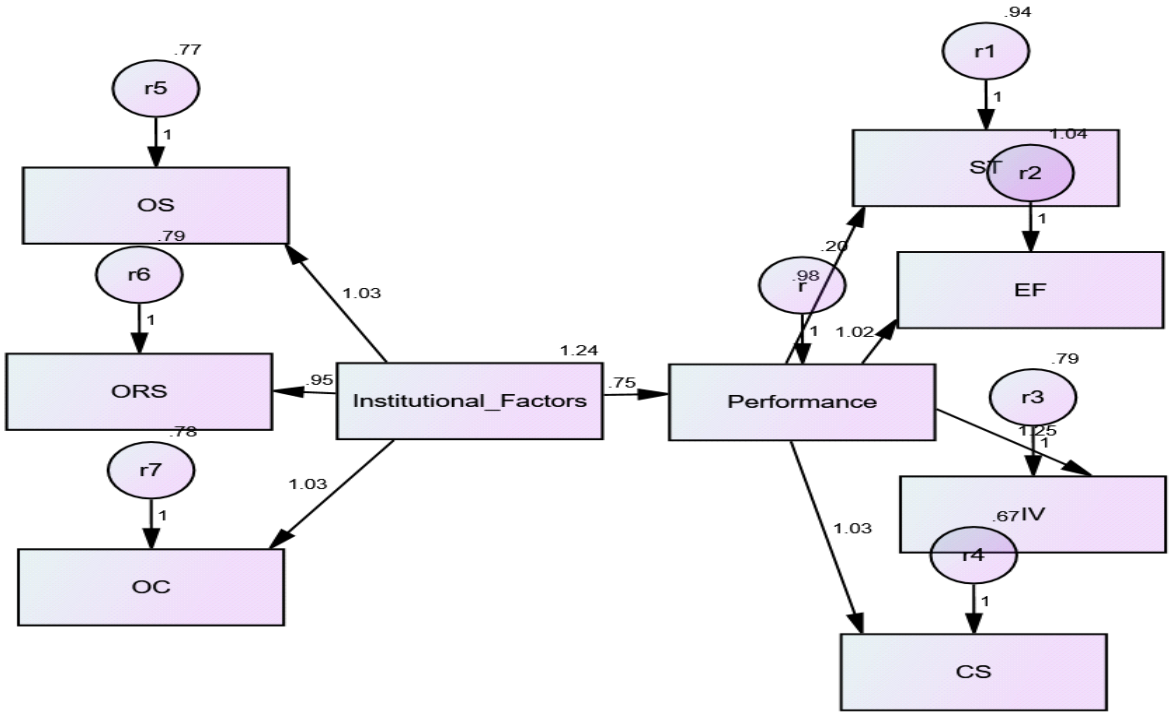


**Figure 4.3 SEM on Institutional Factors and Performance**

Figure 4.3 presents the Structural Equation Model (SEM) examining the influence of institutional factors on the performance of public universities in Kinshasa, DRC. The findings indicate that institutional factors had a strong positive effect on performance. This is evidenced by the path coefficient of 0.75 between institutional factors and performance, suggesting that improvements in institution-related factors were associated with enhanced institutional performance. The high coefficient demonstrates that institutional factors are important determinants of performance in public universities.

The results further show that both organizational structure and organizational culture were the strongest indicators of institutional factors, with factor loadings of 1.03, followed by organizational resources (0.95). These findings imply that both organizational structure and organizational culture contribute most significantly to the formation of the institutional factors construct. The relatively high loadings for all three indicators indicate that they adequately represent the latent construct of institutional factors. This suggests that universities that have adopted an organizational structure, instilled an organizational culture and effectively utilized their organizational resources are likely to experience improved institutional outcomes.

The findings also reveal that performance was effectively measured through sustainability, efficiency, innovation, and customer satisfaction. Among these dimensions, customer satisfaction exhibited the highest factor loading (1.03), followed by efficiency (1.02), sustainability (1.00), and innovation (0.67). Customer satisfaction and efficiency were therefore the most outstanding constructs of performance within the public universities, with innovation having the least contribution.

These findings imply that improvements in organizational structure, organizational resources and organizational culture are likely to enhance university performance through increased sustainability, operational efficiency, innovation, and customer satisfaction. The strong relationship between institutional factors and performance further demonstrates the importance of investing in institutional development as a strategic approach to improving the effectiveness and competitiveness of public universities in Kinshasa, DRC.

The regression model therefore became;

Performance = 1.031organizational structure + 0.954 organizational resources + 1.029 organizational culture

The Confirmatory Factor Analysis (CFA) results indicate that the measurement model for institutional factors achieved an acceptable fit to the observed data. This is evidenced by the Goodness-of-Fit Index (GFI) of 0.940, which exceeds the recommended threshold of 0.90, and the Root Mean Square Residual (RMR) of 0.000, which indicates minimal discrepancy between the observed and estimated covariance matrices. These results suggest that the measurement model adequately represents the underlying structure of institutional factors.

The factor loadings further demonstrate that organizational structure, organizational resources and organizational culture are appropriate indicators of the institutional factors construct. Specifically, organizational structure and organizational culture both recorded the highest factor loading ($\lambda = 1.03$), and organizational resources ($\lambda = 0.95$). Since all factor loadings exceeded the recommended threshold of 0.50, the indicators exhibited satisfactory convergent validity and adequately measured the latent construct.

The findings further suggest that both organizational structure and organizational culture contribute most strongly to the measurement of institutional factors, followed by organizational resources. The relatively high factor loadings indicate that the indicators share a substantial proportion of variance with the underlying construct and therefore provide reliable measures of institutional factors. This confirms that the selected dimensions adequately capture the concept of institutional factors within public universities in Kinshasa, DRC.

Based on the model fit statistics and factor loadings, the measurement model for institutional factors was deemed satisfactory and retained for subsequent structural analysis. The results therefore provide evidence that organizational structure, organizational resources and organizational culture are valid and reliable indicators for measuring institutional factors in the context of public university performance.

The RMSEA value of .094, which is less than 0.08, suggested that the model has a close approximation to the data, indicating a good fit. The 90% confidence interval values (.074 and .013, respectively) further confirmed the precision of the RMSEA estimate, while the PCLOSE value of .075, supported the hypothesis of close fit.

The findings concur with those of Ozgenel (2020), Channuwong et al. (2022), Batool, et al. (2021) who found that there was a positive relationship between institutional factors and performance. This is an affirmation that institutional factors such as organizational structure, organizational resources and organizational culture greatly influence the efficiency, innovativeness, sustainability and customer service in institutions of higher learning.

### 4.8.3 External Factors and Performance

The third hypothesis of the study was that "there is no statistical impact of external factors on performance of public universities in Kinshasa, DRC". External factors were sub-divided into political factors, economic factors and technological factors while performance was subdivided into sustainability, efficiency, innovation and customer satisfaction. Table 4.26 showed structural path coefficients.

**Table 4.26 Structural Path Coefficients for External Factors and Performance**

| | | | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Performance | <--- | PF | .888 | .144 | 6.147 | *** |
| Performance | <--- | ECF | .447 | .121 | 3.699 | *** |
| Performance | <--- | TF | .248 | .127 | 1.958 | .050 |

The results showed that political factors (PF) had a statistically significant influence on the performance of public universities. The path coefficient for political factors was 0.888, with a standard error of 0.144 and a critical ratio of 6.147, yielding a p-value of 0.001. This implied that the hypothesis related to political factors was rejected. The coefficient of 0.888 indicated that for every unit increase in political factors, the performance of public universities increases 0.888. These results highlighted that political factors played a meaningful role in boosting universities performance.

Previous studies such those of Yang et al. (2018), Ogunode and Musa (2022), Chege et al. (2020) support these findings as they noted that political factors had a positive relationship with performance of public universities. This is an indication that the political environment of country has a significant role in the strategic implementation in public universities and this affects performance.

Similarly, economic factors (ECF) also showed a positive and significant influence on performance. The path coefficient for economic factors was 0.447, with an S.E. of 0.121 and a C.R. of 3.699, significant at $p = 0.001$. This result implied that the null hypothesis concerning economic factors was rejected, suggesting that a unit increase in economic factors leads to a 0.447 increase in performance. Therefore, the impact of economic factors still played a meaningful role in improving performance.

The findings mirror those of Dvorsky et al (2020), Reddy et al. (2023), Hussain et al. (2023) and Oga and Onouha (2020) who established that economic factors had a positive relationship with organizational performance. This is an affirmation that economic factors such as the inflation rate and monetary policy can significantly influence the performance of public universities.

In addition, the results showed that technological factors (TF) significantly and positively affected the performance of public universities in Kinshasa. The path coefficient for technological factors was 0.248, with a standard error of 0.127 and a critical ratio of 1.958, significant at $p=0.050$. Hence, the hypothesis concerning technological factors was rejected. This suggested that a unit increase of 0.248 in technological factors leads to a 0.248 increase in the performance of public universities. This was an indication that technological factors were crucial in enhancing the performance of public universities in Kinshasa.

According to Resuli (2022) and Amaniampong and Hartman (2023), there is a positive relationship between technological factors and performance of higher education institutions. They therefore corroborate this study findings that technological factors adopted in teaching and research initiatives in public universities impact performance of higher education institutions.

The results suggested that political factors, economic factors and technological factors significantly and positively affect the performance of public universities in Kinshasa. These findings highlight the importance of focusing on certain aspects of external factors to enhance the outcomes of public universities.

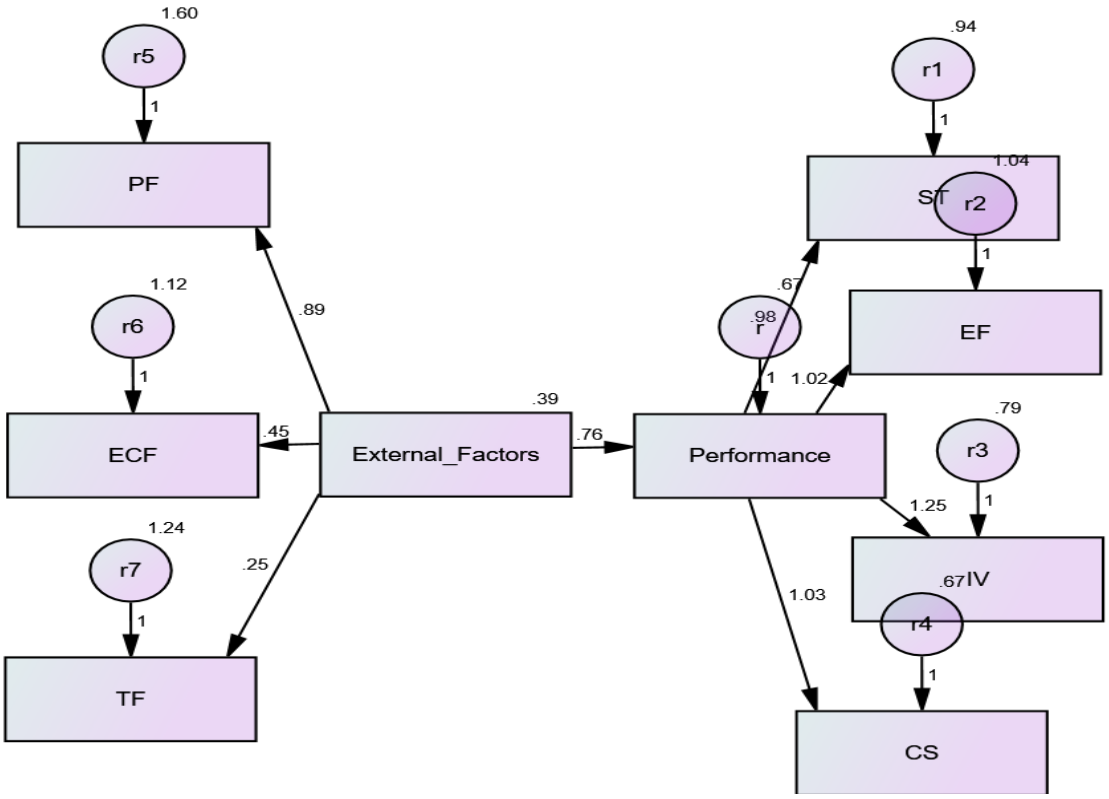



**Figure 4.4 SEM on External Factors and Performance**

Figure 4.4 presents the Structural Equation Model (SEM) examining the influence of external factors on the performance of public universities in Kinshasa, DRC. The findings indicate that external factors had a strong positive effect on performance. This is evidenced by the path coefficient of 0.76 between external factors and performance, suggesting that improvements in external-related factors were associated with enhanced performance of public universities. The high coefficient demonstrates that external factors are important determinants of performance of institutions.

The results further show that political factors were the strongest indicator of external factors, with a factor loading of 0.89, followed by economic factors (0.45) and

technological factors (0.25). These findings imply that political factors contribute most significantly to the formation of the external factors dimension. The loadings for all three indicators indicate that they adequately represent the latent construct of external factors. This suggests that universities that effectively accommodate political factors, economic factors and technological factors are likely to experience improved institutional outcomes.

The findings also reveal that performance was effectively measured through sustainability, efficiency, innovation, and customer satisfaction. Among these dimensions, customer satisfaction exhibited the highest factor loading (1.03), followed by efficiency (1.02), sustainability (1.00), and innovation (0.67). This indicates that customer satisfaction and efficiency were the most prominent manifestations of performance within the public universities, while innovation, although important, contributed relatively less to the overall performance construct.

These findings imply that improvements in political factors, economic factors and technological factors are likely to enhance university performance through increased sustainability, operational efficiency, innovation, and customer satisfaction. The strong relationship between economic factors and performance further demonstrates the importance of aligning with external factors as a strategic approach to improving the effectiveness and competitiveness of public universities in Kinshasa, DRC.

The regression model therefore became;
Performance = 0.888 political factors + 0.447 economic factors + 0.248 technological factors

The Confirmatory Factor Analysis (CFA) results indicate that the measurement model for external factors achieved an acceptable fit to the observed data. This is evidenced by the Goodness-of-Fit Index (GFI) of 0.946, which exceeds the recommended threshold of 0.90, and the Root Mean Square Residual (RMR) of 0.002, which indicates minimal discrepancy between the observed and estimated covariance matrices. These results suggest that the measurement model adequately represents the underlying structure of external factors.

The factor loadings further demonstrate that political factors, economic factors and technological factors are appropriate indicators of the external factors parameter.

Specifically, political factors recorded the highest factor loading (λ = 0.89), followed by economic factors (λ = 0.45) and technological factors (λ = 0.25). Since only the factor loading for political factors exceeded the recommended threshold of 0.50, it satisfactorily exhibited satisfactory convergent validity and adequately measured the latent construct, while economic factors and technological factors were not quite satisfactory.

The findings further suggest that political factors contribute most strongly to the measurement of external factors, followed by economic factors and technological factors. The factor loadings indicate that the indicators share a substantial proportion of variance with the underlying construct and therefore provide reliable measures of external factors. This confirms that the selected dimensions adequately capture the concept of external factors within public universities in Kinshasa, DRC.

Based on the model fit statistics and factor loadings, the measurement model for external factors was deemed satisfactory and retained for subsequent structural analysis. The results therefore provide evidence that political factors, economic factors and technological factors are valid and reliable indicators for measuring external factors in the context of public university performance.

The RMSEA value of 0.069, which is less than 0.08, indicated that the model provided a close approximation to the observed data, suggesting a good fit. The 90% confidence interval values (LO 90: 0.049, HI 90: 0.088) supported this conclusion by showing that the RMSEA estimate fell within an acceptable range. Additionally, the PCLOSE value of 0.750, being greater than 0.05, supported the hypothesis of close fit.

The positive impact of external factors on organizational performance are corroborated by Chen et al. (2023), Seo and Lee (2019), Khalid (2020) and Sadiku (2022). These studies also showed that extracurricular studies affect learning effectiveness of students. In addition, all the PESTLE factors were noted to have a significant effect on performance with economic and technological factors having larger effects.

### 4.8.4 Ethical Factors and Performance

The fourth hypothesis of the study that “there is no statistical impact of ethical factors on performance of public universities in Kinshasa, DRC”. This section presents the SEM

model results. Ethical factors were sub-divided into ethical leadership, academic integrity and research ethics while performance was subdivided into sustainability, efficiency, innovation and customer satisfaction. Table 4.27 showed structural path coefficients.

**Table 4.27 Structural Path Coefficients for Ethical Factors and Performance**

| | | | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Performance | <--- | EL | 1.041 | .055 | 18.905 | *** |
| Performance | <--- | AI | 1.101 | .051 | 21.547 | *** |
| Performance | <--- | RE | 1.096 | .049 | 22.264 | *** |

The findings indicated that ethical leadership (EL) had a strong positive and significant effect on the performance of public universities. The path coefficient for ethical leadership was 1.041, with a standard error (S.E.) of 0.055 and a critical ratio (C.R.) of 18.905, significant at $p < 0.001$. This suggested that the hypothesis related to ethical leadership was rejected. A unit increase in ethical leadership leads to a 1.041 increase in performance, indicating that ethical leadership in ethical factors contributes significantly to enhancing the performance of public universities.

The findings are in agreement with those of Amin and Wali (2022), Salarzai and Abdullah (2023), and Fatuma and Gatobu (2022) which showed that there is a positive relationship between ethical leadership and universities performance. This is an indication that ethical leadership is crucial in the enhancement of customer satisfaction, sustainability, innovation and efficiency in public universities.

Furthermore, academic integrity (AI) also showed a statistically significant effect on performance. The path coefficient for academic integrity was 1.101, with an S.E. of 0.051 and a C.R. of 21.547, with a p-value <0.001. Therefore, the hypothesis related to academic integrity was rejected. The results meant that a unit increase in academic integrity leads to a 1.101 increase in performance.

The positive relationship between academic integrity and organizational performance concur with those of Al-Salim and Aladwan (2021), Alias, et al. (2023) and Mulenga and Shilongo (2024). This highlights the importance of academic integrity in terms of research

ethics, academic misconduct and antiplagiarism in public universities to boost performance.

The results for research ethics (RE) showed that there was a strong positive and statistically relationship with performance. Research ethics integrity had a coefficient estimate of 1.096, an S.E. of 0.049, and a C.R. of 22.264, with a p-value <0.001. The hypothesis on research ethics was therefore rejected. The results highlighted that a unit change of 1.096 in research ethics leads to an increase of 1.096 in the performance of public universities in Kinshasa. The findings are in agreement with those of Mawussi et al. (2021) who found that research ethics had a significant impact of the performance of universities.

These results showed that ethical factors significantly and positively impact the performance of public universities. These findings highlighted the critical role of ethical leadership academic integrity and research ethics in ethical factors for improving public universities performance.

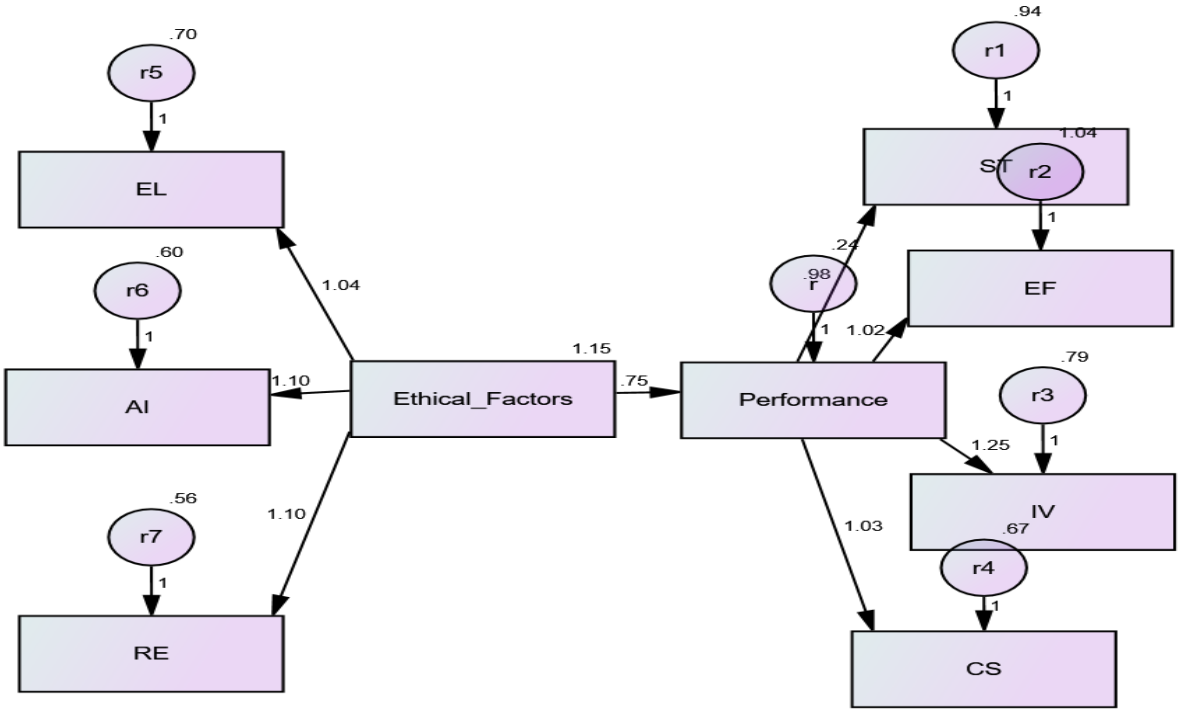



**Figure 4.5 SEM on Ethical Factors and Performance**

Figure 4.5 presents the Structural Equation Model (SEM) examining the influence of ethical factors on the performance of public universities in Kinshasa, DRC. The findings indicate that ethical factors had a strong positive effect on performance. This is evidenced by the path coefficient of 0.75 between ethical factors and performance, suggesting that improvements in ethics-related factors were associated with enhanced institutional performance. The high coefficient demonstrates that ethical factors are important determinants of performance in public universities.

The results further show that academic integrity and research ethics were the strongest indicators of ethical factors, with a factor loading of 1.10, followed by ethical leadership (1.04). These findings imply that both academic integrity and research ethics contribute most significantly to the formation of the ethical factors construct. The relatively high loadings for all three indicators indicate that they adequately represent the latent construct of ethical factors. This suggests that universities that foster ethical leadership, academic integrity and research ethics are likely to experience improved institutional outcomes.

The findings also reveal that performance was effectively measured through sustainability, efficiency, innovation, and customer satisfaction. Among these dimensions, customer satisfaction exhibited the highest factor loading (1.03), followed by efficiency (1.02), sustainability (1.00), and innovation (0.67). This indicates that customer satisfaction and efficiency were the most prominent manifestations of performance within the public universities, while innovation, although important, contributed relatively less to the overall performance construct.

These findings imply that improvements in ethical leadership, academic integrity and research ethics are likely to enhance university performance through increased sustainability, operational efficiency, innovation, and customer satisfaction. The strong relationship between ethical factors and performance further demonstrates the importance of investing in ethical practices as a strategic approach to improving the effectiveness and competitiveness of public universities in Kinshasa, DRC.

The regression model therefore became;

Performance = 1.041 ethical leadership + 1.101 academic integrity + 1.096 research ethics

The Confirmatory Factor Analysis (CFA) results indicate that the measurement model for ethical factors achieved an acceptable fit to the observed data. This is evidenced by the Goodness-of-Fit Index (GFI) of 0.974, which exceeds the recommended threshold of 0.90, and the Root Mean Square Residual (RMR) of 0.000, which indicates minimal discrepancy between the observed and estimated covariance matrices. These results suggest that the measurement model adequately represents the underlying structure of ethical factors.

The factor loadings further demonstrate that ethical leadership, academic integrity and research ethics are appropriate indicators of the ethical factors construct. Specifically, academic integrity and research ethics recorded the highest factors loading ($\lambda = 1.10$), followed by ethical leadership ($\lambda = 1.05$). Since all factor loadings exceeded the recommended threshold of 0.50, the indicators exhibited satisfactory convergent validity and adequately measured the latent construct.

The findings further suggest that both academic integrity and research ethics contribute most strongly to the measurement of ethical factors, followed by ethical leadership. The relatively high factor loadings indicate that the indicators share a substantial proportion of variance with the underlying construct and therefore provide reliable measures of ethical factors. This confirms that the selected dimensions adequately capture the concept of ethical factors within public universities in Kinshasa, DRC.

Based on the model fit statistics and factor loadings, the measurement model for ethical factors was deemed satisfactory and retained for subsequent structural analysis. The results therefore provide evidence that ethical leadership, academic integrity and research ethics are valid and reliable indicators for measuring ethical factors in the context of public university performance.

The RMSEA results for the ethical factors model indicated a good fit in assessing its influence on the performance of public universities in Kinshasa, DRC. With an RMSEA value of 0.085>0.08, the model demonstrated a close fit to the observed data. The 90% confidence interval (LO 90: 0.066, HI 90: 0.050) further supported this conclusion, as it fell within an acceptable range. The PCLOSE value of 0.139 suggested a reasonable fit.

These findings of having a positive relationship between ethical factors and organizational performance are in tandem with those of Lee and Cho (2021) and Bataineh (2020). This illustrates the importance of ethical practices in institutions of higher learning to boost its efficiency, sustainability, innovativeness and customer satisfaction.

### 4.8.5 Direct Relationship between Factors and Performance

A direct relationship aimed to respond to objective (i), (ii), (iii) and (iv), with the corresponding $H_o1$, $H_o2$, $H_o3$ and $H_o4$. The study hypothesized that factors positively influenced performance of public universities. Factors were categorized into four components individual factors, institutional factors, external factors and ethical factors leading to four hypotheses namely: $H_o1$, $H_o2$, $H_o3$ and $H_o4$. Performance of public universities in this case was used as a composite variable (sustainability, efficiency, innovation and customer satisfaction). Based on such categories of the hypotheses, this section presented the overall SEM model results and discussion of the findings. Table 4.28 showed structural path coefficients.

**Table 4.28 Structural Path Coefficients for Factors and Performance**

| | | | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Performance | <--- | Individual factors | .430 | .052 | 8.316 | *** |
| Performance | <--- | Institutional factors | .476 | .068 | 3.900 | *** |
| Performance | <--- | External factors | -.291 | .059 | -4.925 | *** |
| Performance | <--- | Ethical factors | .163 | .078 | 2.082 | .037 |

The findings indicated that individual factors had a significant positive impact on performance of public universities. The path coefficient for individual factors was 0.430, with a standard error (S.E.) of 0.052 and a critical ratio (C.R.) of 8.316, significant at $p < 0.001$. This result implied that the hypothesis related to individual factors was rejected, indicating that a unit increase in individual factors leads to a 0.430 increase in the performance of public universities. This emphasized the crucial role individual factors played in enhancing university outcomes, reflecting the positive influence of factors like employee skills, employee motivation and employee commitment.

According to previous studies undertaken by Rajapaksha and Tilakasiri (2021), Novitasari et al. (2021 and Helmy and Wiwoho (2020) there was a positive correlation between individual factors and performance. These studies thus confirm the significant of individual factors in impacting the performance of public universities in Kinshasa.

Similarly, institutional factors exhibited a strong and positive impact on performance. The path coefficient for institutional factors was 0.476, with an S.E. of 0.068 and a C.R. of 3.900, significant at $p < 0.001$. This suggested that institutional factors were major contributors to performance improvement, with a unit increase in institutional factors resulting in a 0.476 increase in performance of public universities. The strength of this coefficient indicated that institutional factors, through factors such as organizational structure, organizational resources and organizational culture were critical drivers of performance of public universities.

These results also reflect those of Fehan and Aigbogun (2021) and Mwanthi (2018) which showed that there was a positive relationship between institutional factors and organizational performance. This is an affirmation that for public universities to improve their customer satisfaction, sustainability, efficiency and innovativeness, institutional factors ought to be prioritized as a strategic tool.

In contrast, external factors showed a negative but statistically insignificant impact on performance. The path coefficient for external factors was -0.291, with an S.E. of 0.059 and a C.R. of -4.925, with a p-value<0.001. Given that the p-value was below the 0.05 threshold, the hypothesis related to external factors rejected, indicating that external factors including political factors, economic factors and technological factors had a significant but negative impact on the performance of public universities.

These findings differ with those of Barasa (2023), Guerra et al. (2022) which showed that external factors had a positive influence on organizational performance. In addition, Hussain et al. (2023) noted that political and economic factors influence organizational performance. The findings are however in agreement with those of Ojimba et al. (2023) which revealed that there was a negative relationship between economic factors and organizational performance. Therefore, when political, economic and technological factors

are not effectively taken into consideration, they can hinder the performance of public institutions such as universities.

Moreover, ethical factors showed a positive and significant impact on performance. The path coefficient for ethical factors was 0.163, with an S.E. of 0.078 and a C.R. of 2.082, yielding a p-value of 0.037. As the p-value was below the 0.05 significance level, it suggested that ethical factors had a significant positive influence on performance. This implied that ethical factors, including ethical leadership, academic integrity and research ethics had a significant impact on performance.

The findings are also aligned with those of Ahmed et al. (2023), Keludia (2019) and Gorfie and Wube (2023) which showed that there is a positive relationship between ethical factors and organizational performance. This illustrates that for public universities to boost its efficiency, sustainability, customer satisfaction and innovativeness, ethical practices have to be integrated in its strategic implementation process.

The results of the overall model indicated that individual factors, institutional factors and ethical factors significantly and positively influence the performance of public universities in Kinshasa, with institutional factors having the strongest impact. External factors on the other hand had a negative but strongly significant impact on performance. These findings suggested that various factors could influence university success. These findings mirror those of Alani and Hawas (2021) who found that individual factors, institutional factors, and environmental factors have a positive relationship with performance of university.

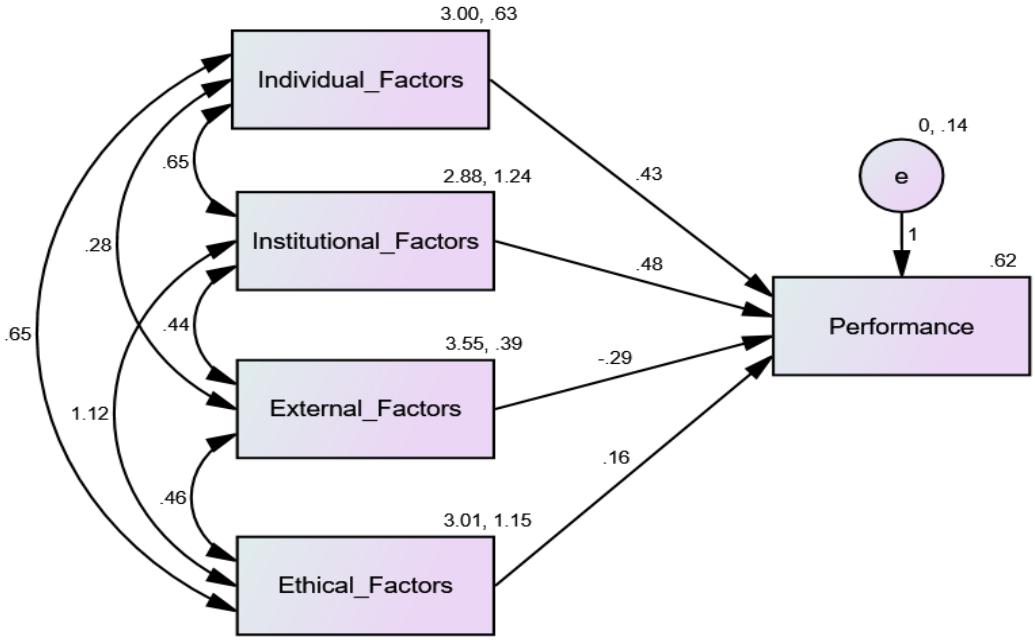



**Figure 4.6 Structural Model on Direct Influence of Factors on Performance**

Figure 4.6 presents the Structural Equation Model (SEM) examining the impact of various factors on the performance of public universities in Kinshasa, DRC. The findings indicate that the factors had a strong positive effect on performance apart from external factors. The high coefficients demonstrate that various factors are important determinants of performance in public universities.

The results further show that institutional factors were the strongest indicator of factors, with a factor loading of 0.48, followed by individual factors (0.43) and ethical factors (0.16). However, external factors had a negative factor loading of -0.29. These findings imply that institutional factors contribute most significantly to the formation of the factors construct. The relatively high loadings for all three indicators indicate that they adequately represent the latent construct of factors. This suggests that universities that foster institutional factors, individual factors and ethical factors are likely to experience improved institutional outcomes. In addition, the negative impact of external factors implies that variations in external factors, might negatively but significantly impact the performance of public universities.

These findings imply that improvements in institutional factors, individual factors, external factors and ethical factors are likely to enhance university performance through increased sustainability, operational efficiency, innovation, and customer satisfaction. The relationship between institutional factors, individual factors, external factors and ethical factors and performance further demonstrates the importance of investing in various factors as a strategic approach to improving the effectiveness and competitiveness of public universities in Kinshasa, DRC.

The regression model therefore became;

Performance = 0.430 individual factors + 0.476 institutional factors -0.291 external factors + 0.163 ethical factors + 0.4

The Structural Equation Modelling (SEM) results in Table 4.29 showed how different factors impact the performance of public. The results showed that institutional factors had the most positive effect on performance, with an estimate of 0.476 and a highly significant p-value<0.001. This significant positive relationship suggested that universities which considered institutional factors in their strategic planning process tend to exhibit better performance outcomes.

Similarly, individual factors contribute positively to performance, with an estimate of 0.430 and a p-value<0.0001. This showed the importance of considering the employees' skills, employee motivation and employees' motivation within public universities. The employees' skills could enhance performance through quality teaching and research while employees' motivation could ensure that employees are more productive. In addition, employees' commitment could lead to better efficiency of operations. The significant positive impact of individual factors suggested that public universities that recruit and train employees to acquire more skills, used various motivation methods and encouraged employees to be more committed in their work were better positioned to achieve high performance levels.

In contrast, external factors showed a negative estimate of -0.291 and a p-value <0.001, indicating that it had a significant but negative effect on performance in this context. This result implied that variations in external factors, such as political factors, economic factors

and technological factors, might negatively but significantly impact the performance of public universities. This suggested that the political environment of DRC and its economic activities could significantly but negatively influence how public universities perform. In addition, the technological factors such as the laid down infrastructure in the country could also have a significant but negative impact on the operations of public universities in DRC thus affecting the overall performance.

Furthermore, ethical factors had a positive coefficient of 0.163 with a p-value of 0.037, which is significant. This suggested that ethical factors such as ethical leadership, academic integrity and research ethics had a positive and significant impact on the performance of public universities in Kinshasa. This implied that while individual and institutional factors have the strongest impact on the performance of public universities, ethical factors also played a significant role in the institution's outcomes.

Further, the Confirmatory Factor Analysis (CFA) results indicate that the measurement model for factors achieved an acceptable fit to the observed data. This is evidenced by the Goodness-of-Fit Index (GFI) of 1.000, which exceeds the recommended threshold of 0.90, and the Root Mean Square Residual (RMR) of 0.000, which indicates minimal discrepancy between the observed and estimated covariance matrices. These results suggest that the measurement model adequately represents the underlying structure of factors.

The factor loadings further demonstrate that individual factors, institutional factors, external factors and ethical factors are appropriate indicators of the factors construct. Specifically, institutional factors recorded the highest factor loading ($\lambda = 0.48$), followed by individual factors ($\lambda = 0.43$), ethical factors ($\lambda = 0.16$), and ethical factors ($\lambda = -0.29$). All factor loadings did not exceed the recommended threshold of 0.50, the indicators exhibited unique variance.

The findings further suggest that institutional factors contribute most strongly to the measurement of factors, followed by individual factors, ethical factors and external factors. This indicates that the indicators share a substantial proportion of variance with the underlying construct and therefore provide reliable measures of factors. This confirms that

the selected dimensions captured the concept of factors within public universities in Kinshasa, DRC.

Based on the model fit statistics and factor loadings, the measurement model for factors was deemed satisfactory and retained for subsequent structural analysis. The results therefore provide evidence that individual factors, institutional factors, external factors and ethical factors are valid and reliable indicators for measuring individual factors in the context of public university performance.

As posited by Tandilashvili (2019) and Ghebregiorgis (2020), several factors influence university performance. In addition, Alani and Hawas (2021) found that personal factors, teacher-related factors, institution-related factors, and environmental factors have a positive relationship with performance of university. Another study by Tiron-Tudor et al. (2022) found as well that institutional and human factors have a big impact on public universities' performance, particularly in the areas of research and teaching.

### 4.8.6 Moderating Impact of Institution Size

The study hypothesized that there is no statistical impact of institution size on the relationship between factors and performance of public universities in Kinshasa, DRC. Table 4.29 showed structural path coefficients.

**Table 4.29 Structural Path Coefficients for Moderating Impact of Institution Size**

| | | | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Performance | <--- | Individual factors | .080 | .021 | 3.736 | *** |
| Performance | <--- | Institutional factors | .149 | .030 | 4.954 | *** |
| Performance | <--- | External factors | -.137 | .024 | -5.687 | *** |
| Performance | <--- | Ethical factors | .027 | .033 | .819 | .413 |

The results indicated that institution size plays a significant role in impacting these relationships. Specifically, the coefficients revealed that institution size significantly moderates the relationship between individual factors and performance (coefficient = 0.080, $p < 0.001$). The results also showed that institution size strongly and significantly moderates the relationship between institutional factors and the performance of public universities (coefficient = 0.149, $p < 0.001$). However, institution size had a significant but negative impact on the relationship between external factors and performance (coefficient = -0.137, $p < 0.001$). This showed that despite external factors in terms of political factors, economic factors and technological factors being negatively influenced by the institution size, they significantly could improve the performance of public universities. In contrast, institution size insignificantly moderated the relationship between ethical factors and the performance of public universities in Kinshasa (coefficient=0.027, p=0.413). This showed that despite ethical factors being impacted by institution size, it did not translate into improved performance.

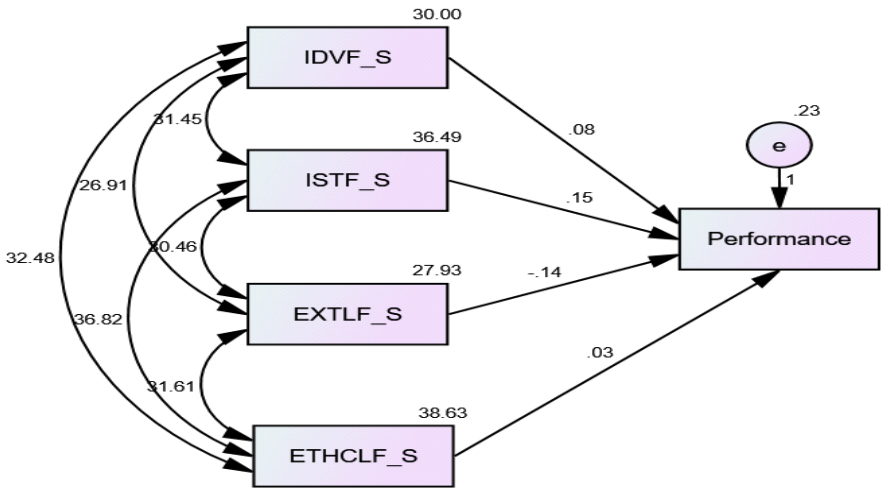



**Figure 4.7 SEM on Moderating Role of Institution Size on the Relationship between Factors and Performance**

Figure 4.7 presents the Structural Equation Model (SEM) examining the moderating role of institution size on the relationship between factors and performance of public

universities in Kinshasa, DRC. The findings indicate that institution size moderates the relationship. This is evidenced by the path coefficient highlighting that improvements in various factors (individual, institutional, external and ethical) were associated with enhanced institutional performance. The high coefficient demonstrates that these factors are important determinants of performance in public universities.

The results further show that the strongest moderation of institution size was that between institutional factors and performance, with a factor loading of 0.15, followed by individual factors and performance (0.08), ethical factors (0.03) and economic factors (-0.14). These findings imply that institution size moderately contributes most significantly to the relationship between institutional factors and performance construct. The loadings for moderation of institution size in the relationship between institutional, individual and ethical indicators indicate that it adequately moderates their relationship with performance of public universities. The negative moderating impact of institution size on the relationship between economic factors and performance indicates that despite external factors being negatively influenced by the institution size, they significantly could improve the performance of public universities. This suggests that the consideration of the institution size is likely to moderate the relationship between factors and improved institutional outcomes.

These findings imply that improvements in the institution size in terms of the physical facilities is likely to moderate the relationship between various factors (institutional, individual, external and ethical) to enhance university performance through increased sustainability, operational efficiency, innovation, and customer satisfaction. This moderating effect further demonstrates the importance of investing in improving the institution size as a strategic approach to improving the effectiveness and competitiveness of public universities in Kinshasa, DRC through the consideration of various factors.

The Confirmatory Factor Analysis (CFA) results indicate that the measurement model for the moderating effect of institution size achieved an acceptable fit to the observed data. This is evidenced by the Goodness-of-Fit Index (GFI) of 1.000, which exceeds the recommended threshold of 0.90, and the Root Mean Square Residual (RMR) of 0.000, which indicates minimal discrepancy between the observed and estimated covariance

matrices. These results suggest that the measurement model adequately represents the underlying structure of institution size.

The factor loadings further demonstrate that individual factors, institutional factors, external factors and ethical factors are appropriate indicators of the can be moderated by institution size construct. Specifically, the moderating role of institution size on the relationship between institutional factors and performance recorded the highest factor loading ($\lambda = 0.15$), followed by individual factors and performance ($\lambda = 0.08$), ethical factors and performance ($\lambda = 0.03$) and external factors and performance ($\lambda = -0.14$).

The positive moderating effect of institution size was confirmed by the findings by El-Rabat et al. (2023), Kijksiwat and Phuensane (2020), Qazi et al. (2023), Nguyen (2022), Roespinoedi et al. (2019), Muange and Kiptoo (2020) and Mwangi et al. (2019). This is an indication that while considering various factors, (individual, institutional, external and ethical) and how they impact performance, the moderating role of institution size is also of importance.

The RMSEA value of .086, which is less than 0.08, suggests that the model had a close approximation to the data, indicating a good fit. The low and high 90% confidence interval values (.019 and .058, respectively) further confirmed the precision of the RMSEA estimate, while the PCLOSE value of .500, supported the hypothesis of close fit.

The apparent differences between the descriptive and inferential findings are attributable to the different purposes of the two analytical approaches. The descriptive analysis presents respondents' perceptions of the study variables using mean scores and standard deviations, whereas the inferential analysis examines the statistical relationships between the variables using structural equation modelling (SEM). Therefore, a variable may receive a moderate descriptive rating while still showing a statistically significant relationship with performance in the inferential analysis. The inferential results should consequently be interpreted as showing whether and in what direction the study variables are statistically associated with performance, while the descriptive results indicate the level at which the respective practices or conditions were reported by respondents.

# CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Introduction

According to the research objectives and hypotheses, the chapter provides a synopsis of the results. Furthermore, the summary of results yields the key conclusions. The chapter also highlights its contribution to the field of strategic management, especially on various factors impacting performance of public universities in Kinshasa, DRC. Thereafter, managerial and policy recommendations based on the conclusions are highlighted. The chapter also offers suggestions for future studies.

## 5.2 Summary of the Findings

The main objective of this study was to examine the factors impacting performance of public universities in Kinshasa, DRC, taking into consideration the moderating role of institution size. Five specific objectives were developed and five hypotheses were formulated and tested. The study hypothesized that individual factors, institutional factors, external factors and ethical factors did not significantly impact the performance of public universities in Kinshasa. The study also hypothesized that institution size did not significantly moderate the relationship between factors and performance of public universities.

### 5.2.1 Individual Factors and Performance of Public Universities

The findings showed that individual factors had a moderate descriptive level among the public universities in Kinshasa, DRC, as indicated by the composite mean score of 2.72 in Table 4.3. However, the inferential results showed that employee skills, employee motivation and employee commitment had strong, positive and statistically significant relationships with the performance of public universities. Therefore, the moderate descriptive level indicates the extent to which respondents reported the presence or implementation of individual-factor practices, while the inferential findings indicate that these factors have statistically significant relationships with university performance. The key takeaway is that although the level of individual-factor practices was moderate, improvements in employee skills, motivation and commitment were significantly associated with improved university performance. Therefore, hypothesis Ho1, “There is no statistical impact of individual factors on performance of public universities in

Kinshasa, DRC," was rejected. According to the descriptive results, employee skills enabled employees to complete tasks on time, enhanced professionalism, and enabled lecturers to provide quality teaching. Compensation of employees based on their skills and the use of different approaches to motivate employees were reported to be at a moderate level. However, organization of trainings, development of infrastructure to motivate employees, employee motivation as a strategy, staff efficacy through motivation, and priority to keep employees motivated were to a low extent. In addition, commitment of employees to achieve organizational goals, rewarding based on qualifications to enhance commitment, committed employees bringing more value to the university, organizing for professional development programs, and decision making made employees committed to a moderate extent.

### 5.2.2 Institutional Factors and Performance of Public Universities

The findings indicated that there was a significant relationship between the institutional factors and the performance of public universities in Kinshasa, DRC. The findings also revealed that organizational structure, organizational resources and organizational culture had strong, positive and statistically significant impacts on performance. Therefore, hypothesis Ho2, "There is no statistical impact of institutional factors on performance of public universities in Kinshasa, DRC," was rejected. The descriptive results showed moderate levels in the promotion of effective communication through the organizational structure, the flow of information across different departments, the efficient functioning of work processes, and the absence of overlapping functions. The organizational structure therefore moderately enhanced university performance. In addition, budgeting of available funds, recruitment of adequate HR to manage resources, adequate physical resources, acquisition of technological resources were all done in moderation. This showed that organizational resources influenced performance moderately. According to the findings, knowledge of shared assumptions, knowledge of motto, knowledge of core values and knowledge of shared beliefs by stakeholders were all in moderations. The study also found that work behaviour was moderately influenced by organizational culture.

### 5.2.3 External Factors and Performance of Public Universities

The findings indicated that there was a significant relationship between external factors and the performance of public universities in Kinshasa, DRC. However, when external factors were analysed simultaneously with individual factors, institutional factors and ethical factors in the multivariable model, the relationship between external factors and university performance became negative and statistically significant. This difference reflects the influence of the other predictors included in the multivariable model. Therefore, the descriptive and bivariate findings indicate a positive association between external factors and performance when considered independently, whereas the multivariable SEM results indicate a negative relationship after accounting for the simultaneous effects of the other study variables. Therefore, the hypothesis $H_o3$ "There is no statistical impact of external factors on performance of public universities in Kinshasa, DRC" was rejected. "The descriptive findings indicated that respondents perceived political instability as having a high influence on performance, while political interference in employee appointments and student placement was also reported. The findings showed moderation on how political interference influenced the expansion of the university, and in the allocation of resources. In addition, allocation of resources, interest rate, inflation rate, and monetary policy were highly ranked as affecting the running of the universities, while the income level of parents/guardians affected the admission of students. The findings also showed that enhancement of lesson presentation, improvement of work processes, collaboration with other universities, improvement of quality research output and development of employee competencies had been moderately achieved due to technological adoption.

### 5.2.4 Ethical Factors and Performance of Public Universities

The findings revealed that external factors had a significant but negative relationship with the performance of public universities in Kinshasa, DRC. The results also showed ethical leadership, academic integrity and research ethics significantly and positively affect the performance. Therefore, the hypothesis $H_o4$ "There is no statistical impact of ethical factors on performance of public universities in Kinshasa, DRC" was rejected. The descriptive results revealed that promotion of fairness by leaders, provision of ethical guidance,

transparency in operations, employees' compliance with ethics code and lack of discrimination had been achieved in moderation. The findings also showed moderation in lecturers had been able to observe ethical values to the students, sealing loopholes leading to academic dishonesty, attainment of high levels of ethics in service for community, in teaching and learning and in generic work. In addition, results showed that establishment of a research ethics committee, avoiding plagiarism and falsification, quality academic and scientific work, awareness of research ethics, and putting in place a policy to guide research ethics had all been accomplished in moderation.

### 5.2.5 Moderating Role of Institution Size on Factors and Performance

The study found that institution size moderates the relationship between factors and performance of public universities. Hence the hypothesis $H_o5$ "There is no statistical impact of institution size on the relationship between factors and performance of public universities in Kinshasa, DRC" was rejected. The descriptive results showed that there was moderation in provision of adequate learning facilities for learners, offices for teachers and other staff, washrooms for learners and staff, and in the maintenance of these facilities. However, recreational facilities for learners were inadequate.

## 5.3 Conclusions

The study came to the conclusion that various factors (individual factors, institutional factors, external factors and ethical factors) greatly impacted the performance of public universities in terms of sustainability, efficiency, innovation and customer satisfaction.

### 5.3.1 Individual Factors and Performance of Public Universities

The study found that performance is highly impacted by employees' skills, employees' motivation and employees' commitment. This was an indication that in the public universities in Kinshasa, employees' skills had enhanced the professionalism of employees, led to timely completion of tasks and quality of teaching was guaranteed. However, there was a gap on trainings organized by the university to boost the current skills of the employees. In terms of employees' motivation, the study concluded that there were some constraints in motivating employees in the public universities as the infrastructure development, and strategy were not well done. This in turn limited staff efficacy and overall performance. On employees' commitment, it is concluded that there

was moderation in how it was implemented in the public universities from the recruiting strategy, rewarding, professional development and involvement in decision making.

### 5.3.2 Institutional Factors and Performance of Public Universities

The research concluded that public university performance is greatly affected by institutional issues. The research also concluded that organizational structure, resources, and culture had a favourable and substantial effect on the performance of public institutions. This evidence suggests that the organizational structures of Kinshasa's public universities are well-suited to carrying out their many missions. Because of this, there was less overlapping of roles, better communication, and more efficient work processes. The research concluded that public universities in Kinshasa had a modest level of success in allocating available finances, hiring enough staff, and acquiring physical and technical resources. The research further concluded that when it came to corporate culture, stakeholders' understanding of common assumptions, fundamental values, beliefs, and motto had a moderate impact on work behaviour.

### 5.3.3 External Factors and Performance of Public Universities

The study concluded that external factors significantly but negatively impact performance of public universities in Kinshasa, DRC. The study also concluded that political factors, economic factors and technological factors significantly and positively affect the performance. It was concluded that in terms of political factors, political instability highly affected performance, influenced appointment of employees, and placement of students. The study also concluded that expansion of public universities was partially influenced by political interference. In terms of economic factors, the study concluded that the country’s interest rate, inflation rate and monetary policy highly affected the running of public universities. The study also concluded that the income level of parents/guardians highly affected the admission of students. In terms of technological factors, the study concluded that there was moderation in uptake of technology in the public universities in Kinshasa, which partially affected the enhancement of lesson presentations, work processes, collaboration, research output and competencies development.

### 5.3.4 Ethical Factors and Performance of Public Universities

The research concluded that public universities in Kinshasa, DRC, were considerably and favourably affected by ethical considerations. Additionally, the study found that institutions' performance was favourably affected by ethical leadership, academic integrity, and research ethics. As a result of leaders' lack of complete commitment to promoting justice, operational openness, and conformity with the ethics code, this research found that there was moderation in ethical leadership. The research concluded that academic integrity was not completely implemented at Kinshasa's public institutions due to a lack of fully inculcated ethical norms among students and partially blocked opportunities for academic dishonesty. Furthermore, general job elements, education, and community service have not completely embraced high standards of ethics either. A firm strategy to guide actions on individuals who did not comply to research ethics may explain why the study concluded that research ethics were not being treated seriously enough.

### 5.3.5 Moderating Role of Institution Size on Factors and Performance

The study concluded that institution size impacted the relationship between factors and performance of public universities. The study concluded that the moderating role of institution size on the relationship between ethical factors and performance was insignificant while that of external factors was negative but significant. The study also concluded that there were no adequate recreational facilities for learners. Another conclusion was that learning facilities, offices and washrooms were moderately adequate in the public universities in Kinshasa.

## 5.4 Recommendations

The recommendations for management and policy as grounded on the implications and findings of the study are presented below.

### 5.4.1 Managerial Recommendations and Implications

#### 5.4.1.1. Individual Factors and Performance of Public Universities

The study found that individual factors had a significant positive relationship with the performance of public universities in Kinshasa, DRC. Specifically, employee skills, employee motivation and employee commitment were found to significantly contribute to

university performance. These findings provide the basis for the following recommendations.

University management should move beyond occasional staff training and establish a strategic talent development system that continuously enhances employees' competencies. Regular skills assessments, individualized development plans, coaching, and mentorship programs should be implemented to ensure employees acquire the knowledge and capabilities required to respond to the changing demands of higher education.

Additionally, Management should cultivate a culture where excellence, accountability, collaboration, and innovation are recognized and rewarded. Clear performance expectations, regular feedback, and recognition of outstanding achievements should become integral components of institutional management.

Rather than relying solely on financial incentives, university management should introduce innovative recognition initiatives such as annual excellence awards, innovation competitions, peer recognition programs, and leadership appreciation ceremonies. Celebrating employee achievements strengthens morale, increases organizational commitment, and encourages continuous improvement.

Managers should adopt participatory leadership practices that actively involve employees in planning, problem-solving, and institutional decision-making. Regular consultative meetings, staff suggestion platforms, and cross-functional working groups can foster a sense of ownership, improve communication, and generate innovative solutions to organizational challenges.

Furthermore, managers should encourage employees to embrace lifelong learning, experimentation, and knowledge sharing. Establishing communities of practice, internal seminars, and innovation forums can facilitate the exchange of ideas and best practices, creating an environment where creativity and continuous improvement become part of the institutional culture.

Managers should ensure that every employee understands how their individual responsibilities contribute to the university's strategic objectives. Performance planning,

regular reviews, and constructive feedback should be aligned with institutional priorities to foster accountability, shared purpose, and improved organizational outcomes.

#### 5.4.1.2. Institutional Factors and Performance of Public Universities

The study found that institutional factors had a significant positive relationship with the performance of public universities in Kinshasa, DRC. Specifically, organizational structure, organizational resources and organizational culture were found to have strong positive and statistically significant impacts on university performance. These findings provide the basis for the following recommendations.

University management should regularly review and optimize the organizational structure to ensure it remains responsive to the evolving demands of higher education. Clear reporting relationships, streamlined decision-making processes, and well-defined responsibilities should be maintained to minimize bureaucratic delays, improve coordination, and enhance institutional responsiveness. A more agile organizational structure will enable universities to adapt quickly to emerging academic and administrative challenges.

Rather than focusing solely on increasing resources, university management should maximize the efficient utilization of existing financial, human, technological, and physical resources. Modern resource planning systems, transparent budgeting processes, and periodic resource utilization audits should be introduced to ensure that available resources generate the greatest possible value and contribute directly to institutional performance.

Additionally, university managers should diversify institutional revenue sources by strengthening partnerships with industry, alumni, research organizations, and international collaborators. Encouraging income-generating activities, research commercialization, consultancy services, and competitive grant acquisition can reduce dependence on traditional funding sources while improving the university's financial sustainability and operational flexibility.

Management should intentionally cultivate an organizational culture characterized by professionalism, integrity, accountability, collaboration, innovation, and continuous improvement. Institutional values should not only be communicated but also demonstrated

through leadership behaviours, daily management practices, and employee recognition systems. A strong organizational culture creates consistency in employee behaviour and strengthens institutional identity.

Furthermore, Managers should reinforce employees' understanding of the university's mission, vision, core values, and strategic priorities through leadership communication, staff orientation programs, institutional forums, and regular engagement activities. When employees clearly understand and embrace the institution's shared purpose, they are more likely to demonstrate commitment, teamwork, and consistent professional behaviour.

#### 5.4.1.3. External Factors and Performance of Public Universities

The study found that external factors had a significant relationship with the performance of public universities in Kinshasa, DRC. However, when external factors were analysed simultaneously with individual factors, institutional factors and ethical factors in the multivariable model, external factors had a negative and statistically significant relationship with university performance. These findings provide the basis for the following recommendations.

University management should strengthen institutional resilience by adopting proactive management strategies that reduce the effects of political instability and external interference on university operations. This can be achieved by promoting transparent governance, merit-based recruitment and promotion practices, strengthening internal accountability mechanisms, and ensuring that strategic decisions are guided by institutional priorities rather than external influences. Such managerial practices will safeguard institutional autonomy, promote fairness, and enhance organizational stability and performance.

Additionally, university managers should develop adaptive financial management practices that enable institutions to respond effectively to changing economic conditions. Strategic budgeting, prudent financial planning, cost optimization, and diversification of internally generated revenue should become integral components of institutional management. Expanding partnerships, consultancy services, research commercialization, alumni engagement, and other income-generating initiatives will strengthen financial

sustainability and reduce the impact of inflation, fluctuating interest rates, and other economic pressures on university operations.

Moreover, university management should adopt student-centred financial support strategies that improve access and retention despite economic challenges faced by parents and guardians. Strengthening scholarship schemes, flexible tuition payment arrangements, work-study opportunities, and partnerships with funding organizations can help minimize financial barriers to higher education while maintaining stable student enrolment and improving institutional performance.

Furthermore, university leaders should accelerate digital transformation by embedding technology into every aspect of teaching, learning, research, and administration. Greater investment in digital infrastructure, learning management systems, research technologies, and administrative information systems should be complemented by continuous training that equips employees with the digital competencies required to operate effectively in an increasingly technology-driven higher education environment.

Finally, management should cultivate an organizational culture that embraces technological innovation and continuous improvement. Employees should be encouraged to adopt new digital tools, share innovative practices, and participate in collaborative problem-solving initiatives that improve teaching quality, research productivity, administrative efficiency, and service delivery. Creating innovation platforms and recognizing technology-driven initiatives will encourage continuous modernization across the institution.

#### 5.4.1.4. Ethical Factors and Performance of Public Universities

The study found that ethical factors had a significant positive relationship with the performance of public universities in Kinshasa, DRC. Specifically, ethical leadership, academic integrity and research ethics were found to have a positive and statistically significant relationship with university performance. These findings provide the basis for the following recommendations.

University management should demonstrate ethical leadership by consistently modelling integrity, fairness, transparency, and accountability in all managerial decisions and

institutional practices. Leaders should create an environment where ethical behaviour is recognized, encouraged, and reflected in everyday actions. By leading through example, university managers can strengthen employees' trust, reinforce institutional credibility, and foster a culture of professionalism and responsibility.

Additionally, management should strengthen mechanisms that promote academic integrity throughout the university community. Continuous awareness campaigns, ethics orientation programmes, mentorship initiatives, and the effective use of academic integrity monitoring systems should be implemented to discourage plagiarism, examination malpractice, and other forms of academic dishonesty. Embedding ethical values into students' and employees' daily academic practices will contribute to higher educational quality and institutional reputation.

Moreover, university leaders should ensure that ethical standards are integrated into teaching, research, administrative work, and community engagement. Regular ethics training, professional development programmes, and open discussions on ethical dilemmas should be organized to reinforce responsible decision-making and encourage employees and students to uphold the highest standards of professional conduct in all university activities.

Universities' management should strengthen research governance by establishing effective institutional mechanisms that promote responsible research practices. Research ethics review processes, continuous ethics education, mentoring for early-career researchers, and systematic monitoring of research activities should be enhanced to ensure that all research complies with accepted ethical principles. Consistent application of ethical standards will improve the quality, credibility, and impact of the university's research outputs.

Additionally, university management should establish clear accountability mechanisms that encourage ethical compliance while addressing unethical conduct promptly and fairly. Transparent reporting procedures, confidential whistleblowing channels, impartial investigations, and consistent corrective measures will strengthen confidence in institutional governance and reinforce a culture of ethical responsibility.

Finally, university leaders should cultivate an institutional culture where ethics are viewed not merely as regulatory requirements but as a shared organizational value that guides behaviour, decision-making, and institutional excellence. By integrating ethical considerations into leadership practices, performance management, and daily operations, universities can strengthen stakeholder confidence, enhance institutional reputation, and achieve sustainable improvements in overall organizational performance.

### 5.4.2 Policy Recommendations

The current study found that factors constructs such as individual factors, institutional factors, external factors and ethical factors are critical in the performance of public universities. Consequently, failure to consider these factors during the strategic planning process could have a negative effect on the performance of public universities.

Universities should ensure that their strategic plans explicitly include human capital development as a strategic priority. Continuous professional development, employee motivation, leadership development, succession planning, and competency-based performance management should be translated into measurable strategic objectives with clearly defined targets and monitoring indicators. By embedding these initiatives within institutional strategic plans, universities will strengthen organizational capacity, improve employee commitment, and enhance the quality of teaching, research, innovation, and community service.

Institutional strengthening should also become a core component of university strategic planning. Strategic plans should provide clear directions for improving organizational structures, optimizing resource utilization, strengthening institutional culture, and modernizing administrative systems. Universities should align financial planning, infrastructure development, digital transformation, and human resource deployment with their long-term strategic priorities to ensure that institutional resources are managed efficiently and contribute directly to improved organizational performance.

Given the dynamic external environment in which public universities operate, institutional strategic plans should incorporate environmental scanning, risk assessment, and scenario planning as integral management practices. Regular analysis of political, economic,

technological, and social developments should inform strategic decision-making and enable universities to anticipate change rather than merely respond to it. Strategic plans should also promote institutional resilience by encouraging revenue diversification, strategic partnerships, innovation, research commercialization, and investment in digital technologies that strengthen the universities' competitiveness and long-term sustainability.

Ethical governance should be recognized as a strategic pillar of institutional development rather than merely a compliance obligation. Universities should integrate ethical leadership, academic integrity, and research ethics into their strategic objectives, leadership development programmes, performance management systems, and institutional culture. Strategic plans should include measurable initiatives that promote transparency, accountability, fairness, responsible research, and academic honesty, thereby strengthening stakeholder confidence and enhancing institutional reputation at both the national and international levels.

Finally, universities should institutionalize strategic monitoring, evaluation, and continuous learning to ensure that their strategic plans remain relevant and responsive to changing circumstances. Periodic reviews of strategic priorities, performance indicators, and implementation outcomes should be undertaken using reliable institutional data and stakeholder feedback. This process will enable university leadership to identify emerging opportunities, address implementation gaps, and continuously refine institutional strategies. By embedding strategic thinking, evidence-based decision-making, innovation, and ethical governance into the entire strategic management cycle, public universities in Kinshasa will be better positioned to achieve sustainable institutional performance, strengthen their competitiveness, and contribute more effectively to national socio-economic development

## 5.5 Contribution to Existing Knowledge

The findings of this study contribute to theory and the body of empirical knowledge by providing context-specific evidence on the factors impacting the performance of public universities in Kinshasa, Democratic Republic of Congo. The theoretical contribution arises from the application of Resource-Based View Theory, Institutional Theory, Complexity Theory and Deontological Theory to explain the relationships between

individual, institutional, external and ethical factors and university performance. The findings provide empirical support for the relevance of these theoretical perspectives within the context of public universities in Kinshasa.

The study also contributes to the empirical body of knowledge by providing evidence on the relationships between the identified factors and university performance, measured through sustainability, efficiency, innovation and customer satisfaction. In particular, the findings provide evidence on the positive relationships between individual, institutional and ethical factors and university performance, as well as the negative relationship between external factors and university performance when the factors are examined simultaneously. The study further contributes by demonstrating the moderating role of institution size in the relationships between the identified factors and university performance. These findings extend the existing empirical evidence by bringing together individual, institutional, external and ethical dimensions within one framework and applying them to public universities in Kinshasa, DRC.

The research's conclusions significantly advance the body of knowledge in many ways. Individual, institutional, external, and ethical factors were all shown to have a significant role in relationship with performance. This study therefore upholds and confirms the literature reviewed on various factors significantly impacting performance.

The previous research explained the impact of factors on performance. The current study looked at various factors at specific dimensions. Public university performance was thus the primary focus of the study, with a focus on particular sub-constructs, including sustainability, efficiency, innovation, and customer satisfaction. The current research expands knowledge by explaining how individual factors, institutional factors, external factors and ethical factors impact performance of public universities in line with sustainability, efficiency, innovation and customer satisfaction. The study therefore drives knowledge on how various internal and external factors can impact performance and affirms that each of these factors is vital for an institution's long-term prosperity and resilience. This introduces a new dimension on how future research can be approached in strategic planning process while targeting competitive edge.

The study also verifies that the impact of internal and external factors on the performance of universities is not only by a direct relationship, but also through institution size as moderating variable. Consequently, by shedding light on the moderating effect of institution size on the relationship between factors and performance, the research demonstrates how individual, institutional, external, and ethical variables affect the performance of public universities. According to the results, the above variables and performance of public universities in Kinshasa are moderated by institution size, which explains why there is a range of significant levels seen.

The research also adds to the existing body of literature, the strategic planning aspect as it incorporates new theoretical frameworks into the process of considering internal and external factors. The Resource Base View theory expands knowledge on how resources and capabilities that an organization controls are the key emphasis of performance. The study's empirical results offer new insights on the potential for adopting the RBV theory approach in the public universities for enhancing the sustainability, efficiency, innovation and customer satisfaction. This can be achieved by specifically considering employees' skills, motivation and commitment which are intangible resources. This is founded on the premise that public universities may achieve better results if they hire competent people and provide them with enough incentives to stay devoted to their jobs.

This research used institutional theory to better help understanding the pressure that institutions undergo to become more similar. The idea demonstrated that public universities operate in an environment in which the government and the university council determine in part the expectations for the university practices and behaviour. That is why public universities that made use of organizational resources and other institutional elements were able to improve their performance. The theory also explained the importance of public universities conforming to certain laid structures in the institutional environment in order to be considered legitimate. The study therefore contributes to theory as it highlights how the institutional factors such as organizational structure, organization resources and the organization culture should be streamlined based on the set guidelines by the government to boost performance.

The complexity theory helped in understanding the social behaviours in the public universities and the networks of people involved in and around. The theory also emphasized on the interactions and the accompanying feedback loops that constantly change systems in an institution. This study showed that external factors such as political factors, economic factors and technological factors had an impact on the performance of public universities. Political instability highly affected performance, influenced appointment of employees, and placement of students. The study also highlighted that economic factors including the country's interest rate, inflation rate and monetary policy highly affected the running of public universities. Partial uptake of technology in the public universities in Kinshasa also affected the enhancement of lesson presentations, work processes, collaboration, research output; and competencies development was to a medium extent. The study therefore demonstrated the significance of considering external factors as the political environment could influence the public universities performance as key appointment of council members, allocation of resources and admission of students could be affected. In addition, economic environment also determined the funds to be allocated while the technological environment determined the different technologies that could be adopted by the public universities to boost their performance.

Important in the field of education, deontological theory posits that every person has the capacity to establish their own moral code. The theory explained how the morals of the stakeholders such as lecturers, administrators and students enhance the quality of education and research outputs. The study found that ethical leadership, academic integrity and research ethics significantly impact the performance of public universities. The study therefore contributes to the deontological theory by highlighting the importance of adopting ethical factors in the strategic planning process to boost performance. This is because there would be no discrimination and fairness would be encouraged among the staff and students. In addition, ethical leaders could promote transparency in administrative operations while lecturers could adopt academic integrity through research ethics, researchers could adhere to the policy to improve the quality of publications.

## 5.6 Limitations of the study

The study had several limitations that should be considered when interpreting its findings. First, the collection of data was costly because the researcher had to use various transportation means to access the public universities included in the study. To minimize these costs, the researcher maximized the time spent during each visit to the institutions and coordinated data collection activities to reduce repetitive commuting.

Second, some public university administrators were initially reluctant to provide secondary information even after the research permit had been presented. The researcher therefore took time to explain the purpose and scope of the study in order to build confidence and encourage cooperation in providing the necessary information.

Third, the researcher incurred additional costs in supporting research assistants, particularly for transportation and meals during the data collection exercise. To minimize these costs, each visit to a public university was organized to allow the research assistants to collect as much data as possible within the available time.

These limitations were mainly logistical and resource-related and did not fundamentally alter the study design, sampling procedures or analysis of the collected data. However, they provide important context for interpreting the findings and should be considered when applying the conclusions of the study to other settings.

## 5.7 Areas for Further Studies

Based on the scope, delimitations and findings of the present study, several areas are suggested for further research. First, the study was geographically delimited to the three public universities in Kinshasa, DRC. Future studies could extend the investigation to public universities in other provinces of the Democratic Republic of Congo to determine whether the relationships identified in Kinshasa are also observed in different geographical and institutional contexts.

Second, the study focused on individual, institutional, external and ethical factors. Future studies could examine additional factors that were beyond the scope of the present study,

including societal and legal factors, to provide a broader understanding of the determinants of public university performance.

Third, the study examined public universities only. Future research could undertake comparative studies involving public and private universities to establish whether the factors identified in the present study operate differently across the two types of higher education institutions.

Fourth, the study examined institution size as a moderating variable, using physical facilities as an indicator of institution size. Future studies could examine other potential moderating variables, such as strategic flexibility, institutional autonomy or other contextual characteristics, to determine whether they alter the relationships between the identified factors and university performance.

Fifth, the study found that external factors had a negative and statistically significant relationship with university performance when the factors were analysed simultaneously in the multivariable model. Future research could investigate this finding in greater depth by examining the specific mechanisms through which political, economic and technological conditions influence the performance of public universities.

Finally, the study found that institution size significantly influenced the relationships between the identified factors and university performance, but the findings did not establish that larger public universities necessarily performed better. Future studies could therefore investigate more closely how differences in institutional size, physical capacity and other organizational characteristics interact with the factors affecting university performance.

aspects of both internal and external factors were the exclusive focus of the research. Subsequent research needs to focus on other aspects including societal and legal factors. In addition, since the research toot place in Kinshasa only, it is recommended that similar studies should be conducted in other public universities located in other parts of DRC. Another recommendation is that a comparative study focusing on the impact of factors on performance should be conducted in both public and private institutions of higher learning to compare results. This study only considered the moderating role of institution size on the relationship between factors and performance of public universities. It is recommended that future studies could consider other moderating variables such as strategic flexibility. While the research did indicate that larger institutions had an effect on ethical factors, it

did not find that public universities in Kinshasa performed better as a result. In order to compare the findings, it is recommended that future research be carried out in other sectors of higher education, such the private sector.

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# APPENDICES

## Appendix I: Letter of Introduction

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA
A.M.E.C.E.A
SCHOOL OF BUSINESS & ECONOMICS
Department of Graduate Business Studies
P.O. BOX 62157 00200 Nairobi – KENYA
Tel: 020-2525811-5, 8890023-4,
Email: gbs@cuea.edu or hodgbs@cuea.edu
Website: www.cuea.edu

**Our Ref:** CUEA/SoBE/GBS/JM/phd.rec//315/2024

15th August 2024

**TO WHOM IT MAY CONCERN**

Dear Sir/Madam,

**RE: NTIBI MAWANIKA CHRISTIAN - REG. NO. 1048223**

The above named is a student at The Catholic University of Eastern Africa, Nairobi - Kenya, in the School of Business and Economics, Department of Graduate Business Studies. She is pursuing Ph.D. in Business Administration (Strategic Management Option).

As part of the Ph.D. requirements, the University expects the student to write a research dissertation. Christian requires your assistance in carrying out her research study by providing her with a research permit and/or the necessary information. Her dissertation is entitled, ***"Factors Impacting Performance of Public Universities in Kinshasa, Democratic Republic of Congo".***

Any assistance accorded to Christian will be highly appreciated. All the information provided will be used purely for academic purposes and will be treated with utmost confidentiality.

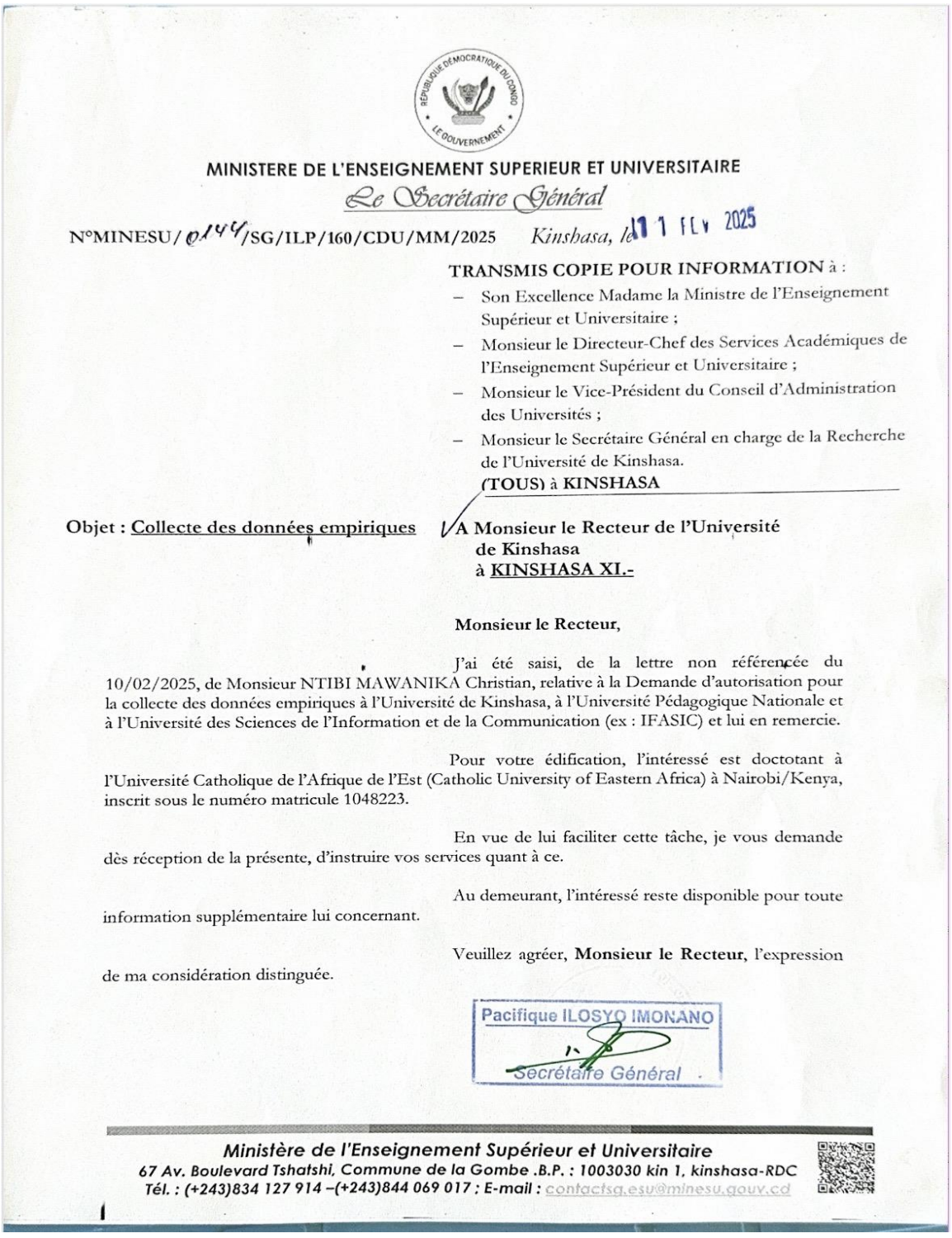
Thank you.

Yours faithfully,

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA H.O.D. 15 AUG 2024 GRADUATE BUSINESS SCHOOL P.O. BOX 62157 NAIROBI

**Dr. Joseph Macheru, PhD., CPA-K**
HoD, Graduate Business Studies

## Appendix II: Letters of Authorization



MINISTERE DE L'ENSEIGNEMENT SUPERIEUR ET UNIVERSITAIRE

*Le Secrétaire Général*

N°MINESU/0144/SG/ILP/160/CDU/MM/2025 *Kinshasa, le* 17 FEV 2025

**TRANSMIS COPIE POUR INFORMATION** à :

- Son Excellence Madame la Ministre de l'Enseignement Supérieur et Universitaire ;
- Monsieur le Directeur-Chef des Services Académiques de l'Enseignement Supérieur et Universitaire ;
- Monsieur le Vice-Président du Conseil d'Administration des Universités ;
- Monsieur le Secrétaire Général en charge de la Recherche de l'Université de Kinshasa.

**(TOUS) à KINSHASA**

**Objet : Collecte des données empiriques**

**A Monsieur le Recteur de l'Université de Kinshasa**
**à KINSHASA XI.-**

**Monsieur le Recteur,**

J'ai été saisi, de la lettre non référencée du 10/02/2025, de Monsieur NTIBI MAWANIKA Christian, relative à la Demande d'autorisation pour la collecte des données empiriques à l'Université de Kinshasa, à l'Université Pédagogique Nationale et à l'Université des Sciences de l'Information et de la Communication (ex : IFASIC) et lui en remercie.

Pour votre édification, l'intéressé est doctotant à l'Université Catholique de l'Afrique de l'Est (Catholic University of Eastern Africa) à Nairobi/Kenya, inscrit sous le numéro matricule 1048223.

En vue de lui faciliter cette tâche, je vous demande dès réception de la présente, d'instruire vos services quant à ce.

Au demeurant, l'intéressé reste disponible pour toute information supplémentaire lui concernant.

Veuillez agréer, **Monsieur le Recteur**, l'expression de ma considération distinguée.

Pacifique ILOSYO IMONANO
Secrétaire Général

*Ministère de l'Enseignement Supérieur et Universitaire*
*67 Av. Boulevard Tshatshi, Commune de la Gombe .B.P. : 1003030 kin 1, kinshasa-RDC*
*Tél. : (+243)834 127 914 –(+243)844 069 017 ; E-mail : contactsg.esu@minesu.gouv.cd*

MINISTERE DE L'ENSEIGNEMENT SUPERIEUR ET UNIVERSITAIRE

*Le Secrétaire Général*

N°MINESU/01143 /SG/ILP/160/CDU/MM/2025 *Kinshasa, le* 11 FEV 2025

**TRANSMIS COPIE POUR INFORMATION** à :

- Son Excellence Madame la Ministre de l'Enseignement Supérieur et Universitaire ;
- Monsieur le Directeur-Chef des Services Académiques de l'Enseignement Supérieur et Universitaire ;
- Monsieur le Vice-Président du Conseil d'Administration des Universités ;
- Monsieur le Secrétaire Général en charge de la Recherche de l'Université Pédagogique Nationale.

**(TOUS) à KINSHASA**

**Objet : Collecte des données empiriques**

**A Madame la Rectrice de l'Université Pédagogique Nationale à KINSHASA/NGALIEMA.-**

**Madame la Rectrice,**

J'ai été saisi, de la lettre non référencée du 10/02/2025, de Monsieur NTIBI MAWANIKA Christian, relative à la Demande d'autorisation pour la collecte des données empiriques à l'Université de Kinshasa, à l'Université Pédagogique Nationale et à l'Université des Sciences de l'Information et de la Communication (ex : IFASIC) et lui en remercie.

Pour votre édification, l'intéressé est doctotant à l'Université Catholique de l'Afrique de l'Est (Catholic University of Eastern Africa) à Nairobi/Kenya, inscrit sous le numéro matricule 1048223.

En vue de lui faciliter cette tâche, je vous demande dès réception de la présente, d'instruire vos services quant à ce.

Au demeurant, l'intéressé reste disponible pour toute information supplémentaire lui concernant.

Veuillez agréer, **Madame la Rectrice**, l'expression de ma considération distinguée.

Pacifique ILOSYO IMONANO
Secrétaire Général

*Ministère de l'Enseignement Supérieur et Universitaire*
*67 Av. Boulevard Tshatshi, Commune de la Gombe .B.P. : 1003030 kin 1, kinshasa-RDC*
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MINISTERE DE L'ENSEIGNEMENT SUPERIEUR ET UNIVERSITAIRE

*Le Secrétaire Général*

N°MINESU/0145/SG/ILP/160/CDU/MM/2025 *Kinshasa, le* 11 FEV 2025

**TRANSMIS COPIE POUR INFORMATION** à :

- Son Excellence Madame la Ministre de l'Enseignement Supérieur et Universitaire ;
- Monsieur le Directeur-Chef des Services Académiques de l'Enseignement Supérieur et Universitaire ;
- Monsieur le Vice-Président du Conseil d'Administration des Universités ;
- Monsieur le Secrétaire Général en charge de la Recherche de l'Université des Sciences de l'Information et de la Communication.

**(TOUS) à KINSHASA**

**Objet : Collecte des données empiriques**

**A Monsieur le Recteur de l'Université des Sciences de l'Information et de la Communication (ex : IFASIC) à KINSHASA/GOMBE.-**

**Monsieur le Recteur,**

J'ai été saisi, de la lettre non référencée du 10/02/2025, de Monsieur NTIBI MAWANIKA Christian, relative à la Demande d'autorisation pour la collecte des données empiriques à l'Université de Kinshasa, à l'Université Pédagogique Nationale et à l'Université des Sciences de l'Information et de la Communication (ex : IFASIC) et lui en remercie.

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*Ministère de l'Enseignement Supérieur et Universitaire*
*67 Av. Boulevard Tshatshi, Commune de la Gombe .B.P. : 1003030 kin 1, kinshasa-RDC*
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**MINISTRY OF HIGHER AND UNIVERSITY EDUCATION**
*The Secretary General*

Ref. No.: MINESU/0144/SG/ILP/160/CDU/MM/2025
Kinshasa, 11 February 2025

**COPY SENT FOR INFORMATION TO:**

- Her Excellency Madam Minister of Higher and University Education
- Mr. Director–Head of Academic Services of Higher and University Education
- Mr. Vice-President of the University Board of Directors
- Mr. Secretary General in charge of Research at the University of Kinshasa

(ALL) KINSHASA

**Subject: Collection of Empirical Data**

**To Mr. Rector of the University of Kinshasa**
**at Kinshasa XI**

**Sir,**

On 10/02/2025, I received the letter from Mr. NTIBI MAWANIKA Christian relating to the request for authorization for the collection of empirical data at the University of Kinshasa, the National Pedagogical University, and the University of Information and Communication Sciences (formerly IFASIC), and I thank him.

For your information, the interested party is a doctoral student at The Catholic University of Eastern Africa, Nairobi / Kenya, under registration number 1048223.

In order to facilitate this task for him, I request that you instruct your services accordingly.

Furthermore, the interested party remains available for any additional information concerning him.

Please accept, **Sir**, the expression of my distinguished consideration.

ACK
LANGUAGE & ORIENTATION SCHOOL
P. O. Box 47429 - 00100, NAIROBI.
TEL: 2721893

08/04/2026.

## Appendix III: Data Collection Instrument

Dear Sir/Madam,

I am currently (2024) conducting research for my PhD on the factors impacting performance of public universities in Kinshasa, DRC. You have been selected for this survey because of your ability to provide the required information. This study has important implications for universities like yours as it has the potential to inform policy-making and lead to better institutional policies. The questionnaire will only take about 10 minutes to complete and I will be grateful if you would take this time to answer the questions.

I am also sensitive about maintaining confidentiality about your university, and therefore I will treat your answers in a confidential manner and use the information only for this research. I would like to thank you in advance for your time and participation in this study.

**A. Demographic Information of the Respondents**

**1. Gender:**

Male ( ) Female ( )

**2. For how long has the institution been in operation?**

a) 0-5 years ( )
b) 6-10 years ( )
c) 11-15 years ( )
d) 16-20 years ( )
e) Above 20 years ( )

**3. What is your highest level of education?**

a) Undergraduate Degree ( )
b) Masters Degree ( )
c) PhD ( )

**4. For how long have you been in the university?**

a) Less than a year ( )
b) 1 – 4 years ( )
c) 5 -9 years ( )

d) More than 9 years ( )

**5. What is your current position in the university?**

a) Board member ( )

b) University council member ( )

c) Faculty council member ( )

d) Departmental council member ( )

## B. Dependent Variable: Public Universities Performance

Please put a tick (√) where appropriate: -

| **B** | **Dependent variable- Public universities performance** | | | | | |
|---|---|---|---|---|---|---|
| **S/N** | **Statement** | **Strongly Disagree** | **Disagree** | **Don't Know** | **Agree** | **Strongly Agree** |
| **B-1** | **Sustainability** | | | | | |
| 1 | Teaching and learning has been enhanced due to the various factors | | | | | |
| 2 | Knowledge has been co-created among employees and shared to students | | | | | |
| 3 | The university has engaged in more community activities | | | | | |
| **B-2** | **Efficiency** | | | | | |
| 4 | The university has been able to achieve its goals within the set time | | | | | |
| 5 | The university has been able to improve its operations and processes | | | | | |
| 6 | The university has been able to enhance its workforce efficiency | | | | | |
| **B-3** | **Innovation** | | | | | |
| 7 | The university has been able to introduce new teaching methods | | | | | |
| 8 | The university has been able to introduce new competitive courses | | | | | |
| 9 | The university has introduced new work processes | | | | | |
| **B-4** | **Customer satisfaction** | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 10 | The students are satisfied with services offered in the university | | | | | |
| 11 | The parents are satisfied with the quality of education offered in the university | | | | | |
| 12 | The industry/employers are satisfied with the quality of education offered in the university | | | | | |

## C. Independent Variable: Factors

| S/N | Statement | Strongly Disagree | Disagree | Don't Know | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| **C** | **Individual Factors** | | | | | |
| **C-1** | **Employee Skills** | | | | | |
| 1 | Skills have enabled employees to complete tasks on time | | | | | |
| 2 | Skills have enhanced the professionalism of employees | | | | | |
| 3 | Skills have enabled lecturers offer quality teaching | | | | | |
| 4 | The management compensates employees based on their skills | | | | | |
| 5 | The university organizes for trainings to enhance employee skills | | | | | |
| **C-2** | **Employee Motivation** | | | | | |
| 6 | The university has developed an infrastructure to motivate employees | | | | | |
| 7 | The university motivates employees in different ways | | | | | |
| 8 | Employee motivation has been used as a strategy to improve performance | | | | | |
| 9 | Motivation has improved staff efficacy | | | | | |
| 10 | The university has made it a priority to keep employees motivated | | | | | |
| **C-3** | **Employee Commitment** | | | | | |
| 11 | The university recruits employees who are committed to achieve organizational goals | | | | | |
| 12 | Rewarding employees based on their qualifications has made them more committed | | | | | |
| 13 | Committed employees have brought more value to the university | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 14 | Organizing for professional development programmes have made the employees more committed | | | | | |
| 15 | Employees who are involved in decision making are more committed | | | | | |
| **D** | **Institutional Factors** | | | | | |
| **D-1** | **Organizational Structure** | | | | | |
| 16 | The organization structure promotes effective communication in the university | | | | | |
| 17 | The organization structure ensures there is flow of information in different departments | | | | | |
| 18 | The organization structure ensures all work processes are efficiently functioning | | | | | |
| 19 | the organization structure ensures that there is no overlapping of functions | | | | | |
| 20 | The organization structure boosts performance | | | | | |
| **D-2** | **Organizational Resources** | | | | | |
| 21 | The university budgets for the available financial resources | | | | | |
| 22 | The university has recruited adequate human resources to manage all operations | | | | | |
| 23 | The university has adequate physical resources to boost learning outcomes | | | | | |
| 24 | The university has acquired technological resources to enhance efficiency of operations | | | | | |
| 25 | The organizational resources influence performance | | | | | |
| **D-3** | **Organizational Culture** | | | | | |
| 26 | The university has shared assumptions known by all stakeholders | | | | | |
| 27 | The university has a motto that is known by all stakeholders | | | | | |
| 28 | The university has core values that are known by all stakeholders | | | | | |
| 29 | The university has shared beliefs that are known by all stakeholders | | | | | |
| 30 | The organizational culture has influenced the work behavior of employees | | | | | |
| **E** | **External Factors** | | | | | |
| **E-1** | **Political Factors** | | | | | |

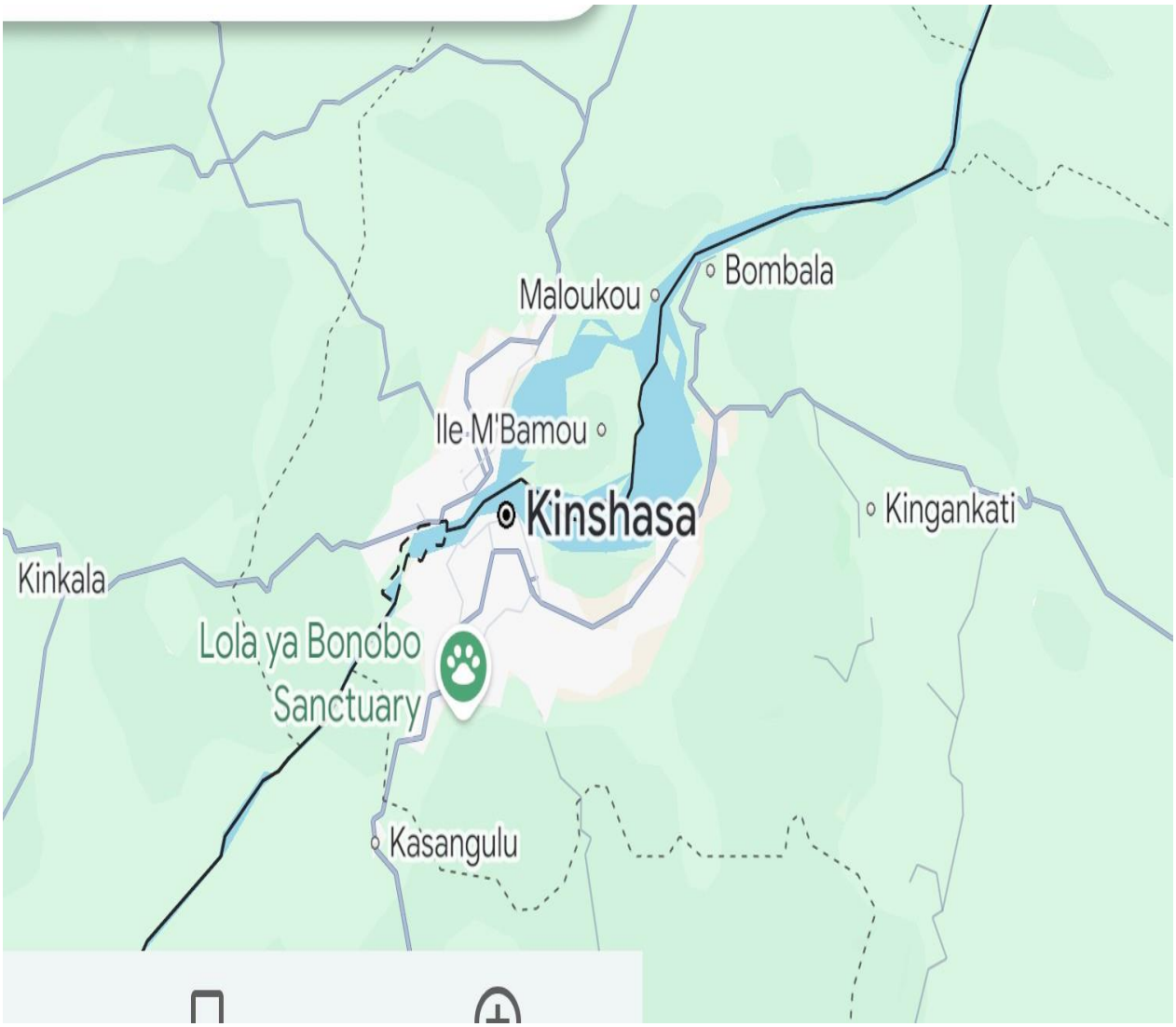
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|---|---|---|---|---|---|---|
| 31 | Political instability has affected the performance of the university | | | | | |
| 32 | Political interference has influenced the appointment of staff members | | | | | |
| 33 | Political interference has influenced the placement of students in the university | | | | | |
| 34 | Political interference has influence the expansion of the university | | | | | |
| 35 | Political interference has influenced allocation of resources for the university | | | | | |
| **E-2** | **Economic Factors** | | | | | |
| 36 | The economic status of the country has affected the allocation of resources for the university | | | | | |
| 37 | The interest rate has affected the running of the university | | | | | |
| 38 | The inflation rate has affected the running of the university | | | | | |
| 39 | The income level of the parents and guardians has affected the admission of students in the university | | | | | |
| 40 | The monitory policy of the country has affected the running of the university | | | | | |
| **E-3** | **Technological Factors** | | | | | |
| 41 | Technology has enabled the university to enhance lesson presentation | | | | | |
| 42 | Technology has enabled the university to improve its work processes | | | | | |
| 43 | Technology has enabled the university to collaborate with other universities | | | | | |
| 44 | Technology has enabled the university to improve the quality of research output | | | | | |
| 45 | Technology has enabled the university to develop competences for its employees | | | | | |
| **F** | **Ethical Factors** | | | | | |
| **F-1** | **Ethical Leadership** | | | | | |
| 93 | Leaders have been able to ensure there is fairness in the university | | | | | |
| 94 | Leaders have been able to provide ethical guidance to the employees | | | | | |
| 95 | Leaders have been able to ensure there is transparency in operations | | | | | |
| 96 | Leaders have ensured that employees comply with the ethics code | | | | | |
| 97 | Leaders have ensured that there is no discrimination | | | | | |

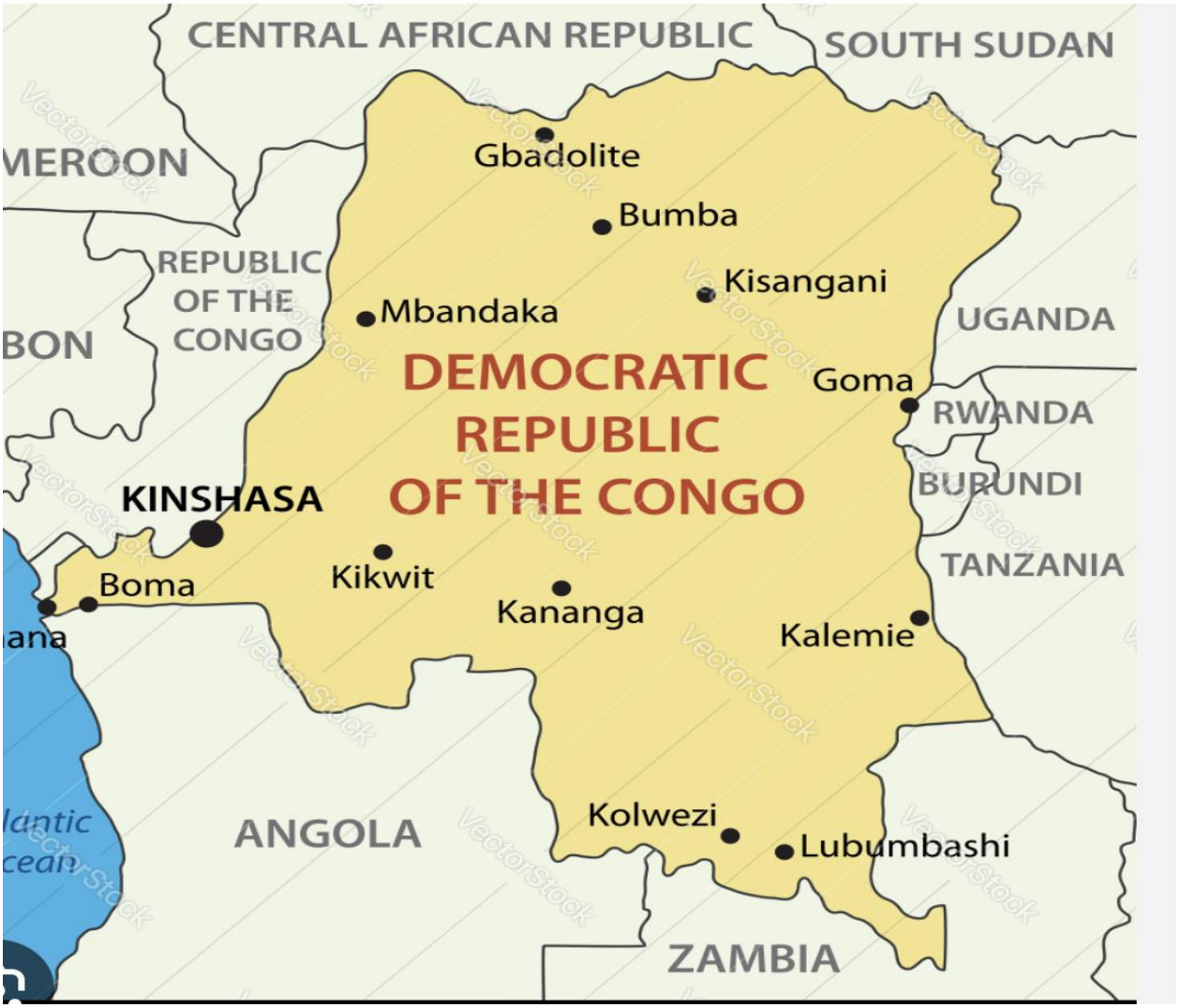
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|---|---|---|---|---|---|---|
| **F-2** | **Academic Integrity** | | | | | |
| 98 | Lecturers have been able to instill ethical values to the students | | | | | |
| 99 | Loopholes leading to academic dishonesty have been sealed | | | | | |
| 100 | The university has attained high levels of ethics in service for community | | | | | |
| 101 | The university has attained high levels of ethics in teaching and learning | | | | | |
| 102 | The university has attained high levels of ethics in their generic work | | | | | |
| **F-3** | **Research Ethics** | | | | | |
| 103 | The university has established a research ethics committee | | | | | |
| 104 | Staff and students are encouraged to avoid plagiarism and falsification | | | | | |
| 105 | The university has ensured academic and scientific work done is of good quality | | | | | |
| 106 | The university has ensured that each researcher is aware of research ethics | | | | | |
| 107 | The university has in place a policy to guide actions to be taken on those who do not adhere to research ethics | | | | | |

## G. Moderating Variable: Institution Size

| **B** | **Moderating variable- Organization Size** | | | | | |
|---|---|---|---|---|---|---|
| **S/N** | **Statement** | **Strongly Disagree** | **Disagree** | **Don't Know** | **Agree** | **Strongly Agree** |
| **G-1** | **Physical Facilities** | | | | | |
| 118 | I ensure there are adequate learning facilities for learners | | | | | |
| 119 | I ensure there are adequate recreational facilities for learners | | | | | |
| 120 | I ensure there are adequate offices for teachers and other staff | | | | | |
| 121 | I ensure there are adequate washrooms for learners and staff | | | | | |
| 122 | I ensure that all the facilities are regularly maintained | | | | | |

**Appendix V: Maps**




CENTRAL AFRICAN REPUBLIC
SOUTH SUDAN
MEROON
Gbadolite
Bumba
REPUBLIC
OF THE
CONGO
Kisangani
Mbandaka
UGANDA
BON
DEMOCRATIC
REPUBLIC
OF THE CONGO
Goma
RWANDA
KINSHASA
BURUNDI
TANZANIA
Kikwit
Boma
Kananga
Kalemie
ANGOLA
Kolwezi
Lubumbashi
ZAMBIA