St. Mary's University

PROCEEDINGS OF THE 23RD INTERNATIONAL CONFERENCE ON PRIVATE HIGHER EDUCATION IN AFRICA

Theme: The Academic Profession and Research Excellence in Africa

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The 23rd International Conference on Private Higher Education in Africa

Office of the Vice President for Research and International Relations (OVPRIR)

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Preamble

It is with immense pride and profound pleasure that the Office of the Vice President for Research and International Relations (OVPRIR) presents this volume of proceedings from the 23rd International Conference on Private Higher Education in Africa. For twenty-three consecutive years, this conference has served as an indispensable beacon, illuminating critical discourse and fostering collaboration within Africa's dynamic private higher education sector. Our unwavering commitment to hosting this premier annual gathering underscores our deep belief in its vital role in shaping the continent's educational future.

This year's conference convenes in the vibrant heart of Africa, Addis Ababa, Ethiopia, at the Inter Luxury Hotel on May 29, 2025. It brings together a distinguished assembly of scholars, policymakers, institutional leaders, and practitioners, united by a common purpose: to critically engage with the evolving landscape of private higher education across the continent.

The conference's core aim is to provide a vital platform for stakeholders to exchange knowledge, confront contemporary challenges, explore emerging trends, and collectively strategize for the enhancement of quality, which resonate powerfully throughout the day. The rich dialogue and insightful presentations directly address the critical mission of strengthening private higher education as a key pillar in Africa's broader development and knowledge ecosystem.

The proceedings will remarkably be framed by thought-provoking opening addresses from eminent leaders, whose perspectives are crucial to this sector, including Assoc.Prof. Wondwosen Tamrat, Founder and President of St. Mary's University; providing an institutional leadership perspective; Prof. Olusola Oyewole, Secretary General of the Association of African Universities, focusing on inter-institutional collaboration and quality; Prof. Damtew Tefera, founding Director of the International Network for Higher Education in Africa, offers foundational insights; Mr. Edward Makume, representing the African Union Commission (Ethiopia), emphasizes continental priorities; Dr. Rita Bissoonauth, Head of the UNESCO Liaison Office to the African Union and UNECA, and Representative to Ethiopia, highlighting the international and regional dimensions, and Mr. Kora Tushune, Minister of Higher Education of the Federal Democratic Republic of Ethiopia, Ethiopian Ministry of Education, setting the national context.

This volume captures a significant portion of the conference's intellectual output, featuring eleven rigorously reviewed research papers. These contributions delve into diverse facets of private higher education in Africa, reflecting the conference themes and offering valuable empirical insights, theoretical frameworks, and practical recommendations. The papers stand as tangible evidence of the ongoing scholarly effort to understand, critique, and improve this vital sector.

OVPRIR, in collaboration with St. Mary's University Press, has undertaken the publication of these proceedings to ensure the broadest possible dissemination. Hence, publication will be made accessible to the wider academic community in both hard copies, available at St. Mary's University's library, and soft copies, archived within the University's digital repository.

Finally, OVPRIR extends its deepest gratitude to all who prepared the 23rd International Conference and will make these proceedings possible. Our sincere thanks go to the dedicated researchers whose works forms the core of this volume, to the engaged participants whose discussions enrich the conference, and to the tireless organizers whose commitment ensured its smooth execution. It is through this collective endeavor that we continue to advance the critical mission of enhancing the quality, relevance, and contribution of private higher education across Africa. We trust this collection will serve as a valuable resource and inspire further research and dialogue.

Office of the Vice President for Research and International Relations (OVPRIR)

Welcoming Remarks, Wondwosen Tamrat (Assoc.Prof.,PhD), Founder and President, St. Mary's University

His Excellency, Ato Kora Tushune, State Minister of Higher Education of the Federal Democratic Republic of Ethiopia,

Professor Olusola Oyewole, Secretary General of the Association of African Universities, Distinguished guests, Ladies and gentlemen, all protocols are observed.

Good morning.

It is with great pleasure and a deep sense of honor that I welcome you all to the 23rd International Conference on Private Higher Education in Africa, organized and hosted by St. Mary's University in collaboration with our esteemed partners. We are especially pleased to welcome our in-person and virtual participants, those who have gathered here in Addis Ababa and those joining us from across the globe. Your presence—physical or virtual—is a powerful reminder of our shared commitment to advancing higher education in Africa.

Today, we have come together for a one-day gathering of minds, ideas, and aspirations. Under the timely and significant theme, "The Academic Profession and Research Excellence in Africa," this conference brings into focus critical dimensions of higher education that are shaping the future of our societies.

We are honored to welcome around 200 participants, including educators, researchers, policymakers, university leaders, students, and partners from across the world. Participants have joined us from a wide range of countries—including Ghana, France, the UK, Spain, Norway, Canada, the USA, Kenya, South Africa, Egypt, and, of course, Ethiopia—reflecting the truly international nature of this gathering. The conference is made possible through the invaluable support of our partners: the Ethiopian Ministry of Education, the Association of African Universities, the African Union Commission, the Organization of Southern Cooperation, and the International Network for Higher Education in Africa, and the University of KwaZulu-Natal in South Africa.

The theme of this year's conference, "The Academic Profession and Research Excellence in Africa," speaks to two foundational pillars of higher education: The people who generate and transmit knowledge, and the systems through which knowledge is created, shared, and used to drive societal development.

The first sub-theme, "The Academic Profession in Times of Change," invites us to critically assess how academic roles are evolving. It calls us to reflect on how we develop and sustain strong academic programs, foster academic mobility and scholarly exchange, and balance global engagement with local responsibility. The academic profession today must navigate new modalities of teaching and learning—whether face-to-face, online, or hybrid—while maintaining the integrity and credibility of academic work in both regional and international contexts.

Our second sub-theme, "Research for Development and Impact," emphasizes the indispensable role of research in addressing Africa's complex and urgent development challenges. As universities are increasingly recognized as engines of innovation, it is vital that research agendas are aligned with local realities and that research outcomes lead to meaningful social and economic transformation. It is only through strategic investment in research and societal impact that our institutions can truly fulfill their development mandates.

We are deeply honored by the presence of His Excellency, Ato Kora Tushune, and State Minister of Higher Education, who has graciously agreed to open this important event despite his tight schedule. We thank him and his ministry for their unwavering support of our continued and collaborative efforts. Our sincere gratitude also goes to Professor Olusola Oyewole for his enduring leadership in promoting African higher education and fostering institutional collaboration across the continent.

We extend our heartfelt thanks to our keynote speakers for setting the stage for today's discussions, to the paper presenters for sharing their insights and findings, to the chairs for guiding the sessions, and to every participant—both in the room and online—for contributing to what promises to be a rich and meaningful dialogue.

As we begin our day of deliberations, I encourage all of us to engage fully, to think deeply, and to connect meaningfully. Let us use this opportunity to reflect, learn, and forge new collaborations that will strengthen the academic profession and enhance the contribution of research to Africa's development.

Once again, welcome to the 23rd International Conference on Private Higher Education in Africa. I wish you all a productive and inspiring day ahead!

Thank you.

Opening Remarks, Rita Bissoonauth (PhD), Director of the UNESCO Addis Ababa Liaison Office

His Excellency, Ato Kora Tushune, State Minister of Higher Education of the Federal Democratic Republic of Ethiopia,

His Excellency, Mr. Edward Makumbel, Director of the African Union Commission's Department of Education, Science, Technology, and Innovation,

Dr. Wondwosen Tamrat, St. Mary's University, President,

Representatives of institutions, Communities of the university, Ladies and gentlemen,

I am here on behalf of Dr. Rita, Director of the UNESCO Addis Ababa Liaison Office, because of her engagement in another urgent matter.

I am honored to speak at the 23rd International Conference on Private Higher Education in Africa organized by St. Mary's University on the theme "The Academic Profession and Research Excellence in Africa." I appreciate the opportunity to give a keynote speech representing UNESCO as one of the key organizations in the United Nations family working on the education sector, including higher education.

UNESCO is the only United Nations agency with a mandate in higher education and works with countries to ensure high-quality higher education opportunities are available to everyone and is very much concerned with supporting international mobility in higher education. One of the regional conventions that UNESCO is promoting in higher education is the Addis Convention, adopted on 12 December 2014 in Addis Ababa, which focuses on the recognition of studies, certifications, diplomas, degrees, and other academic qualifications concerning higher education. The other convention that UNESCO has successfully implemented is the 2019 Global Convention on the Recognition of Qualifications concerning Higher Education.

The theme of the year for this conference is very essential and timely to strengthen the relevance and quality of HLIs in Africa. UNESCO is committed to supporting African member states to improve the quality of both private and public universities through Campus Africa. The overall objective of "Campus Africa" is to support building integrated, inclusive and quality tertiary education systems and institutions for the development of inclusive and equitable societies on the continent.

As UNESCO has stated, Africa is a continent of opportunity, with the youngest population on the planet; however, it is estimated that the enrollment at the tertiary level of education is under 10% in Sub-Saharan Africa and 18% across the continent.

Education and research are the key factors of sustainable development, but today Africa needs to enhance the capacity of tertiary institutions and increase research outcomes with effective networking. The UNESCO's operational strategy for Priority Africa 2022-2029 and the

UNESCO's educational program, the Campus Africa flagship program, seek to strengthen access to and the quality of higher education in Africa by reinforcing and connecting Africa's tertiary education system, institutions, researchers, and communities to unlock individual, national, and regional potential. UNESCO appreciates the initiative of St. Mary's University to bring different professionals and researchers together to contribute to the quality of higher education in Africa.

It is known that private universities are operated, owned, and funded by the private sectors. As a private university, St. Mary's University is the only one that I know of organizing such an international conference. I think it will give a very good experience to the rest of the private universities in Ethiopia.

At this time, the private sector is the fastest growing-segment of higher education in many countries, including Africa. In the last few years, there has been a greater number of private higher education institutions established compared to government-owned universities, which makes the private sector an important partner in the provision of higher education.

The aim of this conference is to debate the role of higher education in Africa's sustainable future. It is crucial to create such a platform to improve the quality of higher education. As UNESCO, we have a firm stand to promote the role of private universities all over the world, including Africa.

The panel discussion, the research outputs, and keynote speeches from different professionals and authorities in this conference will address the major theme "The Academic Profession and Research Excellence in Africa" to sustain the quality and relevance of private higher education in particular and higher education in Africa and beyond. I thank you for those panelists and presenters in those different thematic areas that will give directions for the quality and relevance of the higher learning institutions.

Finally, I assure you that UNESCO will provide technical support in different intervention areas under its mandate. I would like to wish you a very successful conference and hope you enjoy the experience of sharing and learning from one another.

I thank you so much.

Opening Remarks, H.E. Ato Kora Tushune, State Minister of Higher Education of the Federal Democratic Republic of Ethiopia

Distinguished guests, Ladies and Gentlemen,

Good morning. On behalf of the Ministry of Education of the Federal Democratic Republic of Ethiopia, I would like to express the honor and pleasure of taking part in this important conference and delivering these opening remarks at the 23rd International Conference on Private Higher Education in Africa, under the theme "The Academic Profession and Research Excellence in Africa." Research as a scholarly endeavor and as a polarization of research outputs holds a key to the future of Ethiopia.

Ethiopia aspires to be the beacon of prosperity in Africa, driven by knowledge and technology in its pursuit of sustainable development and committed to transformational research and innovation that positively impact the well-being and dignity of its citizens and humanity. Currently, research conducted in our higher education institutions leaves a lot to be desired in advancing these aspirations of the country. Few researches go beyond thesis manuscripts, journal publications, and shelves of our offices and libraries.

Their impacts rarely go beyond the reputation and promotion of the team involved in the research. This research seldom starts from the problem or demand, does not involve stakeholders early in the process, and has no long-term and sustainable perspectives. Therefore, enhancing the quality and impact of educational research is central to the ongoing higher education reform of the country.

The majority of the reform initiatives, including the review of curricula and delivery methods, the overhauling of the student assessment examination system, differentiation of higher education in focus and admission, granting institutional autonomy, the introduction of performance management in public universities, strengthening of governance, leadership, and management capacity of higher education institutions, enhancing higher education data quality, embracing evidence-based higher education policy and practice, fixing the organization funding of research agenda, and the legislation of university-industrial link, integration of digital technology in higher education, are all positive steps in the right direction to reorient the research toward societal impact and national development. Most importantly, the differentiation of universities is expected to optimize the current disconnect we observe in the management of the knowledge life cycle in Ethiopian higher education, that is, knowledge generation, knowledge translation, knowledge application, and knowledge updating.

The differentiation of Ethiopian higher education institutions as research, applied science, comprehensive, and specialized universities, is aimed at enabling these institutions to identify

their mission along one or more of these stages in the knowledge life cycle. The ministry appreciates the contribution of private higher education for its role in expanding access and inclusion, fostering competition, reducing pressure on government resources and facilities, closely working with the market, and embracing underserved communities. As you can see from

this conference, the private higher education institutions can also play an important role in the promotion of research and innovation, venturing into the territories they are little known for in Ethiopia.

It's our hope that the trend will continue in the future, especially as they continue to partner with other institutions across the country and the continent. As widely known, Africa is underrepresented in global research and knowledge production and application. In the same vein, the academic profession, due to various factors, lacks the international visibility that others take for granted.

Coming to Ethiopia, the policy instruments that have been put in place in the last five years have enabled higher education institutions to operate on a competitive basis. Engagement with research, scientific outputs, and application of research findings are now part of key performance indicators in public higher education institutions. The production of national graduate admission tests and the integration of graduate education into the institutional research agenda of universities are some of the important initiatives that can improve the research performance of the institutions and the continent.

With respect to the private higher education institutions, the ministry has issued a number of directives that guide the paths public higher education and private higher education institutions should take. Among the directives, the one that requires private higher education institutions to re-register by presenting their institutional profile subject to on-site visits by the regulatory body. In addition to fulfilling the minimum requirements set by the Ministry of Education, each private higher education institution is required to meet various standards that would help improve the quality of education they provide.

These measures are taken to strengthen the sector and contribute to the quality of education and research with awareness of the public good nature of education. Excellences, ladies, and gentlemen, the federal government of Ethiopia has put emphasis on the effectiveness of research and the relevance of its outputs to the development needs of the country. As much as the success of academic programmes is measured by the number of entrepreneurial and employable graduates that universities produce, the outcome of research outputs should be measured by their impact on society at large.

Our research should embrace sustainable development goals and targets. They should contribute to the global efforts in addressing issues that are common challenges to humanity, that is, climate change, sustainable energy, poverty and social instability, environmental degradation, pandemics, and so on. In Africa, our higher education institutions should work hard to secure a decent place for Africa and its people in the coming knowledge- and technology-driven society.

Africans should not just be consumers of knowledge and technology, but should be part of the global knowledge generation and transmission hubs. The Ministry of Education strongly supports such commitment and recognizes the contribution of conferences like this one that's happening today towards creating a platform for academic debate. Therefore, I would like to reiterate the Ministry's commitment to provide effective oversight and support to Ethiopian

private higher education institutions in their effort to enhance access, inclusion, and quality of education they provide and increase their contribution to the research and innovation ecosystem of the country.

Finally, I would like to acknowledge St. Mary's University and its leadership for sustaining the legacy and hosting such an important event in Ethiopia, creating yet another important opportunity for scientific deliberation and sharing experience from across the continent and beyond, and upholding the timely issue of harnessing research for development. I also express my thanks to St. Mary's partners that supported the organization of today's conference, primarily the African Association of Universities, the International Network for Higher Education in Africa, and the University of KwaZulu-Natal, and the Organization of Southern Cooperation, the African Union Commission, and the Ministry of Education of the Federal Democratic Republic of Ethiopia. With these brief remarks, I now declare the 23rd edition of the International Conference on Private Higher Education in Africa.

Opening Remarks, Olusola Oyewole (Prof.), Secretary-General, Association of African Universities (AAU)

His Excellency, distinguished guests, esteemed colleagues, ladies and gentlemen; it is with great honor and a deep sense of responsibility that I warmly welcome you all to this 23rd International Conference on Private Higher Education in Africa. I bring greetings from the Association of African Universities and express my sincere appreciation to the organizers, scholars, policymakers, and practitioners who have gathered here to deliberate on the critical theme of "The Academic Profession and Research Excellence in Africa."

At a time when our continent is grappling with unprecedented global and local changes—ranging from technological revolutions to economic volatility, demographic transitions to governance shifts—the role of higher education, especially private higher education, has never been more vital.

The Academic Profession in Times of Change

The first sub-theme of this year's conference, *"The Academic Profession in Times of Change,"* could not be more timely. Across Africa, we are witnessing a transformation in the very fabric of academic life. From the evolving role of faculty to the demands for greater accountability, digital teaching, and lifelong learning, the academic profession is being reshaped before our very eyes.

Our universities—both public and private—must rise to the occasion. We must ask: How are we supporting our academics to thrive in this era of change? Are we empowering them with the resources, autonomy, and recognition they need to produce knowledge that matters? And are we reforming our institutional cultures to support academic freedom, innovation, and excellence?

Research for Development and Impact

The second sub-theme, "Research for Development and Impact," speaks directly to the heartbeat of Africa's transformation agenda. Research must not be confined to academic journals and ivory towers. It must become the engine that drives inclusive development, addresses real societal needs, and informs evidence-based policy across the continent.

Yet, we must confront the hard truths: Africa contributes less than 1% to global research output. Our investment in research and development remains dismally low. We must change this narrative. Let us prioritize research funding, strengthen university–industry linkages, build robust research ecosystems, and forge continental collaborations that leverage our collective intelligence.

As the AAU, we remain committed to supporting universities—especially private institutions—as partners in Africa's development journey. We encourage alignment of research agendas with the African Union's Agenda 2063, the Continental Education Strategy for Africa (CESA 2026–2035), and the United Nations Sustainable Development Goals (SDGs). Our scholars must be equipped not only to study Africa but to shape it.

A Call to Dialogue and Action

This conference is not just a gathering of ideas—it is a call to action. We must reflect deeply, dialogue robustly, and act decisively. The challenges are immense, but so are the opportunities. Together, we can chart a path where Africa's academic profession is empowered, its research agenda is transformative, and its higher education sector becomes a beacon of excellence.

I urge us all to make this conference a platform for bold thinking, strategic partnerships, and the renewal of our shared vision for a knowledge-driven Africa.

Let me conclude by expressing my appreciation to all institutions, scholars, and partners that have made this event possible. May our conversations here be impactful, our collaborations enduring, and our commitment to Africa's future unwavering:

Thank you, and may this conference be a resounding success.

Opening Remarks, Edward Makumbe, Director of the African Union Commission's Department of Education, Science, Technology, and Innovation (AU ESTI)

His Excellences, Distinguished Guests, Esteemed Scholars and Researchers, Ladies and Gentlemen,

It is my great honor and privilege to welcome you to this pivotal gathering as we deliberate on the academic profession and research excellence in Africa. At a time when global knowledge economies are advancing at an unprecedented pace, Africa must position itself not just as a participant but as a leader in research and innovation.

Today, the world's leading economies recognize that research and development (R&D) is the engine of progress. Consider this: The United States invests over $700 billion annually in R&D, China allocates more than $500 billion, and the European Union commits approximately $350 billion—reflecting their unwavering commitment to scientific and technological leadership.

Yet, across our great continent, Africa's total investment in R&D remains less than $20 billion annually, a fraction of what other regions dedicate to securing their future. While some countries, like South Africa, Kenya, and Nigeria, are making commendable efforts, our collective expenditure still falls below the global average of 1.7% of GDP, with many African nations investing less than 0.5% of GDP in R&D. This gap is not just a statistic—it represents missed opportunities for innovation, development, and self-reliance.

For Africa to compete and thrive, we must urgently prioritize and scale up investments in R&D, ensuring that our academic and research ecosystems are robust, well-funded, and aligned with continental and global development agendas.

Our discussions today are framed by two critical sub-themes.

First, The Academic Profession in Times of Change challenges us to reflect on how African academia must evolve amid digital transformation, demographic shifts, and the demand for skills that drive innovation. Our educators and researchers are the custodians of knowledge—yet they must also be agile, responsive, and empowered to meet the needs of a rapidly changing world.

Second, Research for Development Impact compels us to ensure that Africa's research outputs translate into real-world solutions. Too often, groundbreaking discoveries remain confined to journals rather than transforming lives. We must bridge the gap between laboratories and communities, between theory and practice, so that research directly addresses Africa's challenges—from healthcare and food security to renewable energy and smart infrastructure.

This vision is deeply embedded in both the United Nations Sustainable Development Goals (SDGs) and the African Union's Agenda 2063. SDG 9 calls for building resilient infrastructure, promoting inclusive industrialization, and fostering innovation—objectives that demand robust R&D systems. Similarly, Agenda 2063's Aspiration 1 envisions "a prosperous Africa based on

inclusive growth and sustainable development," underpinned by science, technology, and innovation. Flagship initiatives like the African Continental Free Trade Area (AfCFTA), the African Space Agency, the Science, Technology, and Innovation Strategy for Africa (STISA-2034), and the Continental Education Strategy for Africa underscore the imperative of homegrown research to drive continental integration and global competitiveness.

As we convene today, let us ask ourselves:

How can Africa dramatically increase its R&D investments to at least 1% of GDP, as pledged in the Abuja Declaration, and eventually match global standards?

How do we retain, empower, and incentivize our brightest minds, ensuring that brain drain becomes brain gain? And most importantly, how do we turn knowledge into action—transforming research into policies, industries, and opportunities that uplift all Africans?

The African Union remains committed to fostering partnerships that strengthen our academic and research institutions. We call upon governments, the private sector, and international collaborators to join us in building a continent where innovation thrives, where researchers are supported, and where knowledge serves as the foundation for sustainable progress.

I urge all participants to engage in frank, forward-thinking discussions that will chart a clear path toward research excellence and development impact.

Thank you.

Autonomy's Epistemic Edge: A Philosophical Analysis

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Abstract

This paper critically examines the concept of autonomy in Ethiopia's higher education reform, focusing on the epistemic dimension of autonomy. Ethiopia's recent efforts to grant autonomy to its public universities have predominantly been framed as a matter of financial independence, with an emphasis on the government's progressive withdrawal of budgetary support. This narrow understanding overlooks a critical dimension: the epistemic foundation underpinning true autonomy in higher education. Historically, Ethiopian universities have been structured and organized to validate and perpetuate Western epistemological frameworks, limiting their ability to cultivate subjectivity and knowledge systems. This Eurocentric orientation constrains genuine academic freedom and innovation, hindering the transformative potential of educational reform. This paper argues that achieving meaningful autonomy requires a fundamental re-examination of epistemic structures within Ethiopian universities. By focusing on the philosophical dimensions of knowledge production, this analysis reveals that autonomy must extend beyond financial and administrative matters to encompass the content and direction of knowledge creation. Without addressing the epistemic imbalance and fostering a more inclusive, locally meaningful approach to knowledge, the current push for institutional autonomy is unlikely to yield lasting success. Using a philosophical discursive analysis method, this study engaged in an extensive review of relevant literature to explore the intersection of autonomy and epistemic transformation. By highlighting the importance of reclaiming subjectivity and reorienting knowledge systems, the paper seeks to provide a comprehensive framework for understanding autonomy beyond its fiscal connotations, advocating for a model of higher education that empowers Ethiopian institutions to define and pursue their own epistemic goals.

Key Words: Epistemic Autonomy, Ethiopia, Higher Education

Introduction

Autonomy, a concept central to both moral and political philosophy, broadly refers to self-governance. In Kantian terms, it is the capacity of rational agents to legislate moral laws for themselves (Kant, 1785). Raz (1988:407) describes autonomy as determining 'one's own life course,' free from coercion and manipulation. Mill (1956:73) links autonomy to authentic 'character formation,' while Matheson (2024) extends it into the intellectual realm, defining epistemic autonomy as the freedom to chart one's own course in inquiry and knowledge production.

Yet, autonomy is not merely individual self-rule. Roberts and Wood (2007) emphasize that intellectual independence involves appropriating one's epistemic dependencies. Epistemic autonomy thus surpasses academic freedom, which centers on institutional rights and freedom of expression. Instead, it encompasses the right to determine what constitutes knowledge and on whose terms, aligning with Santos' (2014) vision of cognitive justice and Ndlovu-Gatsheni's (2018) call for epistemic decolonization.

In educational philosophy, autonomy incorporates not just structural self-rule but epistemic responsibility. In higher education, administrative and financial autonomy must be accompanied by epistemological freedom. When autonomy is reduced to managerial functions, universities risk becoming bureaucratic shells rather than intellectual vanguards. This concern becomes urgent in postcolonial settings, where knowledge systems have long been shaped by external paradigms.

Recent reforms such as Regulation No. 537/2023 aim to grant Ethiopian universities more operational independence. However, this autonomy is often framed in neoliberal terms—market efficiency, stakeholder engagement, and strategic alignment with national goals. While these moves mark a shift from centralization, they neglect the epistemic dimension. However, financial autonomy without epistemic self-determination sustains epistemic subalternity.

This article critiques Ethiopia's current trajectory by exposing how the autonomy discourse, beginning with Addis Ababa University (AAU), omits epistemic autonomy. AAU's institutional rhetoric emphasizes governance efficiency and economic competitiveness (AAU, 2024), while government proclamations stress financial self-sufficiency. Meanwhile, advocates argue for autonomy's economic impact (Abebe, 2024), ignoring its philosophical depth.

This paper contends that true university autonomy must include the freedom to challenge dominant epistemologies, craft contextually relevant research agendas, and integrate local knowledge systems. Drawing from African philosophy (Wiredu, 1996), postcolonial theory (Mbembe, 2016), and critical epistemology (Fricker, 2007), it calls for a reframing of autonomy that restores its epistemic edge and repositions the university as a site of cognitive justice and decolonial imagination.

Central Argument

This paper argues that the current discourse on autonomy in Ethiopian higher education is overly centered on financial independence and administrative decentralization, thereby sidelining the epistemic dimension that is essential to the university's *raison d'être*. While financial self-sufficiency—evidenced by universities' ability to generate revenue through tuition, research grants, and endowments—addresses immediate operational needs, it risks reducing autonomy to a managerial expedient rather than a transformative principle. The epistemic perspective, by contrast, foregrounds the university as a site of critical thought, where autonomy is measured not merely by fiscal metrics but by the freedom to challenge dominant paradigms, cultivate local epistemologies, and resist the hegemonic tendencies of global academic standardization. Autonomy must be conceptualized to include the capacity of universities to generate, validate, and disseminate knowledge on their own terms. Without attention to this epistemic edge, reforms risk reproducing dependency on external knowledge systems, even while pursuing structural independence. A philosophical analysis of autonomy reveals its deeper roots in intellectual freedom, epistemic justice, and the cultivation of critical reason.

Method

This paper employs philosophical discursive analysis as its central methodological approach, a method rooted in the traditions of Foucault (1970) and Gadamer (1975), who critically interrogate the conceptual, linguistic, and normative assumptions embedded in discourses surrounding autonomy, knowledge, and higher education. Rather than treating autonomy as a fixed institutional feature, this approach conceptualizes it as a dynamic philosophical construct shaped by historical, cultural, and epistemic forces. It enables a genealogical exploration of how Western epistemologies to shape Ethiopian universities, expose the power dynamics and epistemic hierarchies that persist beneath reforms emphasizing financial or managerial independence. Philosophical discursive analysis is particularly suited to revealing how these surface-level autonomies obscure deeper dependencies, making visible the epistemic subalternity and illuminating possibilities for epistemic emancipation. Complementing this approach, a systematic literature review was conducted, engaging with postcolonial theory, decolonial epistemology, African philosophy, and institutional studies on university autonomy. This included foundational texts and peer-reviewed scholarship selected for their thematic relevance to the tension between structural autonomy and intellectual sovereignty. Through this interdisciplinary and reflexive engagement, the paper constructs a dialogue between global theories and Ethiopia's specific higher education landscape, aiming to redefine university autonomy as a condition of epistemic self-determination.

The Concept of Autonomy in Higher Education

Autonomy in higher education traditionally refers to the capacity of universities to govern them without undue external interference, commonly framed through financial and administrative dimensions. Financial autonomy involves the ability to generate and manage resources independently (Estermann et al., 2009), while administrative autonomy entails control over internal governance structures, leadership appointments, and academic programming. These

dimensions gained global prominence amid late twentieth-century neoliberal reforms that emphasized decentralization, efficiency, and market responsiveness in public institutions (Marginson & Considine, 2000). However, such managerial framings have been criticized for reducing autonomy to technocratic functions, overlooking its epistemic foundations. True autonomy must enable intellectual freedom and critical inquiry, not just institutional self-management. Similarly, Altbach (2001) cautions against the commodification of education, warning that market-oriented reforms risk eroding the university's critical function.

In postcolonial contexts, autonomy intersects with state-building and the legacy of colonial education systems. As Sifuna (1998) demonstrates, reforms in African universities have often been shaped more by donor agendas than academic needs, leading to a form of "dependent autonomy" (Mamdani, 2007). This model leaves universities structurally autonomous yet epistemically constrained, often reliant on externally defined knowledge frameworks and curricula.

Epistemic autonomy moves beyond institutional self-rule to encompass the freedom to define, produce, and validate knowledge on locally meaningful terms. Spivak's (1988) critique of epistemic silencing underscores how colonial and neocolonial power structures marginalize non-Western epistemologies, a concern echoed in Santos's (2014) critique of "epistemicide." While current Ethiopian reforms, such as Regulation No. 537/2023, promote financial and administrative independence, they risk reinforcing epistemic dependency by aligning universities with market imperatives rather than intellectual emancipation. Such reforms may transform the university into a site of corporate functionality, undermining its critical and cultural missions.

Fricker's (2007) concept of epistemic injustice offers further insight, distinguishing testimonial and hermeneutical injustices that structurally discredit marginalized knowers. In postcolonial educational systems, both forms are prevalent through Eurocentric curricula and exclusionary epistemic norms. African philosophers, such as Wiredu (1996) and Hountondji (1990), stress the importance of reclaiming African intellectual traditions. Wiredu calls for "conceptual decolonization," urging African thinkers to engage their philosophical frameworks. Hountondji critiques both the romanticization of tradition and the uncritical adoption of Western epistemologies, advocating for rigorous and critical reconstruction of African knowledge systems.

Mamdani (2007) further notes that post-independence African universities often failed to establish epistemic autonomy, continuing to rely on externally driven research agendas and academic models that lack local relevance. He calls for reorienting university education toward African problems and interdisciplinary inquiry. In this light, epistemic autonomy is not merely an extension of academic freedom but a foundational shift in how knowledge is conceived, by whom, and for what purposes. It demands a decolonial pedagogy (Freire, 1970) that empowers learners to interrogate inherited epistemic structures and cultivate knowledge as a historically situated, pluralistic, and emancipatory process.

Historical Context of Ethiopian Higher Education

The Western education model in Ethiopia was introduced at the beginning of the twentieth century, but higher education itself only began in the 1950s. At that time, Canadian Jesuit missionaries were entrusted with establishing Ethiopia's first institution of higher learning, embedding Western epistemology as the sole legitimate knowledge framework. The emperor, drawing on Western resources and expertise, founded the first university in Addis Ababa, which led to the gradual dominance of Western knowledge, diminishing the influence of indigenous knowledge systems. As Emnet (2020) notes, "Western knowledge gradually became hegemonic in Ethiopian higher education" (p. 8), a development that left little connection to local traditions or cultures. The Ethiopian education system, shaped primarily by Western paradigms, is criticized for being detached from the indigenous knowledge systems that had been developed over millennia. This disconnection has resulted in a sense of alienation among the youth, who feel estranged from their own culture, leading to a confused sense of identity.

The Eurocentric nature of Ethiopian education extends beyond its disconnection from local traditions; it renders local heritage and knowledge irrelevant. The Eurocentric educational philosophy, built on the premise that non-Western cultures are "backward," seeks to replace indigenous values with "universal" Western ideals. This colonial mindset actively undermines local identity, as it encourages the youth to view their culture and history as anomalous, reinforcing a sense of inferiority. Messay (2008) discusses this phenomenon as "cultural dislocation," where the educated youth in Ethiopia experience a profound disconnect from their cultural roots. Balsvik (2005) further summarizes Ethiopian education's legacy by stating that it was modeled after Western systems imported from the UK and the US, which failed to meet the country's actual needs and ignored the context of one of the world's least developed nations.

Despite Ethiopia's successful resistance to colonialism, the country has not been immune to its mental consequences, particularly through its education system. While Ethiopia remained free from formal colonization, the intellectual structures of its higher education were shaped by foreign powers. As Yirga (2017) terms it, Ethiopia experienced a form of "native colonialism," where the adoption of foreign ideas and practices transformed traditional processes through epistemic violence, altering the country's educational system without acknowledging local influences. Despite rapid expansion in the post-1991 era, the Ethiopian higher education system has struggled to move beyond its Eurocentric foundations. The number of public universities grew from two in the early 1990s to over forty by 2020, but this quantitative growth has not been matched by a transformation of curricula. The education system still primarily follows Western models, with limited integration of indigenous knowledge and critical pedagogy.

Reform efforts, such as the Higher Education Proclamation (2003) and the most recent Regulation No. 537/2023; have largely focused on administrative decentralization and fiscal issues, leaving the deeper epistemological issues unaddressed. Universities are still encouraged to align with global standards and rankings, many of which privilege Western knowledge. This external influence undermines the autonomy that Ethiopian universities strive for, as intellectual freedom is constrained when academic work is judged by foreign paradigms.

This pattern of “academic dependency,” as Altbach (2003) calls it, reflects the continuing influence of Western academic norms in developing countries, limiting their ability to innovate and address local needs. Ethiopian universities, like many others in the Global South, replicate Western academic systems without critically engaging with their own rich cultural and intellectual heritage. Ngũgĩ (1986) argues that colonialism’s legacy extends beyond political domination to the domination of memory, knowledge, and identity, a process that Ethiopian higher education has internalized through its uncritical adoption of Western epistemology.

Ethiopian universities have inherited a global academic structure that privileges Western knowledge, relegating local epistemologies to the margins. This phenomenon, known as epistemic coloniality, persists even to this day. Mignolo (2009) discusses the "coloniality of knowledge," which continues to shape knowledge production even in post-colonial contexts. In Ethiopia, this dynamic is evident as research and discourse align with global academic trends, sidelining indigenous knowledge and traditions. This process further marginalizes local knowledge systems, constraining intellectual creativity and hindering the university’s potential as a space for critical, autonomous inquiry.

Ultimately, the reliance on Western epistemologies in Ethiopian higher education creates an epistemic dependency that limits the development of locally relevant knowledge systems. Without concerted efforts to decolonize education, Ethiopian universities risk perpetuating the "cultural bomb" that Ngugi (1986) warned against—the erasure of indigenous knowledge and the internalization of inferiority. The systemic dominance of Western epistemology continues to shape Ethiopian education, perpetuating a cycle of intellectual dependency and cultural alienation.

Philosophical Foundations of Knowledge Production and the Imperative of Epistemic Autonomy in Higher Education

Philosophically, the question of knowledge—*epistēmē*—has always been central to human inquiry. From Plato’s theory of Forms to Heidegger’s interrogation of being, knowledge has been not merely about facts but about the structures of understanding that shape our experience of reality. In the context of higher education, knowledge production refers to the formal processes through which understanding is developed, legitimized, and disseminated. However, the dominance of a singular, largely Western, epistemological tradition has marginalized alternative ways of knowing.

Foucault’s concept of *power/knowledge* illustrates how knowledge is never neutral; it is entangled with regimes of power that determine what counts as truth (Foucault, 1980). This raises important questions for higher education institutions in formerly colonized or semi-colonial societies. If knowledge is shaped by historical and geopolitical power structures, then reproducing Eurocentric curricula and methodologies perpetuates epistemic subordination. As Spivak (1988) famously asked, “Can the subaltern speak?”—we must also ask, “Can the subaltern think epistemically outside imposed paradigms?”

Feyerabend (1975), in *Against Method*, challenges the universality of scientific rationalism by arguing for epistemological pluralism. According to Feyerabend, there is no single scientific method that guarantees truth; rather, different traditions of knowledge have their internal logic and values. This insight is crucial for higher education in contexts like Ethiopia, where the persistence of Western models as the standard for knowledge production has led to the marginalization of indigenous systems.

The production of knowledge within higher education is not a neutral or mechanical process, but a deeply philosophical endeavor, shaped by the epistemic frameworks that define what counts as valid inquiry. At its core, knowledge production raises questions of ontology—what exists to be known—and epistemology—how we come to know it—questions that have preoccupied thinkers from Plato to Foucault. In the context of Ethiopian universities, the adoption of Western epistemological paradigms, rooted in Cartesian dualism and Enlightenment rationality, has framed knowledge as a universal, objective enterprise, often at odds with the relational and contextual ontologies of Ethiopia's indigenous traditions. This imposition constitutes an epistemic injustice, wherein local systems are relegated to the periphery of academic legitimacy. A philosophical analysis thus reveals knowledge production as a site of power, where autonomy hinges not merely on institutional freedom but on the capacity to define the terms of intellectual existence.

This tension aligns with Gadamer's (1975) hermeneutic insight that understanding is always situated within a horizon of tradition, challenging the notion of a detached, universal knowledge. For Ethiopian universities, the horizon imposed by Western epistemology—evident in the dominance of English-language scholarship and positivist methodologies—constrains the hermeneutic possibilities of local knowledge systems. Freire's (1970) concept of "critical consciousness" further illuminates this dynamic, positing that true education emerges from a dialectical engagement with one's reality, not the passive absorption of external frameworks. Ethiopia is characterized by its exceptionalism centered on its non-colonial history and written tradition, the failure to integrate its local knowledge systems into academic discourse represents a philosophical betrayal of autonomy. Knowledge production, then, is not a mere output of university activity but the very ground upon which autonomy must be contested—a process that demands a radical rethinking of what it means to know in a post-colonial context.

The Limits of Financial Autonomy

In recent decades, Ethiopian higher education reform has emphasized financial autonomy, particularly in the context of neoliberal development paradigms. Universities have been encouraged to generate their revenues, diversify funding sources, and adopt market-oriented management practices. While these reforms are often presented as enhancing autonomy, they have in practice produced limited benefits in terms of epistemic autonomy.

Financial autonomy, when reduced to budgetary discretion or income generation, risks reinforcing external dependencies rather than liberating institutions. As Mamdani (2007) points out, African universities that embrace managerialism and privatization without epistemic reform risk becoming mere service providers rather than sites of critical thought and social

transformation. The commodification of education often leads universities to prioritize programs that are financially profitable but epistemically shallow — in terms of a liberatory quest —or externally oriented.

Furthermore, such models tend to depoliticize the university by framing autonomy in purely economic terms. This narrows the scope of transformation to administrative efficiency, while deeper questions of curriculum relevance, knowledge sovereignty, and intellectual purpose remain unaddressed. Ethiopian universities thus find themselves trapped in a paradox: financially autonomous yet intellectually constrained.

The prevailing focus on financial autonomy in Ethiopian higher education, while pragmatically appealing, reveals a philosophical shortsightedness that hinders a more substantive transformation of the university's role in knowledge creation and academic freedom. Financial autonomy, as articulated in Ethiopia's recent legislative shift toward self-sustaining institutions like AAU, emphasizes revenue generation through tuition, grants, and endowments. This model, rooted in neoliberal ideals of efficiency and market responsiveness, promises operational independence from state control—a significant departure from the centralized legacies of the Derg and EPRDF eras. Yet, such autonomy risks reducing the university to a corporate entity, where intellectual pursuits are subordinated to economic imperatives rather than elevated as ends in themselves. In Ethiopia, this shift is evident in the pressure to align research with donor priorities or global development agendas, often at the expense of locally relevant inquiry.

This narrow conception of autonomy fails to address the epistemic dimension that is essential to academic freedom. Financial independence, while enabling universities to navigate fiscal constraints, does not inherently liberate them from the epistemic frameworks imposed by external actors—be it the World Bank's standardization policies of the 1990s or the contemporary influence of Western academic norms. For instance, the pursuit of financial self-sufficiency may compel Ethiopian universities to prioritize disciplines with immediate economic returns, such as business, information technology, and software engineering, over humanities or indigenous studies that lack market appeal but are vital to epistemic diversity. This instrumentalist logic perpetuates a cycle of dependency, wherein autonomy is measured by the ability to conform to global economic demands rather than the capacity to challenge and redefine the terms of knowledge production. True academic freedom requires an epistemic break from such constraints—a break that financial autonomy alone cannot achieve, as it leaves intact the deeper structures of intellectual subordination.

Reclaiming Subjectivity and Knowledge Systems

True autonomy in higher education must transcend economic models and confront the question of epistemic sovereignty. This requires reclaiming Ethiopian subjectivity and cultivating knowledge systems that reflect local histories, values, and aspirations. Such a project is not a rejection of global knowledge but a demand for pluriversality—a recognition of multiple, coexisting epistemologies, as proposed by Santos (2014).

Ethiopia's intellectual heritage, from the ancient Axumite inscriptions and the Ge'ez literature to indigenous philosophical traditions and oral knowledge systems, provides a rich foundation for such reclamation. However, these sources have been marginalized in formal education. Reintegrating them requires structural and ideological shifts: curricula must be reoriented, languages revitalized, and faculty empowered to pursue local research without fear of marginalization.

To realize true autonomy, Ethiopian universities must undertake the philosophical labor of reclaiming subjectivity and cultivating knowledge systems that reflect the nation's plural realities and values—an endeavor that transcends structural reforms and engages the essence of epistemic sovereignty. This reclamation involves recognizing and amplifying subaltern knowledge forms that have been suppressed by neocolonial epistemologies. In Ethiopia, this means elevating indigenous intellectual traditions into the academic mainstream, not as ethnographic curiosities but as legitimate frameworks for understanding the world. Such a move would counter the Universalist pretensions of Western epistemology, fostering a university that mirrors Ethiopia's multilingual, multiethnic fabric rather than a homogenized global ideal.

This process of epistemic reclamation is not merely a nostalgic return to tradition but a dynamic act of subjectivity, wherein Ethiopian scholars assert their right to define knowledge on their terms. Fanon's (1963) insight is instructive here, as he argues that true liberation requires the emergence of a "new man"—a subject who is no longer bound by colonial mimicry. For Ethiopian universities, this translates into curricula and research agendas that prioritize local challenges over imported paradigms ill-suited to these contexts. Moreover, it necessitates a pedagogical shift toward what Freire (1970) terms "critical consciousness," empowering students and faculty to interrogate the epistemic foundations of their education rather than passively absorbing them. By cultivating such subjectivity, universities can transcend the limits of financial autonomy, positioning themselves as sites of resistance against the neoliberal and neocolonial forces that threaten to homogenize global academia.

The epistemic dimension of autonomy unveils a profound philosophical tension within Ethiopian higher education: the disparity between structural liberation and intellectual emancipation. The dominance of Western epistemological frameworks has constrained academic freedom, rendering universities innovative only within the confines of an inherited paradigm. The focus on financial autonomy, while a practical necessity, falls short of addressing this deeper epistemic bondage, tethering institutions to economic ends rather than epistemic ideals. True autonomy lies in reclaiming subjectivity and cultivating knowledge systems that reflect Ethiopia's unique realities—a task that demands a radical reorientation of the university's purpose. Ethiopian universities must move beyond structural reforms to forge an epistemic sovereignty that honors local values while engaging the global on equal terms. Only then can autonomy transcend its current limitations, transforming higher education into a crucible for a distinctly Ethiopian intellectual future.

In practical terms, this could involve promoting research agendas centered on local problems, supporting scholarship in Ethiopian languages, and institutionalizing interdisciplinary studies that bridge science, humanities, and indigenous knowledge. It also requires rethinking the

metrics of academic success, moving away from global rankings and citation indices toward more contextually meaningful indicators.

The epistemic dimension of autonomy is central to the transformation of Ethiopian higher education. While financial independence and administrative reforms are important, they are insufficient without a parallel effort to decolonize and indigenize knowledge. Ethiopian universities must resist the epistemic mimicry that sidelines local realities and instead assert their role as creators, not merely consumers, of knowledge.

This transformation demands courage and imagination: courage to challenge entrenched norms and imagination to envision a university that reflects the intellectual and cultural wealth of Ethiopia. Drawing on the insights of postcolonial scholars and African philosophers, this paper has argued that epistemic autonomy is not a luxury but a necessity—a foundation for genuine academic freedom, innovation, and societal relevance.

True autonomy extends beyond fiscal concerns to encompass "cognitive justice"—the right to produce knowledge that reflects local realities and resists global homogenization. For Ethiopian universities, this means wresting control from the hegemonic currents of Western academia. Foucault's (1970) notion of the "archaeology of knowledge" is instructive here: autonomy requires excavating the suppressed epistemologies buried beneath colonial and neocolonial layers, reasserting them as valid modes of understanding. Without this epistemic turn, financial autonomy becomes a hollow victory, freeing universities from state oversight only to ensnare them in a subtler servitude to global academic norms. Autonomy, in its fullest sense, is thus a philosophical project of self-definition, not merely a budgetary one.

Autonomy must therefore be redefined to include the right of an institution to determine what knowledge is worth pursuing, how it should be taught, and who should be involved in its creation. This involves challenging the global academic dependency complex, wherein non-Western universities seek validation from Euro-American institutions, often at the cost of epistemic self-determination.

This point is reinforced by Connell (2007), where she critiques the global knowledge economy for its structural inequality. Connell argues that knowledge flows predominantly from the Global North to the Global South, creating an intellectual dependency that undermines the autonomy of Southern scholars. For true autonomy, universities must not only be able to publish independently but also validate and prioritize locally relevant knowledge.

The final draft of Addis Ababa University's (AAU) autonomy framework makes no mention of epistemic autonomy. Instead, it focuses on internal governance, curriculum, research, staffing, and financial management. The prevailing belief is that institutional autonomy ensures more efficient performance. While this model is operationally significant, it limits the university's capacity to redefine its societal role as a center of authentic knowledge production. AAU's Board

of Governance recently approved a five-year Strategic Plan and Senate Legislation to guide its transition to autonomy. Further sidelining epistemic concerns, the draft frames AAU's autonomy

around fulfilling national demands, addressing priority sectors, and becoming a research-intensive institution aligned with regional and global developments. The stated aim is to enhance the quality and relevance of academic programs, research, and community service. Concepts like innovation and flagship research are highlighted, yet the epistemic foundations of knowledge creation remain unaddressed (AAU, 2024: 2).

The 2023 Proclamation outlines several criteria for institutional autonomy, including strong financial capacity, community-focused research, academic competitiveness, national development relevance, and the establishment of institutional systems that support autonomous and accountable education and research. However, none of these criteria acknowledge the need for epistemic self-determination, leaving a critical gap in the framework for genuine academic autonomy.

Case Studies and Examples

The integration of epistemic autonomy into higher education is not an abstract ideal but a practical possibility, as evidenced by institutions and nations that have successfully reoriented their knowledge systems. Several countries and institutions have taken steps toward epistemic autonomy, offering instructive examples for Ethiopia and similar contexts.

"The #RhodesMustFall and #FeesMustFall" movements that erupted in South African universities, particularly at the University of Cape Town (UCT) and the university of the Witwatersrand, were not merely about statues or tuition fees. They were about reclaiming the university as an African institution (Chawana, 2019). Scholars like Mbembe (2016) have emphasized the need for an African university that is both globally competent and locally grounded. Curriculum reform initiatives aimed at incorporating African philosophical, literary, and scientific traditions show that epistemic autonomy is a feasible and necessary endeavor.

The UCT in South Africa offers a compelling case. Following the #RhodesMustFall movement in 2015, UCT embarked on a decolonization agenda, revising curricula to foreground African perspectives—such as *Ubuntu* philosophy—and reducing reliance on Eurocentric canons. This shift, while contentious, empowered faculty and students to reclaim intellectual agency, aligning academic production with local socio-political realities rather than imported frameworks (Daniel, 2021). UCT's success lies in its recognition that autonomy is not merely structural but epistemic, requiring a deliberate break from the coloniality of knowledge—a lesson resonant for Ethiopia's reform efforts.

India provides a contrasting but equally instructive case. Institutions like the Jawaharlal Nehru University (JNU) have historically emphasized critical theory, postcolonial thought, and regional studies (Ambrose, 2024). Scholars such as Vandana Shiva have foregrounded indigenous knowledge systems, particularly in agriculture and ecology, as valid and vital alternatives to Western scientific paradigms. The Indian Council of Historical Research (ICHR) has also sought to fund and support historical narratives written from within Indian epistemic traditions (Lal, 2003).

Bolivia's Indigenous Universities, established under Evo Morales' administration, provide another example. These institutions, such as the Aymara Indigenous University, prioritize Aymara and Quechua knowledge systems—covering agriculture, cosmology, and governance—over Western models, fostering a form of autonomy that is both culturally rooted and politically emancipatory (Walsh, 2010).

Mamdani's leadership at Makerere Institute of Social Research (MISR) in Uganda has aimed to create a PhD program rooted in African intellectual traditions. The curriculum was redesigned to prioritize texts and theories originating in Africa and the Global South, moving away from Eurocentric canons (Pelican *etal.*, 2025). This has not only attracted a diverse body of scholars but also generated a distinctive intellectual atmosphere resistant to the homogenizing pressures of global academia.

Challenges to Epistemic Autonomy in Ethiopia

Despite omitting epistemic autonomy, AAU's final draft acknowledges obstacles to effective academic programming, such as overlapping curricula and inefficient resource use. It proposes streamlining and reorganizing programs to improve quality, interdisciplinary, efficiency, and responsiveness to institutional goals and societal needs (AAU, 2024: 4). However, these reforms aim primarily at structural efficiency rather than philosophical reorientation.

The pursuit of epistemic autonomy faces historical, institutional, and global challenges. Chief among them is resistance to decolonizing knowledge. Ethiopian universities, rooted in modernization efforts from the 1950s onward, have long equated progress with Westernization. This has entrenched Eurocentric curricula and an internalized bias among faculty and administrators against indigenous knowledge.

Though global movements like #RhodesMustFall have spotlighted epistemic decolonization, Ethiopian academia remains largely bound to Western frameworks. This reflects a deeper philosophical struggle between universalism and particularism, where dominant global paradigms marginalize local epistemologies.

Institutional inertia also hampers change. Bureaucratic rigidity and the interests of Western-trained faculty inhibit curricular transformation. Without significant political or social pressure, institutions resist epistemological shifts. Ethiopia's centralized education system compounds this by favoring uniformity over innovation.

Global academic pressures further undermine epistemic autonomy. International rankings, impact factors, and funding mechanisms incentivize conformity with Euro-American research agendas. Donor-driven priorities skew research toward externally defined goals, sidelining local concerns. This trend is rather an epistemic marginalization, or "epistemicide."

Ethiopia's higher education bureaucracy prioritizes compliance over creativity. Faculties are evaluated based on metrics tied to Western publishing standards, leaving little room for alternative inquiry. This post-colonial academic trap makes institutional legitimacy depend on

foreign validation. Neoliberal agendas, promoted by actors like the World Bank, reinforce market-oriented and English-dominant frameworks over culturally grounded knowledge systems.

Together, these internal and external forces constitute a formidable barrier to epistemic autonomy. Without confronting these issues, autonomy risks being reduced to administrative restructuring rather than a reimagining of the university's intellectual mission.

Conclusion

In conclusion, the concept of autonomy in Ethiopian higher education requires a deeper understanding that goes beyond the financial and administrative dimensions that have dominated recent reforms. This paper has argued that while financial self-sufficiency is essential for operational independence, it is not enough to achieve true autonomy in the intellectual realm. The current trajectory of Ethiopian higher education, focused primarily on structural reforms, overlooks the critical epistemic dimension of autonomy. Financial independence, without a concomitant epistemic shift, risks perpetuating intellectual dependence on Western paradigms, undermining the capacity of universities to define knowledge on their own terms. As the paper has shown, autonomy must be redefined to encompass the freedom to determine what knowledge is valid, how it is produced, and for whom it serves. Without addressing this epistemic imbalance, Ethiopian universities will remain tethered to external knowledge systems, unable to cultivate innovative, locally relevant intellectual frameworks.

Moreover, reclaiming epistemic autonomy is not simply an intellectual exercise but a transformative project that requires a reimagining of the role of Ethiopian universities. The integration of indigenous knowledge systems into academic curricula, the promotion of locally relevant research, and the empowerment of faculty to engage in epistemic decolonization are all vital steps toward achieving true intellectual sovereignty. This process calls for a radical shift in pedagogy and research agendas, one that acknowledges Ethiopia's rich cultural, philosophical, and intellectual traditions while challenging the epistemic hegemony of the West. The experiences of other postcolonial contexts, such as South Africa and India, offer valuable lessons in how universities can successfully integrate indigenous knowledge and decolonize their academic practices. Ethiopian universities can draw inspiration from these examples to create an epistemic autonomy that not only challenges the dominance of Western knowledge systems but also fosters a more inclusive, pluralistic academic environment.

Ultimately, the journey toward epistemic autonomy is both a philosophical and practical challenge. It requires Ethiopian universities to resist the pressures of neoliberalism and global academic standards that prioritize market-driven agendas over intellectual freedom. By reclaiming the intellectual sovereignty of universities, Ethiopia can create a higher education system that serves its own people, reflects its unique realities, and contributes meaningfully to global academic discourse. This reimagined autonomy will not only empower Ethiopian students and scholars but also position Ethiopian universities as leaders in the global movement toward cognitive justice. Achieving epistemic autonomy is not a utopian dream; it is a necessary and achievable goal that can redefine the purpose and impact of higher education in Ethiopia, providing a model for other postcolonial nations to follow.

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Determinant of Higher Education Exit Exams: The case of Graduating Students at St. Mary's University

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Abstract

Studies indicate that most employers think university graduates are unfit for the labor market and lack employment readiness. Based on the assumptions, the Ministry of Education started administering the Higher Education Exit Exam (HEEE) in 2023 to recruit capable graduates. The purpose of the study was to determine factors that affect a student's performance in the HEEE and assess the predictive capability of students' prior achievements in high school and undergraduate programs. The study subjects were SMU graduating students who took the exit exams (N=1107 and 416) in July 2023 and February 2024. Data were collected from the registration office and encoded in SPSS version 22, then analyzed using means, standard deviations, independent samples T- tests, multiple comparison tests, correlations, multiple and stepwise regression analyses. The findings revealed a statistically significant mean difference between genders in the HEEE scores (Y0), but not in the HEEE scores (Y1). The multiple comparisons test also indicated statistically significant mean differences in the HEEE scores across departments. The multiple regression analysis disclosed that 66.6% of the variance in the criterion measure (Y_0) was accounted for by gender, department, CGPA, and MGPA when taken together. Likewise, a 22.0% variance in the HEEE score (Y_1) was attributed to CGPA, Department, and MGPA collectively. The first stepwise regression analysis indicated that MGPA and Department explained 47.6% and 14.2% of the variance in the HEEE scores (Y_0), respectively, while CGPA accounted for a 19.2% variation in the HEEE scores (Y_1). Thus, MGPA and CGPA are key academic predictors of the HEEE scores. So, the department could also be taken as a non-academic predictor variable that explained a 14% variance of the criterion measure (Y_1). Finally, based on the study findings, it could be inferred that SMU needs to practice various teaching and learning strategies that initiate the students' engagement in learning for better achievement in their major area courses. Moreover, good practices should be shared among the departments.

Key Terms: Exit exam, Predictor Variable, Criterion Measure, Ethiopian General Secondary Education Certificate Exam, University Entrance Exam, Cumulative GPA, Major GPA

Introduction

Background and Justification

An exit exam offers a standardized approach to evaluate the knowledge and skills of students with similar learning experiences. It plays a significant role in determining students' academic and career prospects. It assesses students' fulfillment of the overall learning outcomes at the end of their study to ensure that they are assumed to the same academic standard (Almaw, 2022; El-Hassan et al., 2021; and Al Ahmad, et al., 2014).

Moreover, the exit exam assesses students' achievement of core courses' learning outcomes. It also helps HEIs make relevant decisions to improve the quality of education and evaluate the standard of education. Students must pass the exit exams to fulfill the requirements for graduation and certification. As a whole, it also benefits both students and institutions to improve the quality of education. (Abraham et al., 2022; Tamirat, 2022; Marsidi, 2021; Woessmann, 2018).

Students' academic achievement may be influenced by different factors. Socio-demographic factors influence achievement (Khareedi, 2018; Abdulghani, et al., 2014; and Cheesman, et al., 2006). Student performance is correlated to factors related to prior education, such as entrance qualification, level of earlier education, and achievement (Khareedi, 2018; Duff, 2004; and Häkkinen, 2004).

In recent years, students graduating from HEIs have been blamed for lacking professional and soft skills. It is argued that employers in the labor market are complaining and dissatisfied with graduates' skills and competencies in performing tasks, which triggers questions and doubts about the quality of education. Due to the expansion of HEIs, the quality of education in producing competent graduates has become a challenge, and as a result, graduates face unemployment. (Tamirat, 2018; Salmi et al., 2017; Tamiru, 2017; Arega, 2016).

To alleviate the problem and guarantee that graduates are adequately prepared for the job market, the new HEEE performance directives (No. 919/2014) suggest the application of exit exams in the HEIs (MoE, 2022). The exit exam is given to all first-degree program graduates. It includes Mathematics, English, Natural Sciences, Social Sciences, and the Humanities. It is marked on a scale of 100%. To pass an exam, a student should score at least 50% and above (MoE, 2022).

According to MoE (2018), the exit exams are assumed to be a meaningful advance in the reform of higher education in Ethiopia. They are prepared to ensure graduates have the necessary knowledge, skills, and attitudes to succeed in the labor market. The objective of the exams is to improve the quality of graduates and certify them for achieving appropriate mastery of the

competencies specified in the curriculum, thereby satisfying the labor market requirements by enhancing the employability of graduates. Thus, the MoE (2022/23) administered the HEEEs for prospective graduates in all fields of undergraduate programs. It is a new initiative to assess the quality of education at Ethiopian universities.

Empirical studies have assessed the effect of student characteristics, curriculum, teaching methods, assessment, and institutional policies on exit exam outcomes. For instance, research has shown that students' prior academic achievement, motivation, gender, and study habits can affect their exit exam scores. Some research findings can be cited as follows:

Aboma's study (2009) indicated that prior academic achievement measures and psychological variables combined accounted for 17% of the variance in students' first-year CGPA. Accordingly, 34% of the variance accounted for females was greater than males (15%), and the contribution of the psychological variables was 4%.

According to Desalegn, Girma, and Wanna (2009), the university entrance exam, preparatory average score, mathematics score, and aptitude, in combination, contributed 23% of the variance in first-year CGPA. Besides, the stepwise regression analysis determined that the preparatory average score was the best predictor of first-year CGPA, explaining 19% variance in CGPA. Likewise, preparatory average scores and university entrance exam results seemed to be valid predictors of first-year college CGPA and together accounted for 33.70% of the variation in college achievement (Yosef, 2014). Yosef (2017) also studied the extent to which graduates' CGPA predicts their attainment in teachers' professional licensing written exam results (TPLWER). The finding showed CGPA to be a valid predictor of TPLWER and accounted for 33.40% of the variation in TPLWER. Furthermore, the study indicated statistically significant gender differences.

A study team led by Nibretu (2023) concluded that as a student's performance in CGPA and MGPA results increases, the proportion of students who passed the HEEE increases. Because males outperformed females in the exit exam, it was suggested that additional support and advice for female students is required. However, Cumhur and Ismail (2007) found that female students get higher CGPAs than male students.

Thus, to prepare graduates with adequate knowledge, skills, and experiences effectively in the labor market and to enhance quality education, it is necessary to determine the factors that affect exit exam scores. Thus, this study was intended to investigate the determinants of HEEE administered to SMU graduating students in Accounting and Finance, Marketing Management, Computer Science, Management, and Tourism and Hospitality Management.

More importantly, the study examined the predictive capability of students' gender, Ethiopian

General Secondary Education Certificate Examination (EGSECE) results, University Entrance Exam (UEE) results, Cumulative Grade Point Average (CGPA), and Major Grade Point Average (MGPA) on university exit exams.

General objective

The purpose of the study was to find out the predictive capability of explanatory factors (i.e., the EGSECE results, UEE results, CGPA, and major GPA) of the HEEE scores.

Specific objectives

The objectives of the study focused on:

Examining students' gender and department impact on the exit exam scores,

Finding out the degree of relationship between EGSECE, UEE result, CGPA, Major GPA, and HEEE scores,

Determining the relative contribution of the independent variables to the prediction of performance on HEEE scores when considered in combination and independently across the different fields, and

Finding out whether the employability skills are considered or not in the HEEE.

Research Methodology Study Design

The design of this study employed descriptive and inferential statistics.

Sampling Technique

The sample subjects were selected purposively. They were prospective graduates who sat for the HEEE administered in July 2023 and February 2024.

Independent variables

a. Non-academic variables

Students' gender and departments were the two non-academic variables considered in the independent variables.

b. Students' Prior Achievements

Students' selection criteria to join the university (EGSECE results & UEE results) and their academic achievement at the university over the last four years (CGPA & MGPA) were treated as

independent variables in the study.

Dependent Variables

The graduates' scores in the HEEE administered in July 2023 and February 2024 were the dependent variables

Y_0 - the scores on HEEE administered in July 2023.

Y_1- the scores on the HEEE administered in February 2024.

Data Collection

The data of students' prior achievement in high school (EGSECE & UEE results), academic achievement at the university (cumulative GPA & major GPA), and higher education exit exam (HEEE) scores were gathered from the registrar's office.

Data Analysis

Data analysis was carried out in line with the major variables. The analyses included:

Determining the means and standard deviations for the main variables about each subgroup was ideally framed.

An independent sample T-test was employed to compute the mean difference statistically across genders.

One way ANOVA was computed to find out whether there exists a statistically significant mean difference across departments. Also, a post hoc test for multiple comparisons was determined to identify which department was different from the group.

Correlations were computed to determine the degree of association between the predictor variables and students' performance on HEEE.

Multiple regression and stepwise regression analyses were run to estimate the prediction power of EGSECE, UEE, CGPA, and major GPA on HEEE scores taken together and independently.

In general, the statistical analyses (i.e., descriptive statistics, ANOVA, multiple regression, and stepwise regression analysis) were determined by using the SPSS software package, version 22 of the statistical program.

Results and Discussion Demographic Data

Table 1. Sample subjects who took the HEEE in terms of gender and year

Gender	Graduates who took the HEEE in July 2023		Graduates who took the HEEE in Feb., 2024	
	N	Valid %	N	Valid %
Female	548	49.5	230	55.3
Male	555	50.1	186	44.7
Missing	4	0.4	-	-
Total	1107	100	416	100.0

As observed in Table 1, among the graduating students who sat for the HEEE in 2023, 548 (49.5%) were females, while 555 (50.1%) were males. However, about 4 (0.4%) didn't specify their gender. Similarly, 230 (55.3%) female and 186 (44.7%) male graduates had taken the exit exam administered in February 2024.

Table 2. Sample subjects by department

Department	Graduates who took the HEEE in July 2023		Graduates who took the HEEE in Feb., 2024	
	N	Valid %	N	Valid%
Accounting & Finance	449	40.6	164	39.4
Computer Science	186	16.8	29	7.0
Management	133	12.0	58	13.9
Marketing Mgt.	317	28.6	163	39.2
THM	22	2.0	2	0.5
Total	1107	100.0	416	100.0

Referring to Table 2, regarding graduates who took the exit exam in July 2023, one can recognize that 449 (40.6%) were Accounting and Finance students, 186 (16.8%) were Computer Science students, 133 (12.0%) were Management students, 317 (28.6%) were Marketing Management students, and 22 (2.0%) were students from the Department of Tourism and Hospitality Management. Likewise, 164 (39.4%) from Accounting and Finance, 163 (39.2%) from Marketing Management, 58 (13.9%) from Management, and 29 (7%) from computer science, and two students from Tourism took the higher education exit exam administered in February 2024.

Table 3. The Means and standard deviations of the independent and dependent variables

Variable	Those who took the exit exam in 2023 (n=1075)		Those who took the exit exam in 2024 (n= 416)	
	Mean	SD	Mean	SD
Gender	.50	.500	.45	.498
Department	2.35	1.315	2.54	1.361
EGSECE Result	3.367	.41789	14.506	149.914
UEE Result	267.300	113.662	259.227	155.711
CGPA	2.842	.497	2.907	.511
MGPA	2.868	.555	2.922	.528
HEEE Result (Y_0 &Y_1)	50.080	13.999	55.291	14.246

As designated in Table 3, for those students who sat for HEEE in July 2023, their mean performance and standard deviation in the EGSECE were M=3.367 and SD= .4179. These indicate that most students had average grades from 2.95 to 3.79 (3.367-.4179 and 3.367+.4179) out of 4.00. As to their university entrance exam, their mean performance and standard deviation

are equal to M=267.2995 and SD = 113.662. Generally, most of them had scores between 153.64 and 380.96 out of 700.

The mean CGPA was 2.842 with a standard deviation of 0.4973, which denotes many graduating students had grades from 2.344 to 3.3395. Furthermore, the mean MGPA was 2.868 with a standard deviation of .5553. Similarly, most of them had an MGPA between 2.313 and 3.423. As to their achievement on the higher education exit exam, their mean performance was 50.080 with a standard deviation of 13.999, which means that most of them had scored between 36.081 and 64.079 out of 100. The first research objective focused on examining and finding out the mean difference in the performance of HEEE scores across genders and departments. Accordingly, the results of the study are summarized in Table 4.

Table 4. Mean scores attained by gender on the HEEE (Group Statistics)

Gender	of those who took the exit exam in 2023				of those who took the exit exam in 2024			
	N	Mean	SD	SEM	N	Mean	SD	SEM
Female	546	48.5	14.4	.6151	228	55.54	14.2	.93799
Male	550	51.4	13.5	.5754	187	54.98	14.4	1.0541

As observed in Table 4, the group statistics provided basic information about the mean, standard deviation, and standard error for the HEEE score. In the exit exam administered in July 2023, 546 females and 550 males sat for the exam. The mean score on HEEE of females was 48.50, and that of males was 51.40, and their standard deviations were 13.49 and 14.37. This designated that variation in students' scores from the mean was relatively smaller in males than females.

As to the mean performance on the HEEE score (Y1), it could be said that both genders seem to have similar mean performances of 55.54 and 54.98 though minor differences exist. The dispersion of scores in both genders from their mean shows a slight variation (14.415-14.163=0.252).

Table 5a. Mean difference in performance of 2023 HEEE by gender (Independent Samples Test)

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df.	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
HEEE	Equal variances assumed	1.805	.179	-3.446	1094	.001	-2.9018	.8421	-4.5541	-1.2496
	Equal variances not assumed			-3.445	1089	.001	-2.9018	.8423	-4.5544	-1.2492

Table 5a displayed that Levene's test for genders was not statistically significant (F=1.805, P>.05) so that the null of Levene's test was maintained (not rejected) and deduced that the variance in HEEE scores (Y0) of females was not statistically significantly different from males. This explains that one should consider the "Equal variances assumed" row for the *t-test*. Correspondingly, the t-test for equality of means provided the result for the independent samples *t-test*. To determine the mean difference, subtract the mean score on HEEE scores of males from females (48.502 - 51.404 = -2.902). The sign of the mean difference corresponds to

the sign of the *t* value (1089= -3.445, p<.001). The negative *t* value of this data indicates that the mean score for the first group, females, was statistically significantly different than the mean score for the second group, males.

Table 5b. Mean difference in performance of 2024 HEEE by gender (Independent Samples T-Test)

		Levene's Test for Equality of Variances		t-test for Equality of Means					
								95% Confidence Interval of the Difference	
		F	Sig.	T	Df.	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
HEER	Equal variances assumed	.224	.636	.395	413	.693	.5565	1.409	-2.212	3.325
	Equal variances not assumed			.394	394.5	.694	.5565	1.411	-2.218	3.331

As observed in Table 5b, the p-value of Levene's test for genders was not statistically significant (F=.224, P>.05), which implies that Levene's test is not rejected and that the variance in HEEE scores (Y_1) of females is not statistically significantly different from males. It signifies that one should consider the "equal variances" assumed row for the *t-test*. Similarly, the t-test for equality of means determines the mean difference in HEEE scores of males from females (55.535-54.979= 0.556). This mean difference is not statistically significant (t 394.5= .394, P>.05), which denotes that the mean score on the HEEE scores (Y_0) of the females is not statistically significantly different from the mean score of males. This result is distinct from graduates who took the HEEE in July 2023, where males outperformed their female mates. The main reason is that most graduates took the exit exam administered in February 2024 and have passed it. Both groups might have prepared themselves for the exam strongly.

Table 6. Means and standard deviations of the HEEE across departments

Department	Graduates who satfor HEEE on July,2023			Graduates who sat for HEEE on Feb.,2024		
	N	Mean	SD	N	Mean	SD
Accounting	444	39.55	9.828	164	55.0183	14.651
Computer Sc.	185	57.55	10.969	29	48.207	11.685
Management	133	58.23	10.877	58	63.414	12.490
Marketing Mgt.	316	55.45	12.409	163	54.000	13.725
THM	22	67.36	9.266	2	50.000	19.799
Total	1100	49.960	13.983	416	55.291	14.246

As witnessed in Table 6, the mean performance on HEEE by students in Tourism, Management, Computer science, and Marketing Management was 67.36, 58.23, 57.55, and 55.44, with a standard deviation of 9.27, 10.88, 10.97, and 12.41 separately. This condition indicated that the four departments have scored a mean percentage performance better than and above 50%. However, the mean performance of Accounting and Finance students on the HEEE was below average (39.55), with a standard deviation of 9.83.

Regarding dispersion of scores, it could be said that it was relatively small in Tourism, almost the same as in the case of Management and Computer Science, while slightly larger in Marketing Management.

Regarding the February 2024 HEEE results, students in the Management, Accounting and Finance, Marketing management, and Tourism departments brought a mean performance of 63.41, 55.02, 54.00, and 50, in decreasing order individually. Yet, students in computer science had a mean score of 48.21, which was below 50%.

Referring to the standard deviations estimated, it could be said that the variation of scores obtained from their respective means was relatively high for Accounting and Finance (SD=14.65), Marketing Mgt. (SD=13.73), Mgt. (SD=12.49), but that of Tourism was extreme (SD=19.80). To examine whether there exists a mean difference in performance across departments, a one-way ANOVA was employed as follows.

Table 7. One-way Analysis of variance determined across departments for graduates of 2023

Source of variation	Sum of Squares	Df.	Mean Square	F	Sig.
Between Groups	84037.718	4	21009.430	175.819	.000
Within Groups	130846.522	1095	119.495		
Total	214884.240	1099			

From Table 7, one could observe that there were statistically significant differences between the group means as determined by one-way ANOVA (F (4, 1095) = 175.82, p <.001). The ANOVA test tells us whether one has an overall difference between his/her groups, but don't tell you which specific groups differed. To find which group mean is statistically and significantly different from another, a post hoc test for multiple comparisons was employed as follows.

Table 8. Multiple comparisons on students' mean performances on HEEE across departments

(I) department	(J) department	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Accounting	Computer SC	-17.9995*	.9566	.000	-20.951	-15.048
	Management	-18.6813*	1.0805	.000	-22.015	-15.347
	Marketing Management	-15.8944*	.8045	.000	-18.377	-13.412
	THM	-27.8118*	2.3876	.000	-35.179	-20.445
Computer Sc.	Accounting	17.9995*	.9566	.000	15.048	20.951
	Management	-.6817	1.2427	.990	-4.516	3.153
	Marketing Management	2.1051	1.0120	.364	-1.017	5.228
	THM	-9.8123*	2.4653	.003	-17.419	-2.206
Management	Accounting	18.6813*	1.0805	.000	15.347	22.015
	Computer SC	.6817	1.2427	.990	-3.153	4.516
	Marketing Management	2.7869	1.1299	.194	-.699	6.273
	THM	-9.1306*	2.5160	.011	-16.893	-1.368
Marketing Management	Accounting	15.8944*	.8045	.000	13.412	18.377
	Computer SC	-2.1051	1.0120	.364	-5.228	1.017
	Management	-2.7869	1.1299	.194	-6.273	.699
	THM	-11.9174*	2.4103	.000	-19.354	-4.480
Tourism hospitality management	Accounting	27.8118*	2.3876	.000	20.445	35.179
	Computer SC	9.8123*	2.4653	.003	2.206	17.419
	Management	9.1306*	2.5160	.011	1.368	16.893
	Marketing Management	11.9174*	2.4103	.000	4.480	19.354

As presented in Table 8, it was understood that Accounting and Finance students' mean performance on HEEE (Y_0) is statistically significantly different from students in Computer Sc. (F= -17.9995, P<.05), Management (F= -18.6813, P<.05), Marketing Management (F= -15.8944, P<.05), and Tourism and Hospitality Management (F= -27.8118, P<.05). The negative values of the F-statistics denote that the mean performance of the Accounting and Finance group is less than the mean performance of the other groups (departments).

In contrast, there is no statistically significant mean difference in performance on the HEEE across students in departments of Computer Sc. and Management (F=-.6817 /.6817, p>.05),. Management and Marketing Management (F=2.7869, P>.05), and Marketing Management and Computer Sc. (F=-2.1051, P>.05). Nevertheless, there is a statistically significant mean difference in performance on HEEE between Tourism and Hospitality Management students and students in the department of Computer Sc. (F= 9.8123, P<.05), Management (F=9.1306, P<.05), and Marketing Management (F=11.9174, P<.05) singly.

The finding implies that Tourism and Hospitality Management students have scored better than students in the other departments in the HEEE (Y_0). Yet, the Management students scored higher than students in Computer Science and Marketing Management. Unfortunately, Accounting and Finance students have obtained a mean score below 50% in the exit exam administered in July 2023.

Table 9. One- way Analysis of variance determined across departments for graduates of 2024

Source of Variation	Sum of Squares	def.	Mean Square	F	Sig.
Between Groups	5622.033	4	1405.508	7.349	.000
Within Groups	78603.773	411	191.250		
Total	84225.805	415			

As indicated in Table 9, it could be seen that there was a statistically significant mean difference in performance ($F_{(4,411)} = 7.349$, $P<.001$) across departments. To find which specific group mean was statistically and significantly different from another, a post hoc (Scheffe) test for multiple comparisons was computed below.

Table 10. Multiple Comparisons on Students' mean performances on HEEE given in 2024 (across Departments)

Scheffe

(I) department	(J) department	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Accounting	2	6.81140	2.78586	.203	-1.8088	15.4316
	3	-8.39550*	2.11272	.004	-14.9328	-1.8582
	4	1.01829	1.52953	.979	-3.7145	5.7511
	5	5.01829	9.83825	.992	-25.4241	35.4606
2.Computer Sc.	1	-6.81140	2.78586	.203	-15.4316	1.8088
	3	-15.20690*	3.14519	.000	-24.9390	-5.4748
	4	-5.79310	2.78714	.366	-14.4173	2.8311
	5	-1.79310	10.1104	1.000	-33.0775	29.4913
3.Management	1	8.39550*	2.11272	.004	1.8582	14.9328
	2	15.20690*	3.14519	.000	5.4748	24.9390
	4	9.41379*	2.11441	.001	2.8712	15.9564
	5	13.41379	9.94598	.769	-17.3619	44.1895
1.Marketing Mgt.	1	-1.01829	1.52953	.979	-5.7511	3.7145
	2	5.79310	2.78714	.366	-2.8311	14.4173
	3	-9.41379*	2.11441	.001	-15.9564	-2.8712
	5	4.00000	9.83861	.997	-26.4435	34.4435
2. Tourism	1	-5.01829	9.83825	.992	-35.4606	25.4241
	2	1.79310	10.1104	1.000	-29.4913	33.0775
	3	-13.41379	9.94598	.769	-44.1895	17.3619
	4	-4.00000	9.83861	.997	-34.4435	26.4435

Dependent Variable: HEEER **. The mean difference is significant at the 0.05 level.*

As perceived in Table 10, one could realize that management students' mean performance in HEEE administered in February 2024 is statistically significantly different from the mean performance of Accounting (F= -8.39550, P<.05), Computer sc., (F=15.20690, P<..001), and Marketing Management (F= 9.41379, P<.001) students. These imply that Management students have scored better than Accounting and Finance, Computer Science, and Marketing Management students in the HEEE. However, the mean performances of the remaining groups were not statistically significantly different from the other groups. For example, between Accounting and Computer Sc. students (F= 6.81140, P>.05), Accounting and Marketing students (F= 1.01829, p>.05), and Accounting and Tourism students (F= 5.01829, .P>.05). The same is true between Computer sc., Marketing management, and Tourism students, as specified in Table 10.The second specific objective of the study concentrated on determining the degree of relationship between the independent variables (i.e., students' gender, department, EGSECE results, UEE results, CGPA, major GPA,) and the criterion measure (i.e., HEEE scores).

Table 11. Inter-correlation matrix among variables (N = 1084 - 1107)

Variables	Gender	Dep't	EGSECE	UEE	CGPA	MGPA	HEEE /Y_0)
Gender	1.00	-.033	.092**	.144**	-.070*	-.093**	.104**
Department		1.00	.061*	-.053	.009	.205**	.511**
EGSECE			1.00	.143**	.348**	.307**	.291**
UEE				1.00	.096**	.042	.045
CGPA					1.00	.947**	.618**
MGPA						1.00	.690**
HEEE Result							1.00

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

From Table 11, one could recognize that among the independent variables, students' gender significantly correlated with EGESLCE results (r= .092, P<.01), UEE results (r=.144, P<.01), CGPA (r= -.070, P<.01), and MGPA (r= -.093, P<.01), but the magnitude of the correlations was low. On the other hand, students' EGSECE results positively and significantly correlated with UEE results (r=.143, P<.01), CGPA (r=.348, p< 01), and MGPA (r=.307< P.01). Notably, the CGPA intensely and significantly correlated with MGPA (r=.947, p<.01). In contrast, the UEE results only correlated positively and significantly with CGPA (r=.096, p<.01). Except for the UEE results, all the other variables that are assumed as predictor variables, MGPA (r=.690, P<.01), CGPA (r=.618, P< .01) and department (r=.551, P<.01) moderately and significantly correlated with the criterion measure /HEEE score/ Y_0). EGSECE results (r =.291, P<.01), and gender (r=.194, <P.01) correlated significantly with the dependent variable (HEEE scores), but the intensity of the correlations was low.

The students' university achievements (CGPA & MGPA) are better associated with the criterion measure (HEEE- scores). This implies that because both exams are emanating from and prepared from the same undergraduate curricular goals and objectives, they have been measuring the same graduates' knowledge, skills, and capabilities.

Table 12. Inter-correlation matrix among variables (N = 416)

Variables	Gender	Dep't	EGSECE	UEER	CGPA	MGPA	HEEER(Y_1)
Gender	1.000	.013	.120	.123	-.142**	-.146**	-.019
Department		1.000	-.013	-.133	-.097*	.045	.008
EGSECE			1.000	.098	.207**	.165*	.182*
UEER				1.000	.124	.075	.049
CGPA					1.000	.976**	.773**
MGPA						1.000	.767**
HEEER							1.000

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

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

Table 12 shows us that students' gender significantly correlated with CGPA (r= -142, P<.01) and MGPA (r= -.146, P<.01), but the strength of the correlations was low and fluctuating in opposite directions. However, the students' Department negatively and significantly correlated with CGPA (r=-.097, P<.01. On the other side, students' EGSECE results correlated significantly with CGPA (r= .207<.01) and MGPA (r= .165<.01). Remarkably, the CGPA strongly and significantly associated with MGPA (r=.976, p<.01). But, the UEE results didn't correlate significantly with any of the independent or dependent variables.

The independent variables CGPA (r=.773, P< .01) and MGPA (r= .767 P<.01), powerfully and significantly correlated with the criterion measure (HEEE scores). EGSECE results (r=.182, P<.01) correlated significantly with the dependent variable (HEEE scores), but the strength of the correlation is low. But the non-cognitive variables, gender (r= -.019, P>.05) and Department (r= .008, P>.05) were not statistically and significantly correlated with the criterion measure (HEEE scores). The student's university overall grades (CGPA & MGPA) are well related to the criterion measure (HEEE scores). This suggests that since the classroom assessments and the exit exam stem from the same undergraduate curricular objectives and contents, they measure the same graduates' wisdom, abilities, and competencies.

Results of the Multiple and Stepwise Regression Analysis

The third specific objective emphasized verifying the predictive capability of the independent variables (i.e., EGSECE, UEE, CGPA, or MGPA) of the HEEE scores when selected together or independently.

Table 13. Summary of the multiple linear regression on the HEEE score (Y_0) of 2023

Source of variation	SS	Df.	MS	F-value	P	R	R^2
Regression	140131.247	6	23355.208	354.541	.000[b]	.816[a]	.666
Residual	70353.873	1068	65.874				
Total	210485.120	1074					

a. Dependent Variable: HEEE Result
b. Predictors: (Constant), MGPA, UEE Result, sex, department, EGSECE Result, CGPA

As indicated in Table 13, a multiple regression analysis was conducted to assess how well gender, department, EGSECE results, UEE results, CGPA, and MGPA predict HEEE score (Y_0). The linear combination of the predictor variables significantly predicted the HEEE scores, $F_{(6, 1068)} = 354.541$, $p<.001$). The multiple correlation coefficient was .666, showing that approximately 66.6% of the variance of the HEEE scores was explained by the linear combination of gender, department, EGSECE results, UEE results, CGPA, and MGPA

Table 14. Summary of the multiple linear regression on the HEEE score (Y_1) of 2024

Source of variation	Sum of Squares	Df.	Mean Square	F-value	P	R	R^2
Regression	18081.174	3	6027.058	37.313	.000	.469	.220
Residual	63965.264	396	161.528				
Total	82046.438	399					

Dependent Variable: HEEER
Predictors: (Constant), CGPA, Dep't, MGPA

As presented in Table 14, a linear combination of the independent variables (i.e., CGPA, department, and MGPA) statistically and significantly predicted ($F_{(3, 396)}$, $P <.001$) the HEEE scores (Y_1). A multiple correlation coefficient of .220 indicates that 22% of the variance in the HEEE score was accounted for by the combined effect of CGPA, department, and MGPA. This low proportion of variance might be due to the restriction of range in the variables, or the capacity of the predictor variables was weak to explain the dependent variables. Other factors need to be considered in the future.

Table 15. Summary of the stepwise regression analysis on Y_0 (HEEE score)

As presented in Table 15, a stepwise regression analysis was carried out to assess whether all the independent variables (MGPA, UEE Result, gender, departments, EGSECE Result, and CGPA) are necessary to predict the HEEE score (Y_0).

Model	Source of variation	SS	Df.	MS	F	P	R	R^2
1	Regression	100119.858	1	100119.858	973.392*	.000[b]	.690[a]	.476
	Residual	110365.262	1073	102.857				
	Total	210485.120	1074					
2	Regression	129947.952	2	64973.976	864.844*	.000[c]	.786[b]	.617
	Residual	80537.168	1072	75.128				
	Total	210485.120	1074					
3	Regression	136753.841	3	45584.614	662.149*	.000[d]	.806[c]	.650
	Residual	73731.279	1071	68.843				
	Total	210485.120	1074					
4	Regression	139977.110	4	34994.278	531.058*	.000[e]	.815[d]	.665
	Residual	70508.010	1070	65.895				
	Total	210485.120	1074					

a. Dependent Variable: HEEE Score (Y_0)
b. Predictors: (Constant), MGPA
c. Predictors: (Constant), MGPA, department
d. Predictors: (Constant), MGPA, department, sex
e. Predictors: (Constant), MGPA, department, sex, CGPA

In step 1 of the analysis, MGPA entered into the regression equation and was statistically and significantly related to the HEEE scores ($F_{(1, 1068)} = 973.392$, $p < .001$). The multiple correlation coefficients found is .476. It displayed 47.6% of the variance in the HEEE scores is attributed to the major GPA achieved.

The second entered variable in the regression equation was department and was significantly correlated to the HEEE scores ($F_{(2, 1072)} = 864.844$, $p<.001$). The multiple correlation coefficient was 0.617, demonstrating approximately 61.7 % of the variance in the HEEE scores due to the effect of the two predictor variables (i.e., MGPA and departments).

The third entered variable is gender, which was significantly correlated to the HEEE scores ($F_{(3, 1071)} = 662.149$, $p<.001$). The multiple correlation coefficient was 0.650 designating approximately 65% of the variance in the dependent variable (HEEE scores) accounted for by the combined effect of the three independent variables (i.e., MGPA, department, and gender).

The last variable entered into the regression equation was CGPA, and it was correlated significantly to the HEEE scores ($F_{(4, 1070)} = 531.058$, $p<.001$). The multiple correlation coefficients were 0.665. It designated 66.5% of the variance in the HEEE scores, attributed to the four variables (MGPA, departments, gender, and CGPA) taken together at a time.

Table 16. Summary of the stepwise regression analysis on HEEE score ($Y_{1)}$

Model	Sum Squares	of Df.	Mean Square	F	Sig.	R	R^2
1. Regression	15773.571	1	15773.571	94.728	.000[b]	438[a]	.192?
Residual	66272.866	398	166.515				
Total	82046.438	399					
2. Regression	17345.284	2	8672.642	53.214	.000[c]	.460[b]	.212?
Residual	64701.154	397	162.975				
Total	82046.438	399					
3. Regression	18081.174	3	6027.058	37.313	.000[d]	.469[c]	.220?
Residual	63965.264	396	161.528				
Total	82046.438	399					

Dependent Variable: HEEER

Predictors: (Constant), CGPA

Predictors: (Constant), CGPA, Dep't

Predictors: (Constant), CGPA, Dep't, MGPA

As indicated in Table 16, the stepwise regression analysis was computed to examine whether each independent variable (MGPA, UEE results, gender, departments, EGSECE results, or CGPA) necessarily contributes to the prediction of the HEEE scores (Y_1). Primarily, the overall CGPA went into the regression equation and was statistically significantly associated with the HEEE scores ($F_{(1, 398)} = 94.728$, $p < .001$). The multiple correlation coefficients obtained was .438. It showed that 43.8% of the variance in the HEEE scores (Y_1) is accounted for by the CGPA achieved.

Secondly, the department came in and was statistically and significantly linked to the HEEE scores ($F_{(2, 397)} = 53.214$, $p<.001$). The multiple correlation coefficients were 0.460, which signifies approximately 46.0 % of the variance in the HEEE scores owing to the effect of the two predictor variables (i.e., CGPA and departments). The third input variable was MGPA that was significantly correlated to the HEEE scores ($F_{(3, 396)} = 37.313$, $p<.001$). The multiple correlation coefficient determined was 0.469, labeling approximately 46.9% of the variance in the dependent variable (HEEE scores) accounted for by the combined effect of the three independent variables (i.e., CGPA, department, and MGPA).

Table 17. Summary of the stepwise regression analysis of each independent variable on HEEE score (Y_0)

Variables	B Coefficient	Std. Error	Beta	t	Sig.	R^2
(Constant)	-13.520	1.632		-8.284	.000	
Gender	4.838	.498	.173	9.706*	.000	.032
Department	5.125	.239	.481	21.451*	.000	.142
EGSECE Result	.982	.648	.029	1.515	.130	-
UEE Result	-.001	.002	-.006	-.347	.729	-
CGPA	13.417	1.918	.477	6.994*	.000	.015
MGPA	3.84	1.761	.152	2.183*	.029	.476

Predictors: (Constant), Gender, Department, CGPA, and MGPA
Dependent V: HEEE score
P<.05

As summarized in Table 17, the stepwise regression analysis was computed to investigate the relative importance of a predictor variable in forecasting the criterion measure. The calculated t-values for gender, departments, CGPA, and MGPA were statistically significant ($t_{1074} = 9.706$, $p < .05$), ($t_{1074} = 21.451$, $p < .05$), ($t_{1074} = 6.944$, $p < .05$), ($t_{1074} = 2.183$, $p < .05$), each explaining about 3.2%, 14.2%, 1.5% and 47.6% of the variation in the HEEE scores, respectively. On the contrary, the t-values computed for the variables EGSECE results ($t_{1074} = 1.515$, $P > .05$) and UEE results ($t_{1074} = -.347$, $p > .05$) were not statistically significant.

These denote that the first four variables have significantly contributed to the variation in the dependent variable (HEEE scores), while the remaining two potential variables failed to do so.

Table 18. Summary of the stepwise regression analysis of independent variables on HEEE score (Y_1)

Model	Variables	B Coefficient	Std. Error	Beta	t	Sig,	R^2
1	(Constant)	19.527	3.718		5.252	.000	
	CGPA	12.273	1.261	.438	9.733*	.000	.192
2	(Constant)	25.108	4.094		6.133	.000	
	CGPA	12.581	1.251	.449	10.053*	.000	
	Dep't	-1.744	.562	-.139	-3.105	.002	.019
3	(Constant)	27.047	4.176		6.477	.000	
	CGPA	26.084	6.448	.932	4.045	.000	
	Dep't	-2.390	.636	-.190	-3.759	.000	
	MGPA	-13.280	6.222	-.490	-2.134	.033	.009

Dependent V: HEEE score
Predictors: (Constant), CGPA, department, and MGPA
P<.05

As observed in Table 18, the stepwise regression analysis was determined to study and identify the relative importance of a predictor variable in foreseeing the dependent variable. The calculated t-values of CGPA, departments, and MGPA were statistically significant ($t_{399} = 9.733$, $p < .05$), ($t_{399} = -3.105$, $p < .05$), and ($t_{399} = -2.134$, $p < .05$), each explaining about 19.2%, 1.9%, and 0.9 % of the variation in the HEEE score (Y_1) respectively. In contrast, the t-values computed for the variables Gender ($t_{399} = -1.217$, P>.05), EGSECE result ($t_{399} = .288$, P>.05) and UEE result ($t_{399} = -1.838$, P>.05) were not statistically significant predicting the HEEE score (Y_1).

These convey that the three variables (CGPA, Department, and MGPA) contributed to the variation in the criterion measure (HEEE scores), while the remaining three variables (Gender, GSECE results, and UEE results) were unable to predict the HEEE scores (Y_1).

Discussions

The purpose of this study was to find the determining factors of higher education exit exams (HEEE) administered to graduating students in Business Education (i.e., Management, Marketing management, and Tourism and Hospitality management groups), Accounting and Finance, and Computer Science.

Primarily, the study result showed a significant mean difference in performance on the HEEE scores (Y0) administered in July 2023 within gender. That is, male students got a better mean score of 51.40 than females of 48.50 (Tables 4 &5). This situation indicates that though outstanding female students who outperform males exit, their number is less. Without a doubt, female students require support from their respective departments (Table 4 and 5a). This finding accords with the study results of Nibretu and his team (2023) and Yosef (2017), yet is not consistent with the finding of Cumhur and Ismail (2007) that female students get greater CGPAs than males. On the contrary, gender was not located as a predictor of the HEEE (Y_1) delivered in February 2024. This might be associated with females studying hard and preparing themselves for the exit exams because they are taking the exit exam for the second time since they didn't pass previously (Tables 4 and 5b).

Similarly, students' mean performances on the higher education exit exams across departments were statistically significant, implying that they have scored varyingly from department to department. Such differences in performance may have happened due to factors like exam item difficulty level, nature of the disciplines, students' motivation and engagement with purpose, and departmental support. Hence, such variations could be minimized if institutional rules, guidelines, and support systems are applied among departments consistently. So also, best practices have to be shared and implemented among departments (Tables 6, 7, 8, 9, and 10).

Regarding the degree of relationship among the independent variables (i.e., students' gender, department, EGSECE result, UEE result, MGPA, and CGPA) and the criterion measure (Y_0), the findings authenticated that all the explanatory variables were statistically and significantly correlated with the dependent variable (HEEE scores) administered in July 2023. Yet, the strength of the relationship was low in the case of gender and EGSECE results, whereas that of the MGPA and CGPA was relatively moderate with the HEEE scores ($Y_{0)}$ (Table 11).

Concerning the HEEE administered in February 2024, the non-academic variables (gender and department) and students' university entrance exam results were not statistically and significantly correlated with the criterion measure (Y_1). However, the university grades (CGPA & MGPA) strongly and significantly correlated to the criterion measure ((Y_1). This suggests that since the classroom exams and the exit exams stem from the same undergraduate curricular objectives and contents, they measure the same graduates' wisdom, abilities, and competencies (Table 12).

As to the predictive capability of the independent variables on the criterion measure (HEEE scores), the study finding disclosed that all the predictor variables combined attributed the higher portion of the variance (66.5%) in the criterion measure /HEEE score/ Y_0 / (Table 13).

With regard to the HEEE administered in February 2024, the study finding revealed that CGPA, department, and MGPA together explained about 46.9% of the variance in the HEEE scores (Y_1). Yet, 33.5% and 53.1% of the variances in the first and second higher education exit exams given were unexplained. These could be because some factors like the student's personal motivation, interest, study skills, intelligence, test-taking skills, and nature of institutional support, etc., may influence performance in the HEEE (Table 13 &14).

Moreover, when considered separately, students' MGPA in the first exit exam significantly contributed to predicting the HEEE scores (Y_0), R^2= 0.476, F (1, 1068) = 973.392, p < .001), while in the second exit exam, it also significantly predicted the HEEE scores (Y_1), though the proportion of variation accounted for was less, R^2= 0.009, F (1, 393) = 37.313, p < .001). Each accounted for 47.6% and .9% of the variation in the HEEE scores (Y_0) and (Y_1) separately. In the same way, CGPA has also been accredited significantly for predicting HEEE scores (Y_0), R^2= .015, (t_{1074}=6.944, p<.05), and R^2 = 0.192, (t_{399}=9.733, P< .05), in the second HEEE (Y_1) accounting for about 1.5% and 19.2% variations on the exit exams (Y_0) and (Y_1) respectively (Table 15,16, 17 & 18).

These illustrate that students who perform better in their major area courses in the undergraduate program will also perform better in the higher education exit exams. It may also signify the importance of the major area course contents taught in the undergraduate program in preparing students for the exit exams. Next to MGPA and CGPA, the students' department has considerably contributed to the variance by 14.2%, and 1.9% in the HEEE administered in July 2023 (Y_0) and February 2024(Y_1) successively (Table 15, 16, 17 & 18).

Consequently, the study proved that students' achievement in their major area courses seemed to be a decisive and meaningful variable in predicting performance in the higher education exit exams. It may be associated with the opinion that course contents from which exams are

developed in higher institutions and the higher education exit exams seem to stem from the same area of course contents.

Generally, these findings conform with the study findings that students' undergraduate performances in the form of CGPA and MGPA, which originate from the curriculum-based assessments that focus on the overall learning outcomes, are key and valid predictors of success in the higher education exit exams of different professions (Nibretu, *et. al*., 2023; El-Hassan *et a*l., 2021; Marsidi, 2021; Khareedi, 2018; Yosef, 2017; Caves and Balestra, 2016).

Nevertheless, the General Secondary Education Certificate Examination results and the University Entrance Examination results could not predict the HEEE scores. The reason could be that most subject area contents in high schools are partially related or not at all to business education, Accounting and Finance, and Computer Science area courses. This result coincides with the study finding of Aboma (2009) that university entrance exam scores are ineffective in predicting university GPA.

In contrast, the findings of this study didn't endorse the previous prediction studies by Yosef, Desalegn, and others. According to them, pre-university achievements (i.e., preparatory school achievement and university entrance exam results) were the best predictors of the first–semester or first–year grade point average at the university. This might be because the freshman curriculum was prepared to help students be ready for university education. Most courses are supportive and not typical of any field of study. Thus, the preparatory school performance and the university entrance exam result are related to freshman performance at the university. However, as explained previously, the contents of the pre-university achievements (the grade 10 national exam results and the grade 12 university entrance exam results) are somewhat remote to the course contents from which the higher education exit exams are prepared. These exams are drafted based on courses that assess prospective graduates' professional skills for the labor market.

One area that caused questions about the quality of education in higher education is graduating students lacking employability skills that include generic skills (*teamwork, communication skills, time management skills, and organizing & planning skills),* discipline-specific skills (*skills in engineering, law, social work, Accounting, Management, Marketing. computer skills, etc.*), and Personal attributes (*e.g., self-confidence, resilience, loyalty, integrity, diligent, accountability, dependability, self- initiation, etc.*). These topics are incorporated into the undergraduate program curriculum. However, the exit exams measure the discipline- specific skills in the different fields of study, one aspect of the employability skills. The other two categories (the generic and personal attributes) are not taught and assessed. How can we maintain the quality of education relevant to the labor market without developing the generic skills and personal qualities of graduates?

Limitation of the Study

Before making any generalization based on the findings of this study, it is critical to see its limitations. First of all, the data was restricted to a single university. Moreover, the variables

assessed in this study are more academic. In contrast, factors such as institutional support, the curriculum, study skills, test-taking skills, and motivation may influence a student's performance in the higher education exit exam. However, they are not treated in this study. Such conditions need to be considered while trying to use the results of this study. Despite these limitations, the study has important practical and research implications.

Conclusions and Implications Conclusions

Based on the literature reviewed, the study findings, and discussions, it could be inferred that gender as a non-academic variable may not be considered a consistent and dependable predictor variable. However, it contributed a significant but slight proportion of variance (3.2%) in the 2023 HEEE scores, where males outperformed females but failed in the February 2024 exit exam administered, in which no significant difference was observed between both genders.

Students' prior performances in the General Secondary Education Certificate Exam and University Entrance Exam that have failed to predict performance in the HEEE could not be taken as determining factors that influence HEEE scores, which implies that they are unlikely to be related to the curriculum contents in Business Education, Accounting and Finance, and Computer Sciences.

Students' major grade point average is a decisive academic predictor variable of the Higher Education Exit Exam score since the proportion of variance it accounts for on the exit exam score is comparatively large. Furthermore, the cumulative grade point average could also be an academic predictor variable that needs attention in the undergraduate program. Thus, the academic performances in the last four years in the undergraduate program are significant determinants of achievement on the HEEE. Department as a non-academic factor is taken as an important predictor variable that explained a reasonable portion of the variances in the criterion measures (Y_0 &Y_1).

In addition to the discipline-specific skills, the main constituents of employability skills are the generic skills and personal attributes graduates are expected to achieve. They are the forgotten part that requires thoughtful consideration to improve the quality of education and make graduates fit into the world of work.

Implications

The findings of this study appear to be decisive for considering some practical implications for students' preparation, enthusiasm, and engagement for the higher education exit exams. Major GPA was found to be indispensable in predicting a better outcome in the higher education exit exam. Furthermore, cumulative GPA was one of the reliable predictors of students' success in the HEEE. Therefore, St. Mary's University has to design and practice relevant teaching and learning strategies that initiate students' engagement in authentic learning and direct their performance to superb achievement in their major area courses.

Since the onset of the higher education exit exam, St. Mary's University has been facilitating and providing special institutional support (i.e., organizing tutorial classes, providing summary notes and exercises on identified themes, administering comprehensive degree exit exams, providing mock exams, etc.) to those who sit for the exams. Thus, these supports need to be strengthened via a recurrent appraisal of their implementation across departments.

The proportion of variances not explained in the criterion measures (Y_0 & Y_1) were 33.4% and 53%. These imply other predictor variables that may affect students' performances in the HEEE could be there. Thus, further comprehensive research needs to be carried out on other potential predictor variables like institutional supports, curriculum, curriculum materials, teaching methodology, classroom assessment and frequency of feedback, teachers' capacity, availability of technology, students' study skills, test-taking skills, and motivation, which may contribute to the maximum prediction of the HEEE score.

The generic skills and personal attributes to be achieved by graduates should be purposefully focused in the teaching-learning processes and need to be assessed like the discipline-specific skills. Such gaps need to be solved by the Higher Education Institutes and the Ministry of Education to improve the quality of education and produce graduates who meet the demands of employers in the labor market.

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South-South Cooperation and Networking Impact in Science, Technology and Innovation based on the establishment of Organization of Southern Cooperation (OSC)

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Abstract

South-South Cooperation (SSC), a dynamic framework for cooperation among developing nations (Global South), aims to promote technology transfer/ knowledge sharing, capacity building, trade enhancement, finance development, address common challenges, and build solidarity. Due to the broad nature of the South-South Cooperation framework, several organizations facilitate and promote SSC, including the United Nations Office for South-South Cooperation (UNOSSC), the Organization of Southern Cooperation (OSC), and the Food and Agriculture Organization (FAO). Within this, due to the complex nature of countries' developmental status, there is no clear timeline and statistical data of South-South Cooperation outcomes. Therefore, this study aims to address the impact of the Organization of Southern Cooperation (OSC), established on January 29, 2020, during the International Summit on Balanced and Inclusive Education, which aims to reinforce transdisciplinary research, development of endogenous technologies, and enhanced fiscal space through debt relief and concessional financing among 28 countries, which includes Ethiopia. Even though the collaboration can bring a big impact, it suffers in keeping financial sustainability and addressing complex issues of technology transfer, long-term partnership, and the political landscape. This essay is based on an evaluation and literature analysis of both local and international data, with a focus on the fundamental and crucial areas that must be addressed in order to advance the Organization of Southern Cooperation in maximizing science, technology, and innovation development.

Keyword: South-South Cooperation, Organization of Southern Cooperation, Innovation, Technology Transfer and Networking.

Introduction
Background Information

In an increasingly interconnected world, the importance of international collaboration cannot be overstated. It is clear that nations are facing complex and different challenges that transcend borders, necessitating collective action and shared knowledge. Beyond much international collaboration, a balanced South-South Cooperation (SSC) was established, among developing countries that serve as a vital mechanism for fostering growth and development through the exchange of technology, expertise, and resources.

Collaboration between nations will undoubtedly promote the advancement of societies by influencing and fostering information exchange and maintaining consistency in natural growth in addition to exchanging experiences and cultures. Collaboration matters for the big umbrella of resource utilization and Gross Domestic Product (GDP) management. Countries can more effectively tackle shared issues like poverty alleviation, climate change, and technology advancement by combining their resources and skills.

Increased creativity, increased productivity, and eventually a more sustainable economic trajectory are the results of this collaboration. Currently we are in the fourth industry revolution in which human beings are introduced to new solutions like digital transformation, automation and smart systems, advanced technologies, and interconnectivity. Estimates suggest that Industry

4.0 could add approximately $14 trillion to the global economy by 2030, translating to an annual increase in global GDP of about 1-2% as countries and industries adopt advanced technologies and automation. [1]

As countries engage in knowledge sharing and joint initiatives, they not only enhance their individual economic performances but also contribute to regional stability and global prosperity. According to the United Nations, there are 195 recognized countries in the world and the group of 77 (G-77) countries established South-South Cooperation in June1964, and at this moment, it is estimated that more than 130 countries are collaborating and engaged in different economic ties.

This essay evaluates and analyzes both local and international data, focusing on the fundamental areas essential for advancing the Organization of Southern Cooperation (OSC) in maximizing digital transformation and innovation development. Additionally, it explores the mechanisms through which South-South Cooperation (SSC) and OSC facilitate knowledge exchange and resource mobilization. Besides, the paper aims to highlight how collaborative efforts can drive growth and progress in the Global South, ultimately contributing to sustainable development and innovation.

General objective

To evaluate key areas for advancing the Organization of Southern Cooperation in science, technology, and innovation while exploring how South-South Cooperation facilitates knowledge exchange and resource mobilization among developing countries.

Specific Objective

- To understand the current impact SSC to oversee the impact of OS,
- To address the result of Science, Innovation and Technology Development,
- To improve and strengthen the cooperation among SSC countries, and
- To give recommendations on future challenges and growth

Scope and Limitations

The study focuses on the current Organization of Southern Cooperation, highlighting the organized conference in Addis Ababa, Ethiopia in December 2024. Besides, short questioner was developed to understand the deep down problem of South-South Cooperation in understanding the challenges of innovation and technology transfer in the current digital transformation era. Besides, it tries to assess the current roles of some studies and different scholars' written documents. The study covers its limits on the current gap and plays major roles in the current solutions that were taken up until now. The paper helps to increase future major solutions that need to be considered for better outcomes of innovative idea development in the current digital world.

Problem Statement

The problem of uncoordinated South-South Cooperation stems from various factors that hinder effective collaboration among developing countries. Despite the establishment of numerous organizations aimed at leveraging the potential of the Global South, a lack of a cohesive framework results in significant gaps in traceable impacts on large populations. Additionally, while technological advancements exist, the uneven capacity for adaptation among countries leaves many areas underdeveloped. Political instability, rapid population growth, and resource mismanagement further exacerbate these challenges, undermining societal stability crucial for technological progress.

Infrastructure inadequacies impede connectivity and access to technology, necessitating investments in transportation, energy, and communication networks. Moreover, educational shortcomings hinder the development of a skilled workforce capable of fostering innovation, and the complexity of regional inequalities and corruption presents substantial barriers to achieving positive outcomes and promoting equitable growth in developing nations.

South-South Cooperation (SSC)

Despite global technological developments and improvements in digital connectivity, South-South cooperation has developed significantly among developing nations since its inception in 1978 as a means of maintaining national stability and growth. At this moment, it is estimated that above 130 countries are collaborating with many initiatives such as joint research projects, technology exchanges, and collaborative training programs. Nations have been able to leverage their collective strengths. Furthermore, the rise of digital platforms has facilitated greater communication and knowledge sharing, allowing for more effective partnerships and the rapid dissemination of successful strategies across borders.

As a result, South-South cooperation has not only fostered economic growth but also strengthened political ties and mutual understanding among nations. This approach empowers countries to take ownership of their development journeys, reducing reliance on traditional donor countries and promoting a more equitable global landscape. Ultimately, the evolution of South-South cooperation reflects a commitment to solidarity and shared progress among developing nations in an increasingly interconnected world.

Cooperation

Different organizations have been established to leverage the potential of the Global South; however, as it is not well coordinated and put into a single framework, we still see many gaps or are unable to trace the impact of this cooperation at the massive population area.

As the cooperation has been deployed here and there, it is based on cultural ties, economic interests, political alliances, geographical proximity, development needs, historical solidarity, and institutional frameworks. [3]UN Initiatives: The United Nations and its agencies have reported thousands of initiatives across various sectors, including health, education, agriculture, and technology.

Regional Organizations: Organizations like the African Union, ASEAN, and CELAC have facilitated numerous SSC projects, focusing on shared challenges and regional development.

Bilateral Agreements: Many countries engage in bilateral SSC initiatives, resulting in hundreds of cooperative projects tailored to specific needs and contexts.

Reports and Data: Institutions like UNCTAD and the South-South Cooperation Unit at the UN provide periodic reports summarizing initiatives and their impacts.

Regional Cooperation and Integration: Enhanced regional cooperation can amplify the benefits of South-South collaboration. By fostering partnerships among neighboring countries, regions can share resources, knowledge, and best practices more effectively. This integration can lead to greater economic stability and a collective approach to addressing common challenges, thereby maximizing the impact of cooperation initiatives.

Major organizations working on SSC

Figure 1: United Nations Agencies

Figure 2: Financial Institutions

Figure 3: Regional Organizations

Knowledge and Technology Transfer

The South-South Cooperation aims to develop and implement effective solutions. However, even though there is technology advancement, the technology current developmental situation in developing countries remains unclear. Mainly because of while creativity is thriving, the potential for technology adaptation varies significantly among countries, leaving many areas underdeveloped. Example: India and African Nations. Focus: Technology and healthcare. Initiatives: India has launched the India-Africa Forum Summit, facilitating partnerships in health, education, and technology, including the transfer of medical technology and capacity building in healthcare.

The knowledge and technology transfer requires the development of technology in certain countries or organizations for the better development or use in a certain community, which certainly will have an access of development. As South-South cooperation until the time of today, it is difficult to quantify the exact statistical data on the percentage of technology transfer, and its effectiveness and extensiveness and extent of transfer significantly vary among countries and initiatives.

Local Technology Development

Promoting local technology development is essential for empowering communities while respecting their cultural values and norms. By encouraging innovations that are rooted in traditional practices, societies can create solutions tailored to their specific contexts. This approach not only enhances community engagement but also ensures that technological advancements align with local customs and values, fostering a sense of ownership and sustainability.

Many developing countries allocate a small portion of their GDP to research and development (R&D), often below 1%. This limited investment significantly constrains local technology development and innovation capabilities. [16]

Local technology development, specifically under the South Cooperation, involves harnessing knowledge for practical purposes, solving problems, crafting useful tools, and improving environments.

Example: Agricultural Technology in Africa: The Brazilian government partnered with African nations to share expertise on tropical agriculture. Initiatives included training programs on sustainable farming techniques, which led to increased crop yields and improved food security. [13]

Political Stability/Balance

World leaders are expected to foster a stable and respectful society. However, inconsistencies in political leadership, rapid population growth, and the irresponsible appropriation of valuable resources often lead to negative outcomes. Stable societies provide significant advantages for technological development. It is clear that stable political environments can enhance economic growth, which indirectly supports technology development through increased investment in infrastructure, education, and research.

Example: Economic Resilience in Latin America: Countries like Argentina and Brazil have worked together to create regional trade agreements that promote economic stability by reducing dependence on external markets. This fosters balanced economic growth and resilience against global market fluctuations.

Infrastructure Development

Robust infrastructure is essential for fostering economic growth and technological advancement. In many developing regions, inadequate infrastructure hampers connectivity and access to technology. Investment in transportation, energy, and communication networks is crucial for enabling effective knowledge transfer and ensuring that technological innovations reach underserved populations. China has invested in infrastructure projects across Latin America, promoting economic development while fostering local partnerships and knowledge sharing.

[10] The High-Level Event on South-South cooperation and capacity development by Excellency President Uribe in March 2024, mentioned that the extent of infrastructure development under South-South cooperation varies widely by region, project, and country. The following are core infrastructure development that were transferred from North to South Cooperation through a trilateral cooperation way.

- Construction: Roads, home buildings, railways, smart city, industry zones and ports.
- Energy: Renewable energy projects, including solar and wind farms.
- Telecommunications: Expanding digital connectivity and communication networks.
- Water Supply and Sanitation: Improving access to clean water and sanitation facilities.
- Miscellaneous Products/Services: Most industrial products and online services and virtual activities.

The above basic infrastructure access has been developed and transferred in a way of different approaches under each sectors. The recent growth of Artificial Intelligence growth also brought a high impact in the South-South Cooperation in helping an access of recent technology advancements.

Education and Skills Development

A strong educational framework is vital for empowering individuals and fostering innovation. Many developing countries face challenges in providing quality education and training. By investing in education and skills development, societies can cultivate a workforce that is capable of driving technological change and adapting to new advancements. Example: Argentina and Central American countries focus: education and social policy. Initiatives: Argentina has collaborated with countries like El Salvador and Honduras to share educational methodologies and social policies aimed at reducing inequality. [11]

We could say that due to the digital growth all over the countries, the educational exchange has been moving forward in terms of enrollment rates, scholarship opportunities, teacher training, and access to new information and technologies. However, the quality of education, limitation of learning and teaching materials, cultural differences, and political stability are affecting the transfer of education at a higher cost in most SSC countries.

As the education system is growing here and the quality of education among developing countries keeps growing in a higher rate, which makes the more practical research findings lag behind, they are kept under the control of the political system. [19]

Environmental Sustainability

Sustainable practices are essential for the long-term viability of technological development. Many regions struggle with environmental degradation, which can hinder economic growth and technological progress. Promoting environmentally friendly technologies and practices can help create a balance between development and sustainability, ensuring that future generations can thrive.

Example: Renewable Energy Projects in Africa: South African and Indian partnerships have focused on developing solar energy projects. This cooperation has led to increased investment in renewable energy infrastructure, reducing carbon emissions and promoting sustainable energy use. [12]

Trade Tensions and Rising Uncertainty

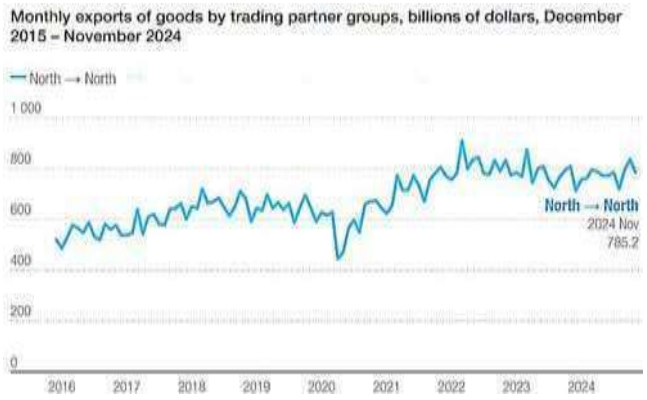
Many efforts are made in various regions, creating significant opportunities for some individuals. However, this leads to unbalanced growth and increased inequality, even within countries. South-South Cooperation must focus on identifying the main obstacles, as many issues require solutions at the community level. Corruption, in particular, has been a substantial barrier to achieving positive impacts, especially on the African continent.

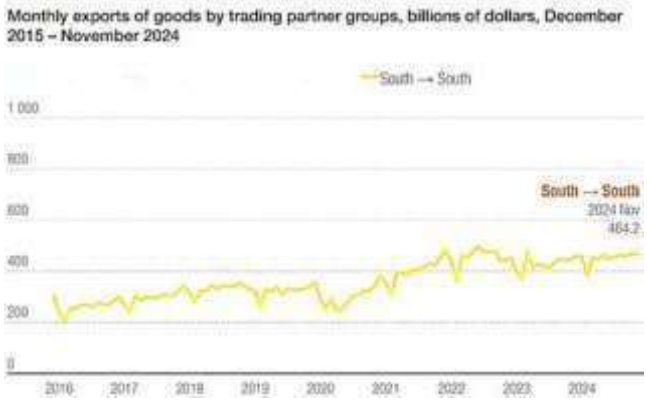
Example: Multifaceted Development Projects: The BRICS 10 countries (Brazil, China, Egypt, Ethiopia, India, Indonesia, Iran, the Russian Federation, South Africa, and United Arab Emirates) engage in complex development projects that address various sectors simultaneously, such as infrastructure, health, and education. Coordinating efforts across these sectors requires navigating diverse political, economic, and cultural contexts. [14,15]

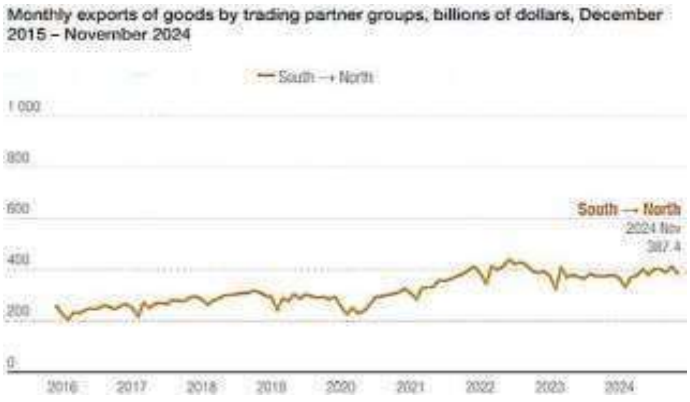
Record-high economic policy uncertainty is also fueling financial turbulence. In early 2025, the Economic Policy Uncertainty Index reached its highest level this century, surpassing peaks during the 2008 financial crisis and the COVID-19 pandemic. Many low-income economies face a “perfect storm” of tighter financial conditions, high external debt, and weakening domestic growth. More than half of low-income countries – 35 out of 68 – are now in debt distress or at high risk, according to the International Monetary Fund. Trade among developing countries – also known as South-South trade – is expanding faster than other trade flows and now accounts for about one-third of global trade. [17]

The below figure shows the rising trading among SSCs and the overall increase in GDP often masks a troubling reality: economic growth is disproportionately benefiting high-income individuals and corporations. Recent data indicates that over 80% of the gains from this growth are concentrated in the hands of the top 10% of earners. In stark contrast, lower-income workers have experienced wage growth stagnating at around 1-2% annually, which fails to keep pace

with inflation. This growing disparity not only widens the income gap but also Highlights that the bottom 50% of earners hold only about 2% of the nation's wealth. Compounding these issues, debt levels among lower-income individuals continue to rise, further straining their financial stability and limiting their ability to participate in the overall economic growth. [18]







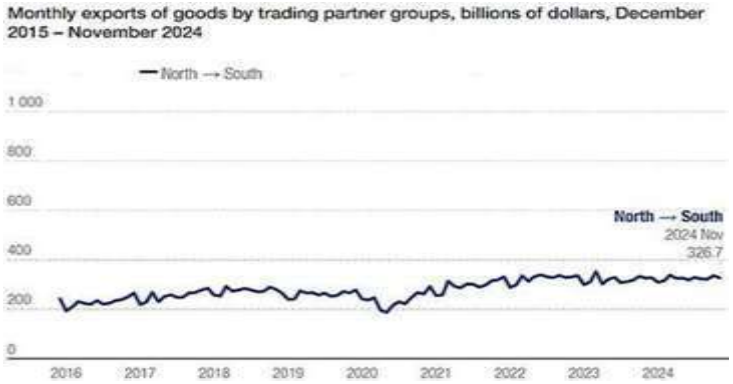


Figure 5: UN Trade and Development based on the IMF Direction of Trade Statistics Database

Triangular Cooperation

A collaborative method to international development known as "triangular cooperation" usually consists of three parties: a developing nation, a developed nation, and an international organization or agency. The cooperation mainly relies on utilizing resources, building capacity, transferring knowledge and technology, keeping peace, sharing culture, policy formulation, and many more.

One possible example of this cooperation is in renewable energy, where MOFCOM and UNDP supported 2 million dollars to cooperate with China and Ethiopia to demonstrate a biogas and solar system development and beside knowledge and experience sharing from 2019 to 2021. [21

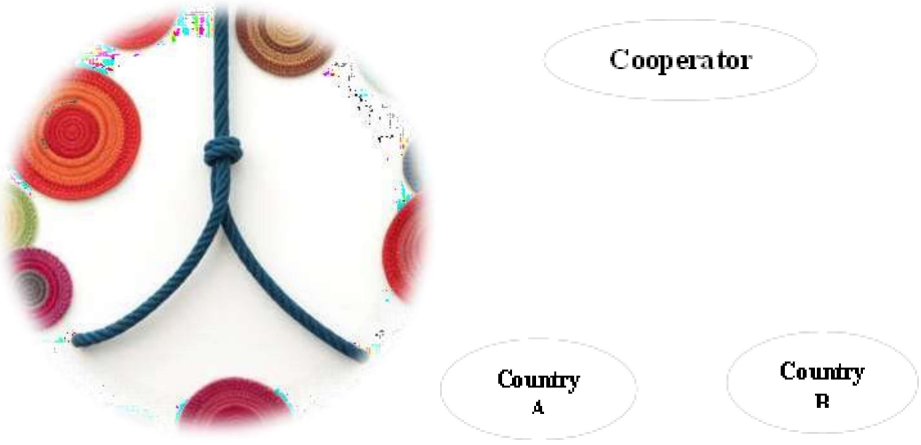


Figure 6: Figure of Trilateral Cooperation

It is believed that this has been effective in technological development in many developing countries. But still, many more cooperation's lag behind due to mainly i) lack of trust, ii) internal

and external political issues, iii) less understanding of the situation of massive populations or situations at the base, iv) capacity of regional expertise and unclear leadership styles, v) unclear nature of what solutions will be deployed by the organizations, vi) way of using the system for just resource exploitation, and vii) diverse cultures even in the community and language barriers are hindering these broad ideas.

This shows that stakeholder engagement, structural adjustments, feedback collection techniques, monitoring and evaluation systems, and strong political and national agreements are in general required to keep the sustainability of most projects. As funding agencies increasingly allocate budgets to strengthen and build the capacity of developing countries, it is essential to prioritize the sustainability of each project. This involves ensuring that initiatives are effective not only in the short term but also in delivering long-term benefits. Key considerations include designing projects with sustainability in mind and enabling local communities to maintain and build upon the achieved benefits. Protecting data privacy is crucial, necessitating robust data management practices to safeguard sensitive information. Additionally, initiatives must be culturally sensitive, respecting and incorporating local traditions and values to enhance acceptance and effectiveness.

Careful oversight is also required to prevent resource exploitation, promoting responsible use of local resources to avoid undermining the environment or the livelihoods of local populations. By addressing these foundational issues, the trilateral cooperation can help ensure that their investments contribute to meaningful and lasting change in developing nations and possibly allow further investment for developed countries.

A notable example of trilateral cooperation is the Water Sanitation and Hygiene (WASH) program in Kenya, supported by the governments of Kenya, Japan, and various international organizations. This initiative aims to improve access to clean water and sanitation in rural areas. It emphasizes sustainability by training local communities to manage water facilities, ensuring long-term operation after funding ends. Data privacy is prioritized by anonymizing personal information collected during health assessments. The program is culturally sensitive, engaging local leaders to respect community practices, and promotes resource management by using locally sourced materials. This collaborative approach has led to significant and lasting improvements in health and sanitation for the communities involved. [22]

Organization of Southern Cooperation (OSC)

The Organization of Southern Cooperation (OSC) was established on 29 January 2020 by countries and organizations from across the Global South at the International Summit on Balanced and Inclusive Education – III Forum BIE 2030 – held in the Republic of Djibouti. As the first intergovernmental organization of and by the Greater South, the OSC acts as an instrument of intellectual, technical and financial cooperation and solidarity between its member states as well as its associate members in the pursuit of a Third Way of Development – from the South, for Humanity.

OSC, in its establishment in July 2020, incorporates 10 member countries and is led by a general secretory, Mansour Bin Mussallam. Since then the organization has undertaken many

collaborative and development measures among different countries in the development of technological advancement and creation of mutual educational growth. The organization has identified six strategic and sovereignty-enhancing sectors:

- Endogenous technology and high value-added industrialization,
- Infrastructure development
- Integral health
- Renewable Energy
- Sustainable agriculture and
- Balanced and inclusive education (BIE). [2]

As per the report of the recent Greater South Fair for Endogenous Technology (GreSFET), which took place in Addis Ababa on December 3 and 4, highlights exploring topics like Edu/Tech, building digital skills for the gig economy, and exam management for improved educational outcomes, beside addressing core issues like financial inclusion and FinTech, with talks on leveraging block chain technology and payment systems, alongside startup and hackathon presentations.

Figure 7: GreSFET (Greater South Fair for Endogenous Technology)

Within this, it is clear that in today's world the transfer of technology has highly increased as digital technology was booming much more than in the recent century. Most populations are aware of information at a speed of a higher rate than centuries ago. But much information shows that developing countries still face an average internet speed than that of developed countries or Northern countries, as in it is compared in megabytes per second, as seen in Fast metrics powered by Paxio. For example, 2.2 for Ethiopia and some other sources show that 4.45 up to more internet speed access as it is shown in figure 5.

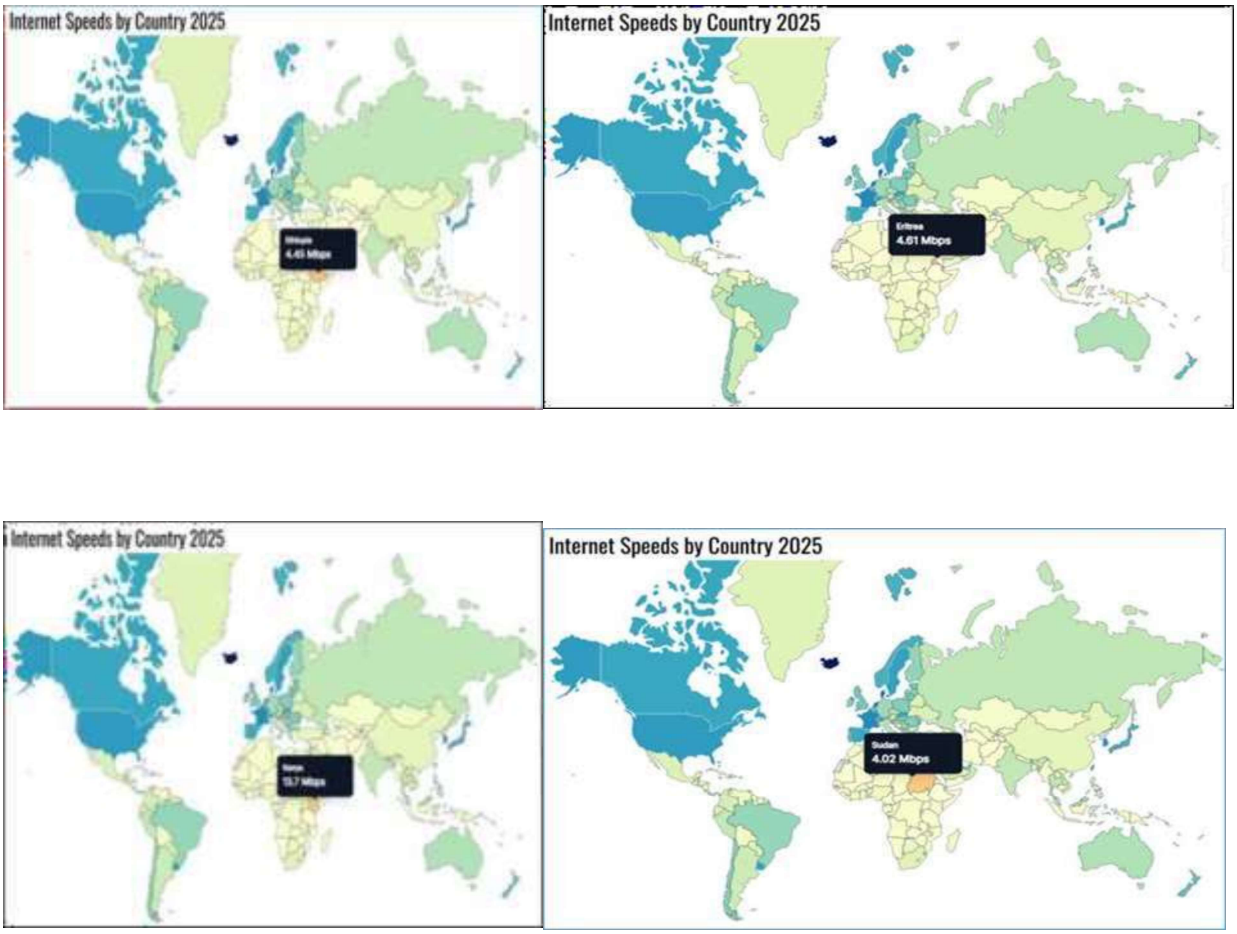


Figure 1: Internet Speed by Country in average

As per the report of Ethio-telecom from July 2024 to December 2024, mobile voice subscribers reached 77.7 million, mobile data and internet users 43.5 million, fixed broadband 784.1 thousand, and fixed voice 765.6 thousand. In line with this, telecom density has reached 72.2%.

[20] This means the overall digital development growth shows a remarkable change, as there were 21.14 million internet users in Ethiopia in January 2020. [21] And as per the World Economic Forum of September 05, 2023, only 35% of people in developing nations have access to the internet compared to over 80% in the developed world. This and the above information show a lot of work needs to be addressed under SSC.

Methodology

The study was conducted based on the current goals and achievements of South-South

Cooperation (SSC) in tackling the challenges countries face in deploying innovation and up-to-date technologies. The study took data collection from 35 innovation leaders, policymakers, governmental responsible bodies, and individuals specifically in Ethiopia. Beside this, we

conduct a comprehensive review of existing literature on South-South Cooperation, the Organization of Southern Cooperation, and digital transformation to identify key themes and challenges.

Furthermore, surveys were distributed to gather quantitative data on the effectiveness of existing SSC initiatives in promoting technological advancements. The findings from these mixed methods will be synthesized to provide a holistic understanding of how SSC can enhance science, technology, and innovation development and address the specific needs of developing countries like Ethiopia. By integrating both qualitative and quantitative data, the study aims to offer actionable recommendations for improving SSC strategies and fostering sustainable development in the region.

Results and Discussions

This assessment represents respondents from government offices, individual innovators, and technology experts, the majority located in Addis Ababa, and some from East Africa.

Results

1. Have you ever had information about South-South Cooperation?

    - 45.2% have heard about South-South Cooperation, but the rest respond with a negative result.

2. Do you know about any collaboration in the areas of innovation, technology, and digital transformation under SSC?

    - 51.6% have no clue about if there is any collaboration under SSC.

3. To what extent did you think SSC impacted the economy positively?

    - 19.4% very strong, 48.4% strong, 29% moderate, 3.2% very weak, and 0% weak respondents

4. Do you think SSC growth will bring country growth?

    - 90.3% yes and the rest filled out no.

5. In your opinion, what is the main obstacle to strengthening SSC?

    - 29% (Political Landscape), 19.4% (Financial Sustainability), 16.1% (Dependence on NSC technology), 16.1% (Long-term Sustainability), 9.7% (Currency), 6.2% (Culture Difference), and 3.2% (Internal Politics)

6. In what field do you believe South-South Cooperation will succeed the most?

- 48.4% (Technology Transfer), 25.8% (Trade and Economic Ties), 16.1% (Research and Production), and 9.7% (Education)

7. How familiar are you with the objectives of the Organization of Southern Cooperation (OSC)?

   - 54.8% Somewhat familiar, 29% Not Familiar, and 16.1% Very familiar

8. Do you believe Ethiopia have an important influence on the SSC?

   - 64.5% yes, 9.7% no, and 25.8% I have no idea.

9. How engaged are you or your organization with OSC activities?

   - 48.4% somewhat engaged, 29% Not engaged, and 22.6% Very engaged

Please provide suggestions for improving the development of science, technology, and innovation in South-South cooperation.

Attached Under the Annex Survey Results

Based on the survey results regarding South-South Cooperation (SSC), several major issues need to be addressed to enhance its effectiveness and impact:

Awareness and Information Dissemination/Low Awareness: A significant portion (54.8%) of respondents are only somewhat familiar with SSC, and 45.2% have heard about it, indicating a need for better communication and awareness campaigns to inform stakeholders about SSC initiatives and benefits.

Collaboration in Innovation and Technology/Lack of Knowledge: Over half (51.6%) of respondents lack information about collaborations in innovation and technology under SSC. This highlights the necessity for promoting existing initiatives and encouraging knowledge sharing among countries.

Perceived Economic Impact/Positive Economic Perception: While many believe SSC has a strong (67.8%) or very strong (19.4%) positive economic impact, the relatively high percentage (29%) who view it as only moderate suggests that more concrete evidence and success stories are needed to strengthen confidence in SSC's economic benefits.

Obstacles to Strengthening SSC/Political Landscape: Political issues are identified as the main obstacle (29%). Addressing political stability and governance is essential for fostering effective cooperation. Financial Sustainability: The concern about financial sustainability (19.4%) indicates the need for innovative funding mechanisms and partnerships to support SSC initiatives. Dependence on North-South Cooperation: The reliance on NSC technology (16.1%) suggests a need for building self-sufficiency in technology and innovation to empower SSC.

Focus Areas for Success/Technology Transfer: The majority (48.4%) believe technology transfer is the field with the most potential for success. This area should be prioritized in strategic planning and resource allocation. Trade and Economic Ties: With 25.8% identifying trade and economic ties as crucial, efforts should be made to enhance trade agreements and economic collaboration among SSC countries. An UNCTAD study shows the trade among South-South Cooperation is much higher than South-North and North-South.

Engagement with OSC/Moderate Engagement Levels: Nearly half (48.4%) are only somewhat engaged with OSC activities, highlighting the need for initiatives that encourage deeper involvement and active participation from stakeholders.

Suggestions for Improvement/Feedback Mechanism: Utilizing the suggestions provided in the annex could guide tailored strategies to enhance the development of science, technology, and innovation in SSC.

Discussions (Suggestions for Enhancing South-South Cooperation (SSC)

Based on the responses provided in the annex, several key themes and actionable suggestions have emerged for improving the development of science, technology, and innovation (STI) within the framework of South-South Cooperation.

Strategic Collaboration/Engagement with Tech Firms: Establish strong partnerships with technology firms and STI governing bodies in member states to facilitate collaborative growth. Bilateral Relationships: Foster direct relationships between stakeholders to enhance knowledge transfer and technology sharing.

Youth Investment/Focus on Youth: Invest in the youth of each member country, ensuring they are equipped with the skills and knowledge needed for future technological advancements

Mutual Benefits and Research Focus/Collaborative Research: Emphasize joint research initiatives that focus on mutual benefits, allowing countries to share resources and knowledge effectively. Identify Key Areas: Determine specific areas of active involvement to facilitate experience sharing and collaboration among stakeholders.

Awareness and Visibility/Increase Awareness: Enhance visibility of SSC initiatives through improved communication and digital presence. This includes detailed descriptions and links on platforms like Google Forms for new users. Continual Awareness Campaigns: Conduct ongoing awareness creation at organizational and national levels to inform stakeholders about SSC activities and opportunities.

Infrastructure Development/Digital Infrastructure: Build and improve digital infrastructure and connectivity to support collaborative efforts in technology and innovation. Science and Technology Hubs: Establish dedicated hubs for science and technology to foster research and development.

Policy Development/Supportive Policies: Develop policies that promote research, innovation, and intellectual property protections to encourage participation from private sectors and startups. Regional Cooperation: Strengthen regional frameworks to align STI policies and facilitate skill exchanges among researchers and professionals.

Focus Areas for Success/High-Tech Trade: Promote South-South trade in high-tech goods to enhance market access and collaboration. Inclusive Innovation: Focus on sustainable and inclusive innovation that benefits all member countries.

Collaboration Networks/Enhance Collaboration: Foster networks that encourage collaborative research and technology transfer, aligning policies across member states to support joint initiatives.

Conclusion

In light of the survey results and the identified challenges, it is clear that South-South Cooperation (SSC) faces several significant issues that need to be addressed to enhance its effectiveness and impact. The rapid digital growth in developing countries necessitates a strong focus on cyber security and the improvement of digital skills, alongside increased visibility for local technology development. Furthermore, the lack of coordination among various initiatives often leads to fragmented efforts and overlaps, preventing a unified strategy that could maximize resources and outcomes.

Resource allocation disparities contribute to imbalances, with some nations reaping more benefits than others. Infrastructure deficiencies further hinder connectivity and access to technology, while educational barriers limit the development of a skilled workforce essential for driving innovation. Political instability and corruption undermine trust and disrupt cooperation efforts, creating an uncertain environment for collaboration.

Environmental challenges and cultural differences complicate cooperation, as they can lead to misunderstandings and hinder effective implementation of initiatives. Additionally, growing inequalities both within and between countries can exacerbate tensions and restrict the overall benefits of SSC. Finally, the difficulty in monitoring and evaluating the impact of various initiatives poses challenges in measuring effectiveness and making necessary adjustments.

To overcome these obstacles, it is crucial to foster collaboration, enhance resource distribution, and implement strategies that promote education, infrastructure development, and political stability. By addressing these key issues, SSC can unlock its full potential, leading to sustainable growth and shared benefits across participating countries.

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Higher Education Differentiation in Ethiopia: Process, Perils, and Promise

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Abstract

This paper explores the differentiation of higher education institutions (HEIs) in Ethiopia, focusing on the process of its implementation, the challenges encountered, and the strategies for proper implementation. The Ethiopian government has acknowledged the persistence of program and curriculum isomorphism among its HEIs, which has affected the quality and relevance of study programs. To escape this problem, the government has introduced the differentiation of these HEIs into three different roles. The study employed an exploratory design and used open-ended questions, policy and strategy documents, university websites, and personal experience as data source. It was found that the differentiation implementation process has shown delays among the Universities of Applied Sciences due to different reasons, such as misconceptions about the reform, change resistance, weak university-industry linkage, resource constraints, and lack of commitment from the university management. The study symbolizes the metaphor of "The Uneaten Burger" to illustrate classification and diversity, untapped potential, resistance to change, and the need for action on differentiation reform. The findings emphasize the need for a collaborative effort among university management, faculty, the industry, and the government to realize the benefits of differentiation, ultimately contributing to a skilled workforce and national development in Ethiopia.

Key Words: University Differentiation, University of Applied Science, Higher Education in Ethiopia, University-Industry Linkage

Introduction

According to the Ministry of Education (2018), during the last two decades, Ethiopia has shown a significant expansion of the higher education institutions (HEIs) across the different corners of the country. The public universities, which numbered 8 in the early 2000, currently reached more than 50 (Teferra et al., 2017). Since 1995, the country has embarked on several reforms of the higher education sector to expand access, improve equity, the regional distribution of access, and quality, and enhance the supply of quality graduates for the economy (Ministry of Education (MoE), 2021). This has facilitated the increment of enrollment from 447,693 in 2010/11 (MoE, 2015) to 1,527,629 in 2022 (MoE, 2022) in all programs of private and public universities.

This shows the effort the country has invested in the expansion of higher education. The expansion of institutions of higher learning coupled with duplication of study programs in Ethiopia has jeopardized the relevance of higher education in the country (Teferra et al., 2017). However, the effort has brought an opportunity for citizens to get access to higher education even though quality and relevance are the main problems that the government is unable to address.

According to the Ministry of Science and Higher Education (MoSHE) (2020) however, the expansion of higher education in Ethiopia and the establishment of new ones were based on mere duplication of governing and management structures, academic programs, curricula, course content, and teaching-learning practices. This has resulted in duplication of programs and institutional structures and a lack of diversity of disciplines and institutional practices which indicate a high level of isomorphism (uniformity or homogeneity) (Hunde et al., 2023).

To address the problem of quality in Ethiopian higher education, the government has made different reforms, including harmonization of undergraduate curricula, introduction of modular teaching, continuous assessment, and peer learning, and the establishment and operation of quality assurance mechanisms to enhance and assure quality of higher education (Hunde et al., 2023; Ministry of Science and Higher Education (MoSHE), 2020; Teferra et al., 2017). However, these activities have little positive impact on the quality of HEIs' core processes, for example, teaching and learning (Teferra et al., 2017).

Studies further revealed that the curricula of HEIs are not geared toward the development of employability and other lifelong learning skills among graduates (Hunde et al., 2023; Kebede et al., 2024; Shimekit, 2021; Woya, 2019). The existing university-industry linkage was found inadequate; hence, students did not have ample exposure to real-world work as well as the teaching of practitioners from industry. As a result of poor linkage between universities and the industry, the curriculum may not be responsive to the needs of the market, and even the program may be less relevant.

The downside of the expansion of higher education in Ethiopia, however, is the fact that the newly established universities are merely replicas of the old ones in terms of subject diversity and content, apart from the significant degree of quality that has been compromised during this phase of expansion (Hunde et al., 2023). The study also indicated that the 2nd, 3rd, and 4th generation universities that were established over the last two decades merely copied the same

departments, curricula, course contents, modes of delivery, etc. from the 1st generation universities (old ones) and promoted what is called institutional isomorphism (uniformity or homogeneity) (Hunde et al., 2023).

Consequently, the Education Development Road Map (2018), the Education and Training Policy (2023), and the Education Sector Development Programme V (2019) indicated the need to differentiate higher education institutions (HEIs) in Ethiopia in response to the poor quality and relevance problems. This implies that university differentiation is one of the strategies recommended by educational policies and programs to solve the problem of quality and relevance observed in higher education.

Differentiation is the process whereby distinct types of tertiary institutions progressively emerge in response to a country's need for educational programs that provide diverse types of skills and knowledge to a wide range of students with divergent interests and abilities. Saint et al. (2003). When differentiated, the various forms of institutions coexist in a synchronized or complementary manner, not as duplicates of each other (Terwel, 2005; Tomlinson & Strickland, 2005). According to Subotzky et al. (2008), through differentiation, higher education can expand the range of choice for various types of students, improve efficiency in the provision of education services, and enhance the set of competencies in high demand in the labor market. A differentiated system will supply the economy of a nation with multidimensional human resources for productivity, efficiency, and competitiveness (Tomlinson & Strickland, 2005).

As it has been discussed by Müller & Schneijderberg (2020) differentiation could be both vertical and horizontal. "Vertical differentiation" relates to a hierarchical differentiation of higher education institutions in terms of their performance and quality, usually reduced to the dimension of research achievements (Milian et al., 2016); whereas the concept of "horizontal differentiation" assumes multiple functions of higher education institutions in different dimensions. In a horizontally differentiated higher education system, not all higher education institutions focus on one single dimension of performance (e.g., research) but profiles of higher education institutions develop, according to social demands and needs and the dynamics of sciences (Reis & Renzulli, 2018), which focus on their specializations (e.g., practice-orientated training, leading-edge research, distance learning programs, focusing on one sector of society such as sports, the arts, or one scientific field as technical universities do) (Müller & Schneijderberg, 2020; Saint, 2004).

Therefore, differentiating the higher education system should be undertaken to meet the overall vision of national development by producing a nationally and internationally competitive labor force that supports the present shift toward the development of a knowledge society (Milian et al., 2016; Terwel, 2005). However, differentiation should not be regarded as an end in itself but as a means to align or harmonize societal requirements of an academic system with the intrinsic logic of science and higher education institutions (Hüther & Krücken, 2016; Subotzky et al., 2008).

Accordingly, Hunde et al. (2023) indicated that poor quality; homogenous programs across universities, curriculum irrelevance, and inadequacy of the capacity of academic staff are the

main challenges in Ethiopia's higher education system, which have initiated the country to introduce the idea of differentiation in the Ethiopian HE. To address the challenges of homogeneity and duplication of academic programs and improve focus and quality, it has become imperative to assess the current status of higher education and design mechanisms for introducing the concept of differentiation in the Ethiopian HE system (Ministry of Science and Higher Education (MoSHE), 2020).

By considering all these facts, the government of Ethiopia has differentiated all public universities into three categories, namely, Research Universities (RU), Universities of Applied Sciences (UAS), and Comprehensive Universities (CU) (MoSHE, 2020). This is aimed at turning the isomorphic system of higher education into a coherent, diverse, client-oriented, demand-driven, and integrated system of good-quality higher education through differentiation (Hunde et al., 2023). These three categories of universities are given missions specific to their differentiation. The research universities are expected to undertake research and teaching with a special focus on graduate studies, while the University of Applied Sciences is given a mandate of preparing quality professionals for the labor market based on the needs of the industry. The comprehensive universities are entitled to continue in their previous position while improving the quality of education and relevance of their programs. Therefore, this paper aims to explore the process of its implementation, the challenges hindering the process, and recommended strategies for its proper implementation.

Problem Statement

The Ministry of Education has designated 8 universities (known as first-generation universities) as Research Universities (RU), while the other 15 universities are labeled as Universities of Applied Sciences (UAS). The other 21 public universities will continue as Comprehensive Universities (CU) (Ministry of Science and Higher Education (MoSHE), 2020). In this classification, universities are given missions to contribute to national development considering their status and their context. The universities have also accepted this classification. The categorization of universities into three different groups with different missions was expected to bring about reforms in the universities, especially in the category of research universities and the University of Applied Sciences.

More importantly, Universities of Applied Sciences are expected to engage in reform and shift towards the new role. However, the implementation of the differentiation is not progressing as expected. Though the differentiation is expected to bring about changes in focus, mission, curriculum, program review, and university-industry linkage, less has been observed in this regard. In particular, those higher education institutions categorized as research universities and the University of Applied Sciences (UAS) were assumed to make changes on different aspects of their previous experience. As research universities are designated to focus on research and graduate studies while the University of Applied Sciences was expected to fulfill professional requirements for the labor market, many reforms were anticipated following their classification. However, there is no significant practical move that has been observed other than the rhetoric on differentiation. For instance, the University of Applied Sciences (UAS) was expected to make diversified internal reforms to align with its mission, including curriculum review to align with

the needs of the labor market. Therefore, this study focuses on exploring university differentiation in the Ethiopian context, emphasizing the process and challenges encountered and suggesting strategies for its proper implementation.

Objectives of the study General Objective

The general objective of this paper is to examine the implementation of university differentiation in Ethiopia.

Specific Objectives

Analyze the implementation process of university differentiation in Ethiopia.

Identify the challenges delaying the implementation of university differentiation.

Suggest strategies for proper implementation of university differentiation in Ethiopia.

Significance of the Study

Studying the process and challenges in implementing university differentiation has significance for universities, policymakers, the labor market, and students.

The study provides insight and strategies to properly implement the differentiation reform and helps them to contribute to the national development. Furthermore, it gives insights to policymakers regarding the progress and the challenges of universities in implementing the differentiation. In addition, it informs the role of the labor market and how they should contribute to the realization of the reform. Finally, it helps students to be aware of the differentiation and curriculum responsiveness to the labor market.

Methods of the Study

The study has used an exploratory research design of the qualitative approach. This helps to understand the process and challenges of university differentiation from policy documents, empirical evidence, and personal reflection.

The study has employed document review, open-ended questionnaires, personal experience/ reflection, and monitoring university social media as sources of data. Documents, such as the education development road map (2018), education and training policy (2023), university differentiation study report (2023), Education Sector Development Plan V, Differentiation Implementation Strategy, and other empirical studies. Furthermore, empirical data has been collected from some of the University of Applied Sciences curriculum framework development teams and monitoring different universities' press releases on social media related to differentiation. In addition, as an academic staff of the University of Applied Sciences, a team of curriculum framework development for UAS, and a student at Research University, my

reflection has also been used. Therefore, the study has used these techniques as data collection strategies.

Results and Discussions

Differentiation and its Implementation Process

The federal government has gone through different steps to realize higher education differentiation in Ethiopia. The then Ministry of Science and Higher Education (MoSHE), currently merged with the Ministry of Education, has conducted a study on how higher education in Ethiopia could be differentiated. The study report, containing 140 pages, has shown the existing situation, the global experience, the need for differentiation, and suggestions on differentiation of all public universities except Adama Science and Technology University and Addis Ababa Science and Technology University, as they are universities of excellence under the Ministry of Science and Technology.

In this comprehensive study, the ministry has differentiated 44 of the Ethiopian public universities excluding the science and technology universities (ASTU and AASTU), into three categories namely, Research University (8 universities), University of Applied Science (15 universities), and Comprehensive University (21 universities). This classification is made based on the university's status in teaching-learning, research, knowledge transfer, international orientation, community engagement, and additional parameters. This implies the differentiation of higher education in Ethiopia into three categories based on their profile, prestige, and geographic location, considering their potential.

Following the differentiation of public higher education institutions into three different categories, the ministry has also made reforms to the structure of the universities. In this reform, the ministry has set out how the organizational structure of Research University, UAS, and Comprehensive University should be. In this reform, there was a decision to reduce the number of vice presidents at UAS and comprehensive universities to three and two, respectively. However, universities are reluctant (with the feeling that the reform is against their position or benefit) to implement the new structure. Of course, the ministry is also not committed to forcing the university presidents and the university board to implement the new structure.

The other effort made by the federal government through the Ministry of Education is the development of an implementation strategy in 2022 to help the differentiated universities transition from their status to the desired type of university. After recognizing the problems hindering the implementation of differentiation, the ministry has developed an implementation strategy. The strategy shows what the three categories of universities' vision and mission should be and how they should maintain the quality of teaching-learning, research, technology transfer, community engagement, and international collaboration. The strategy further indicates the responsible body for each major task and the time frame. It is believed that the strategy will help universities to put the differentiation concept into actual practice.

Furthermore, the Ministry of Education, in collaboration with NGOs like GIZ, has sent presidents of the University of Applied Sciences (UAS) to get experience at applied universities in Germany (where a practical experience is observed). In my conversation with one of the university presidents regarding their visit, he told me that that their visit was very fruitful in sharing the experience of German applied universities, as they are well known in the world in terms of vocational fields. They had the opportunity to look at the university system, their environment, the nexus between university and industry, etc. This has helped them to understand what applied university should look like and draw lessons to implement in their university.

In addition, there was a comprehensive training organized by the Ministry of Education and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) to develop a curriculum framework for the University of Applied Science (UAS). Three faculty members (two subject matters and one from the curriculum field) participated, and I was part of representing Wolkite University. The training was led by a known professor from German and two other experts. The ministry was expected to develop and have a finalized curriculum framework, which will guide the curriculum revision in all universities of applied science. However, the training was not successful. There was resistance from faculty regarding the conceptualization of applied science university, as it is equated to Technical and Vocational Education. The experience brought from Germany and the context of Ethiopian universities was a bit different. Faculties were thinking that their university was being reduced to TVET. Finally, after one week of discussion, the team was unable to prepare the framework, and the task was interrupted.

Besides, there are critical issues that the Ministry of Education has not considered in facilitating the implementation of university differentiation. One major issue is the still existing curriculum harmonization among the three categories of differentiated universities. Curriculum harmonization was one of the reforms the government implemented across all universities before differentiation. However, differentiation gives autonomy to universities to have unique curricula that are relevant to the local context. Besides, the three types of universities have a different mission to address, which demands a different curriculum. Hence, the ministry has lagged in making decisions on the revision of the harmonized curriculum in line with their differentiated role.

Secondly, the placement of new entrant students in universities is similar to the previous trend. Students are not aware of the differences between the three types of universities. Of course, the ministry tends to respect students' choice of university and field of study. However, their choice of university and field of study should be based on their awareness of the differences between the different universities. Hence, the ministry has limitations to make students aware of their differences and promote the differentiation system.

Thirdly, the government is introducing a flood of reforms to the education sector in general and higher education in particular. Recently, there are many reforms which are introduced to the higher education sector, such as exit exams for undergraduate students, administration of the National Graduate Aptitude Test (NGAT), University Autonomy, Online Learning and administration of Exams, prohibition of opening new study programs, reforming university top management, remedial program, and many more. Of course, even though some of the reforms,

like university autonomy, go with the differentiation issue, they have impact in burdening university leaders to focus on different issues at a time. Hence, introducing different reforms into the higher education system at a time will have an impact on the implementers in losing focus, inefficiency of budget, overburdening, and becoming unsuccessful in realizing the reforms.

Finally, based on my reading and experience, I felt it would be better if the government piloted this differentiation system in a few universities before applying it to all public universities. In a country where there is a weak system of accountability and scarce resources, it becomes difficult to successfully implement such a massive reform. Piloting the differentiation system in a few universities would allow the government to check how it should be implemented and may develop a framework that is contextually relevant for the rest of the universities. However, trying to apply the differentiation system across all universities might force the government and the stakeholders to lose focus, resource limitation, and lack of experience in realizing the reform.

Cases from the University of Applied Sciences

Out of the three differentiated university categories, the University of Applied Sciences is expected to make more changes to transition from its comprehensive status to the new mission. Therefore, the following cases reveal how each of these universities is trying to transition to the University of Applied Sciences role.

Debre Berhan University

Debre Berhan University, located in the Amhara Region, is one of the leading universities in the eyes of the Ministry of Education in implementing the differentiation. The university has initiated the closure of some study programs as they are not aligned with its focus area; however, this idea has faced a challenge from the staff. One key informant has revealed that the way the management decided and handled the initiation to close the study programs was not appropriate. The continuation or closure of the study program should be determined by the market demand. However, the university didn't consider this fact. There was a deep misunderstanding of what the University of Applied Sciences should be. They conceived it as a university of technology and other natural sciences. However, this is not right. The labor market demands professionals in different fields, and it is the industry that informs the continuation or cancelation of the programs, besides the focus area of the university.

The current status of shifting to the University of Applied Science is progressing well. The university has had consultative discussions with the staff and other stakeholders, including the industry, on how they should move forward. More importantly, the university has organized a consultative workshop with its potential partners from the industry and discussed areas of internship and externship, how the industry should be involved in curriculum revision, and how they should also engage in teaching. Currently, the university is organizing training for its staff to create awareness, conducting program auditing, and making preparations for curriculum review.

However, problems related to resources, limited industry, the absence of a binding framework on university-industry linkage, and resistances from faculty are concerns challenging the speedy implementation of the reform.

Wolkite University

Wolkite University, located in the Central Ethiopia Region, has also made the transition to the University of Applied Sciences an agenda of the time. The university has also discussed it among its staff, and visits to some universities were made to take lessons. Training for the middle- and low-level management bodies was given. Currently, the university has organized a committee, document preparation is in progress. The committee is working on how the university readiness allows it to shift to the University of Applied Sciences. The exit strategy will also include determining the programs of study that should be continued or terminated. The next step will be reviewing the curriculum, which is to continue.

The discussion with the staff has also revealed resistance from the faculty of some colleges. The reason was the top management indication of closing some colleges as they are not in the focus area of the university.

However, problems associated with misconceptions about the University of Applied Sciences, resource constraints, shortage of industries in the area, and weak university-industry linkage are challenging the implementation of the reform. Hence, Wolkite University is at the early stage of implementing the differentiation reform.

Arsi University

Arsi University is also one of the universities of Applied Sciences located in the Oromia Region. The efforts made by the university management to shift to the University of Applied Sciences are very minimal. Other than a few discussions made by the university's top management them, the staff does not have information about its progress. The key informant from this university explained that the staff is working as usual, and there are no new things changed as a result of being in the category of UAS.

The same challenges mentioned in other universities, like the poor culture of university-industry linkage, limited resources, inadequate awareness, and poor top management commitment, were indicated as factors hindering Arsi University in implementing differentiation reform.

Dire Dawa University

Dire Dawa University, located in the Dire Dara city administration, was one of the well-suited universities for the mission of applied universities. As the university is located in an area where there are different manufacturing industries, it was a great opportunity for the university to shift to the University of Applied Sciences.

However, the key informant from this institution revealed that the university has made little effort to implement the differentiation reform. The management bodies' less attention to its implementation, coupled with other resource-related problems, has made progress in implementing differentiation reform at its infancy stage. But still, there are some committees formed for this purpose, though they are not functioning well.

Therefore, the differentiation reform implementation progress is not at the level of expectation. Though there are some initiatives in all universities, the progress is not satisfactory. Besides, the uniformity of challenges mentioned in all cases implies that the ministry of education should involve realizing the implementation.

Factors Challenging the Implementation of Differentiation Reforms

Some factors are contributing to the delay in implementing the differentiation reform in all universities, more particularly in UAS. The differentiation reform demands more changes in the existing systems including the curriculum, field of study, the pedagogy, university-industry linkage, practice-oriented teaching, etc. Comprehensive universities are not as such required to make changes to the status quo except to make their programs relevant and maintain their quality. Research universities, on the other hand, are required to focus more on postgraduate (Master's and PhD) teaching, innovation, and engagement in research, while the University of Applied Sciences is required to make many practical reforms and shift from its status quo. Therefore, the following factors are identified as challenges affecting universities in implementing differentiation reform.

Misconceptions about the Differentiation

The misconception or misunderstanding of university management may lead to improper implementation of the reform. This in turn may result in coercion between the faculty and the university management body. The tendency observed by the top management body in some universities to close some of the colleges and departments has raised a problem. This has led even some universities to request clarification from the Ministry of Education regarding the programs of study out of the university's focus area. There was a misconception of attributing the University of Applied Sciences only to technology and natural science fields. Making decisions within this misunderstanding may result in inappropriate implementation of the differentiation reform. Therefore, the misunderstanding by the university management and faculty is one factor challenging the reform implementation.

Resource Constraints

One feature of this differentiation reform is its resource-demanding nature, especially at the University of Applied Sciences. As their mission is linked to more practice-oriented teaching, they require more resources to fulfill their laboratory equipment, apply practice-oriented teaching, and send their students for internships and externships. They also demand to recruit teachers with industry experience which also incurs costs.

Weak University-Industry Linkage

One of the problems Ethiopian Universities suffer from is poor university-industry linkage. The culture of linking university teaching with the industries coupled with scarce industries in the country is very low. Besides, the laboratories and workshops universities have, the industry is the main learning place for university students. However, the tradition of sending students to different industries for practical work is not to the expected level.

More importantly, the differentiation reforms expect all universities, particularly the University of Applied Sciences to partner with the industry and make their program curricula relevant to the labor market. However, almost all universities contacted for this purpose, the absence of adequate industries in their catchment area and even their willingness to accept students for internship and practical work is found to be very weak. Hence, inadequate industries and a poor culture of linkage or partnership with universities are some of the challenges in implementing the differentiation reform.

Unless, universities of applied sciences are linked to the industries, and industries are involved in curriculum review, collaborate in teaching and research, and feed the universities their changing demand, it becomes difficult to realize the mission of UAS. The partnership between the University of Applied Sciences and Industries has a mutual benefit. Therefore, there should be a common interest to make the curriculum relevant to the industry and move towards practice-oriented teaching and learning.

Resistance to Change

Reforms or changes encounter resistance from those who want to maintain the status quo either purposively or due to misunderstanding. The resistance from faculty on the implementation of differentiation emanates from the top management's approach to introducing the reform to their staff. Those universities where the top management focused on closing some colleges and departments have faced resistance from the staff. The closure and continuity should be determined by data that comes from scientific research. Hence, study programs may discontinue naturally, when they are not chosen by the market and the students. Therefore, resistance of staff to the introduction of the reform has contributed to the delay of its implementation.

Poor commitment from the university management

The interest and commitment of the university management have also determined the success of implementing reforms including shifting to the University of Applied Sciences. Unless the top management of each university drives the implementation of shifting to the new role, others will not move forward. However, what is observed in universities included in this study shows the top management's low interest and commitment to actualize its implementation. Besides, the reforms made by the top management of some universities also contribute to the delay of reform implementation.

Limited Support from the Ministry of Education

In actualizing the differentiation reform, the role of the Ministry of Education is immense. Therefore, beyond classifying the universities into three categories and releasing the budget, there should be strong support. The role of the ministry to liberate universities from their deep-rooted traditions and shift to the new mission is very crucial. However, the ministry is expecting them to move towards their new feature with close supervision and monitoring. Here, I want to borrow the quote from one deputy minister of education as presented by Dawit Mekonnen at the second college seminar at Addis Ababa University, which says "The ministry has differentiated the universities into three categories, then it is the role of the universities to move towards their new role". Hence, the ministry should be free from such mentality, and closely supervise and support universities to shift to their new role.

In general, the common problems challenging the University of Applied Sciences to move towards the new role could be attributed to misconceptions on the conceptualization, scarce resources, inadequate industries and poor culture of university-industry linkage, poor commitment of university management, and weak supervision and support system by Ministry of education. Hence, working on these problems will help to smoothly shift universities to the role of applied science universities.

Strategies to Properly Implement H.E Differentiation

If universities are to benefit and play a critical role in national development, differentiating them becomes a must, not an option. As the study revealed, study programs in Ethiopian universities are duplicates of one another. Even their alignment with the labor market in terms of relevance and quality is poor. Differentiating them across different missions and shifting them to the new role become vital. Therefore, the proper implementation of differentiation and the process of shifting the former comprehensive universities towards the University of Applied Sciences require strategies that demand the involvement of different stakeholders to implement. Hence, the study suggests the following strategies to facilitate the proper implementation of the differentiation reforms.

Building the Capacity of University Management

Enhancing the capacity of university management to properly manage the changes introduced to their institution is very crucial. Unless reforms or changes are managed properly, the expected result will not be achieved. Therefore, it becomes imperative for the Ministry of Education to capacitate the knowledge and skills of the university management to lead the differentiation reform. Besides, clarifying the misconception of leaders on differentiation is the first step to creating a conducive environment.

Creating Awareness among University Staff

Creating awareness among the staff of each university is very crucial as they are the ones who are going to deliver the reform. Awareness of what Universities of Applied Sciences are what

features they have and how they are different from the nature of comprehensive universities, how universities should shift towards applied universities, the role of the staff, the pedagogy of applied universities, and other related issues will facilitate the smooth implementation of differentiation reform. Therefore, the Ministry of Education and Universities should consider this fact and organize comprehensive training to create clarity on the differentiation and bring consensus among the community of the university.

Ensure Stakeholders Engagement

To realize the proper implementation of differentiation reforms and bring a desirable outcome, engaging stakeholders becomes crucial. The mission of the University of Applied Sciences demands the active involvement of stakeholders such as the industry, employers, students, the community, in the process of curriculum revision, teaching and research, university council or Board. This will ensure the inclusion of the stakeholder's needs in the curriculum and guarantee the relevance and responsiveness of the program curricula. Therefore, universities should open their door and allow the stakeholders to take part in the transition process of the university towards the new mission.

Mobilize Resources

As the quality of education is at the center of the differentiation and it is resource-demanding, universities should work aggressively to mobilize resources by exploring all opportunities. In particular, universities of applied sciences are required to focus on practice-oriented teaching, fulfilling the educational facilities and laboratory equipment become mandatory. This demands resources that may not be covered by the university alone; rather it requires the support of others. Therefore, resource mobilization should be one of the critical strategies to make a smooth transition to the new role.

Strong University-Industry Linkage

In the Ethiopian case, the culture of linking university education with the industry is very weak. As the differentiation reform more importantly the role of the University of Applied Sciences demands the cooperation of the industry, creating strong partnerships becomes crucial. In the process of preparing professionals for the labor market, students should have hands-on experience besides theoretical knowledge. This could only be achieved, if students have the opportunity to practice in the real work environment that is the industry. Therefore, having a strong linkage with the industry and being committed to the practical learning of students is very important in realizing the mission of UAS.

Close Supervision by the Ministry of Education

In Ethiopia, the Ministry of Education has made many reforms at different times. The success of these reforms was determined by their implementation. In this regard, the follow-up and support by the Ministry have a significant role in its outcome. In this sense, the implementation of differentiation reform should be closely supervised and support has to be given. It should not be

like the statement given by the deputy minister which states "The ministry has differentiated the university and it is up to them to move forward". The implementation of the reform highly demands the collaboration of different stakeholders including the university and the Ministry of Education. Therefore, to help universities shift from their current status to the new differentiated role, the Ministry of Education should supervise and support their effort.

The Metaphor "The Uneaten Burger" and University Differentiation in Ethiopia

The "Uneaten Burger" illustrates university differentiation in Ethiopia in terms of its classification, potential importance, delay of implementation, and the need for action.

Classification and Diversity: The burger could symbolize the three classifications of universities, with each part representing a different category. The bottom part which is strong to hold represents research universities as they are considered strong in terms of human, economic, and knowledge resources. The middle of the Burger which could be made from locally available raw materials represents the University of Applied Sciences as they are designated to respond to the labor market need and their local potential. Its nature of being soft also represents UAS's flexibility to make its curriculum relevant to the context. The upper part of the burger symbolizes a comprehensive university, as they are not expected to make big changes to their status quo except quality and relevance.

Symbol of Potential: As the uneaten burger has the potential to satisfy an individual, the differentiation of universities represents unused potential in the higher education system. The burger symbolizes the opportunities that differentiation could bring to improve educational quality and relevance.

Resistance to Change: An uneaten burger may suggest reluctance or resistance to consuming something that could be beneficial. This parallels the resistance faced by the University of Applied Sciences in Ethiopia regarding the implementation of differentiated programs. These could be institutional inertia, lack of support, misconception, or fear of change among stakeholders.

Need for Action: Just as an uneaten burger requires someone to take action to eat it, the universities need proactive measures to implement differentiation effectively. This highlights the importance of commitment from policymakers, educators, and administrators to move forward.

Conclusions

In conclusion, the differentiation of higher education institutions in Ethiopia reveals both significant opportunities and challenges. The classification of universities into Research Universities, Universities of Applied Sciences, and Comprehensive Universities aims to enhance the quality and relevance of higher education in response to the evolving demands of the labor market. Despite the government's efforts to implement this differentiation and universities' attempts to shift to the new role, several obstacles hinder progress, including misconceptions

about the roles of different institutions, resource constraints, and inadequate university-industry linkages.

The metaphor of "The Uneaten Burger" aptly illustrates the untapped potential of this differentiation reform. Just as an uneaten burger symbolizes unconsumed opportunities, the current state of Ethiopian higher education reflects a system that has yet to fully realize its capacity for producing a skilled and competitive workforce. For differentiation to succeed, active engagement from all stakeholders—including the university management, faculty, students, and industry partners—is essential.

Moreover, the commitment of the Ministry of Education to provide ongoing support and supervision will be crucial in overcoming resistance to change and ensuring that universities can transition effectively to their new roles. By addressing these challenges and fostering collaboration between academia and industry, Ethiopia can unlock the full potential of its higher education system, ultimately contributing to national development and a knowledge-based economy.

Moving forward, the Ministry of Education and university leaders must prioritize the implementation of differentiation strategies, promote awareness among faculty and students, and establish robust partnerships with industry. Such actions will not only enhance the quality and relevance of educational programs but also empower graduates to meet the needs of the labor market, thereby supporting Ethiopia's broader socio-economic goals.

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Achieving Research Excellence in African Higher Education Institutions: Prospects and Challenges

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Abstract

Higher education institutions in Africa should provide not only courses that offer and strengthen Afrocentric and indigenous knowledge but also research courses that ensure excellence in conducting research and disseminating knowledge that reflects on African identity and addresses African needs as a continent. Achieving research excellence in African higher education institutions is the bedrock and foundation for academic development, national progress, and African innovations. Even though research excellence may be directly correlated to the quality of research education offered in a specific higher education institution, Tijssen and Kraemer-Mbula (2017) argue that it is "influenced by political considerations and also by the varied social, cultural, and organizational environments in which researchers and scholars have to operate" (p. 392). This suggests that achieving research excellence should not only be the responsibility of the higher education institutions but also the national and international education stakeholders. Thus, developing a robust research culture in African higher education institutions may be challenging but critically important, as it contributes to addressing socio-economic challenges, fostering technological advancement, and promoting sustainable development (Tefera & Altbach, 2004) in Africa. Also, Tamrat (2024) argues for the significance of policy improvements in African higher education institutions that prioritize employment opportunities and digital innovations, among others. The paper employs a qualitative research approach relying on document analysis and secondary sources and examines critically the prospects and challenges African postsecondary education institutions face. While the prospects include policy reforms, international collaboration, and providing innovation ecosystems, the challenges are comprised of brain drain and talent retention, instructors' heavy workloads, absence of strategic vision and quality research culture, and most importantly, external influence on research agendas and the influence of Western philosophies and ideologies. The paper concludes by providing recommendations on promoting the competitiveness of African higher education institutions and utilizing their resources to build sustainable research capacity.

Key Words: Research Excellence, African Higher Education Institutions, Research Culture, Sustainable Research Capacity

Introduction

Higher education institutions serve as the primary engines for knowledge production and innovation across the globe. Members of the institutions play a key role in shaping societies to develop their sense of identities through knowledge construction. For example, postsecondary students often take history, geography, and anthropological courses that help them to build up their historical and cultural knowledge as they are the next generation responsible for leading and building their countries; this is not different with the role of African higher education institutions. However, having research centers within these institutions that motivate people to do research would make significant contributions to the development of African counties and addressing their challenges. Teferra & Altbach (2004) argue that in Africa, the role of universities is increasingly pivotal in addressing socio-economic challenges, promoting technological advancement, and fostering sustainable development. However, achieving research excellence, characterized by high-impact scholarship, international recognition, and relevance to societal needs, appears to be a complex and multi-layered goal for majority of the African higher education institutions. This goal may better be achieved when there is collaboration between the national and international education stakeholders, and as Tamrat (2024) argues, with the tendency of the policy improvements of African higher education institutions that prioritize employment opportunities and digital innovations among others. The paper examines the prospects and challenges to achieving research excellence in the postsecondary institutions in Africa, and by analyzing documents and policy frameworks; it aims to provide a comprehensive understanding of what it takes to cultivate a research-driven academic environment in Africa.

Research Excellence in African Higher Education Institutions

Even though research excellence may be directly correlated to the quality of research education offered in a specific higher education institution, Tijssen and Kraemer-Mbula (2017) argue that it is "influenced by political considerations and also by the varied social, cultural, and organizational environments in which researchers and scholars have to operate" (p. 392). Research excellence in the African higher education context is often described as a complex concept not only due to the factors mentioned above but also due to clash between local relevance and global standards. Instead of focusing on research themes that address the challenges in Africa, most of the African postsecondary institutions often work with the aim of meeting the Western-centric benchmarks to achieve research excellence. Some of these benchmarks include global metrics that measure research excellence, such as number of publications in high-impact journals, citation indices, and university rankings. Cloete, Maassen, & Bailey (2015) argue that such metrics are neoliberal-driven that serve the interests of elite Western postsecondary institutions. In fact, the global metrics are a disservice to African higher education institutions' efforts of producing research works that address the local challenges. Also, they are purely a means of colonizing and marginalizing African minds, since it implies, either you follow our standards, or you are not a quality institution. Cloete, Maassen, & Bailey (2015) support the argument by stating that "African universities are being pushed into an international ranking race that was not designed for them, using criteria that fail to capture the realities and missions of their institutions" (p. 18).

The solution could be to redefine research excellence based on the African context that incorporates the contributions of the research works to African national development goals like health, education, and food security. Also, it should encompass the criteria of local impact, in terms of addressing local challenges and engagement with indigenous knowledge systems. Teferra and Altbach (2004) claim that excellence in Africa must be "grounded in the capacity to generate, adapt, and apply knowledge that meets the continent's unique socio-economic and environmental needs" (p. 24). In a similar vein, Langa (2014) encapsulates that African postsecondary institutions should reclaim agency in setting up their own criteria that define research excellence.

Moreover, taking initiatives at a continent level to redefine research excellence could be an alternative. For example, Agenda 2063 (African Union, 2015) advocates for research publications that focus on "inclusive growth and sustainable development". Similarly, the African Research Universities Alliance (ARUA) and Council for the Development of Social Science Research in Africa (CODESRIA) emphasize the significance of research quality that is continentally responsive. Using these approaches, research excellence could be redefined based on its relevance, innovation, and impact for Africa.

The paper employs a qualitative research approach relying on document analysis and secondary sources and examines critically the prospects and challenges African postsecondary education institutions face. The major sources are strategic plans from selected African Universities, academic publications, and policy reports. Data are interpreted based on understanding experiences and perceptions of policy makers and administrators to derive nuanced insights into the state of research (Creswell & Poth, 2018).

Prospects and Challenges to Achieving Research Excellence in the African Higher Education Institutions

Prospects

Policy reforms and governmental support is often stated as the prospect to achieving research excellence in postsecondary institutions in Africa. Some African countries have clear strategies of national research and innovation that strengthen higher education institutions' research capacity. In their strategies, they have made it clear that quality research is necessary and plays a pivotal role in addressing the local challenges and ensuring sustainable national development.

For instance, Keny's Vision of 2030 and South Africa's National Research and Development emphasize the significance of quality research to achieving national development (Oyewole, 2016). Also, these frameworks often include provisions for performance metrics, research grants, and infrastructure.

Moreover, having African academic diaspora networks grown is often seen as a prospect to achieving research excellence in postsecondary institutions in Africa, as the network appears to have all the necessary resources for research excellence. Initiatives like the Carnegie African Diaspora Fellowship Program have facilitated mentorship, joint research, and institutional

capacity-building between African scholars abroad and universities on the continent (Sawyerr, 2004). In addition, the regional and international collaborations, that some of the African Universities have, are mentioned as the vital step in achieving research excellence, as most African universities are members of the international research consortia. Also, partnerships created by the African Research Universities Alliance (ARUA) and with institutions across the globe provide tremendous opportunities to funding, 'academic visibility', and research capacity building (Teferra, 2013). Through these partnerships, digital transformation and open access is often ensured for most African higher education institutions. The digital development has contributed much to offering opportunities to achieve research excellence through digital libraries and open-access journals. On top of that, the distance learning mode has played a pivotal role in providing opportunities for African scholars to reach out to global knowledge and publication outlets (Maringe & Ojo, 2017).

Challenges

Studies (for example, Maringe & Ojo, 2017; Altbach, Reisberg, & Rumbley, 2009) show that African higher education institutions face a great deal of challenges in attempting to achieve research excellence. Even though some of these challenges are related to the lack of internal resources, like lack of enough funding, external factors play equal role as the internal factors but are very systemic. They use most of the African higher education institutions to promote their hidden agendas in the name of providing research funding. For example, most of the NGOs that boast to offer funding for research often carry the mission of foreign governments to colonize and control African resources and use the strategy to overthrow the African governments that are disobedient to the Western governments. CIA is often mentioned as an example to be behind many of these NGOs (Sacks, 2024).

Having said that, the paper discusses the major challenges most of the African higher education institutions face in achieving research excellence. Lack of sufficient and sustainable funding is a pressing barrier to achieving research excellence in Africa. Most African countries seem to be reluctant to invest for research excellence; even those that receive a large amount of money from the Western countries do not use the money for research purposes but for symbolic national development activities like national parks, resorts, and meaningless high towers that don't serve

the interests of the majority of their citizens, and this often provides with an opportunity for some African government officials to steal the money, instead of using it for research quality production that would ensure sustainable national development. According to UNESCO (2021), most African countries invest less than 1% of their GDP in research and development, far below global benchmarks. This results in lack of research infrastructure like access to laboratories, fieldwork, equipment, and research dissemination.

The other challenge is brain drain and talent retention, which is often categorized as the external factor that impacts African higher education institutions. Brain drain affects the sustainability of research programs in the African postsecondary institutions, and this results in lack of qualified people who would play a role not only in achieving research excellence but also disseminating indigenous knowledge to the younger African generations. Talented researchers often leave

African higher education institutions for the institutions in the Global North due to better funding, working conditions, and career progression opportunities (Altbach, Reisberg, & Rumbley, 2009). If some of the corrupt African governments saved the money they invest for national parks, resorts, and meaningless high towers, the talented African researchers would not have left for the institutions in the global north, where they are often treated as subhumans and second citizen. Moreover, lack of infrastructure and administrative resources for quality research affect many of the African higher education institutions' efforts to achieving research excellence. For example, Ajayi, Goma, & Johnson (1996) claim that lack of stable electricity and internet connection and updated laboratory tools jeopardize the efforts for research excellence in African postsecondary institutions.

Also, African academics are often required to teach large class size with large teaching assignments, which inhibit them from carrying out quality research due to time and energy constraints (Mouton, 2010). This imbalance negatively affects research output, particularly for early-career academics. Furthermore, some African higher education institutions lack strategic vision and research culture. Maringe & Ojo (2017) argue that some of the institutions lack research incentives, performance-based funding, and structured mentorship, and hence the possibility for the institutions to cultivate research culture and quality research production remains to be slim, and hence this may demotivate academic staff to engage in research training and meaningful scholarship (Maringe & Ojo, 2017). Most importantly, external influence on research agendas and the influence of Western philosophies and ideologies are the major challenge most African higher education institutions face. The donors often dictate African scholars what to research on; the topics/agendas given by these foreign donors may not focus on major local issues but serve the interests of the donors (Mkandawire, 2005). On top of that, the ideological and philosophical foundations of the academic research in Africa are often impacted by a legacy of colonialism, Western paradigms, and continued academic dependence on institutions in the Global North (Hountondji, 1997). This affects the independence of African higher education institutions in pursing academic research that addresses local challenges, and it ensures the continuity of Western imperialism and colonization, which is the major barrier to achieving developments, independence, and being superpower in Africa by Africans.

In conclusion, while the prospects include policy reforms, international collaboration, and providing innovation ecosystems, the challenges are comprised of brain drain and talent retention, instructors' heavy workloads, absence of strategic vision and quality research culture, and most importantly external influence on research agendas and the influence of Western philosophies and ideologies. These prospects and challenges have been reported by various studies, such as Maringe & Ojo (2017), Altbach, Reisberg, & Rumbley (2009), Hountondji, (1997), Sawyerr (2004), and Teferra (2013). However, none of these studies have emphasized on how external influence on research agendas and the influence of Western philosophies and ideologies impact the achievement of research excellence in African higher education institutions. The paper attempts to contribute to the existing literature by discussing the latter factor in detail and suggesting recommendations.

Conclusion

Using qualitative research approach and secondary sources, the paper has identified the major prospects and challenges that most African higher education institutions face in achieving research excellence. The prospects include policy reforms, international collaboration, and providing innovation ecosystems. But the challenges consist of brain drain and talent retention, instructors' heavy workloads, absence of strategic vision and quality research culture, and external influence on research agendas and the influence of Western philosophies and ideologies. The paper discusses the latter but most important challenge and its influence on research excellence in the African higher education institutions.

Donor-Driven Research Agendas and External Influence

The author believes that the major challenge in achieving research excellence in most African higher education institutions is the donor-driven agenda that focuses on the interests of external donors rather than the local needs that require immediate attention. This is in line with various studies, such as Mkandawire (2005); Zeleza (2016). For example, while the local needs may be addressing poverty, food security, and promoting Orthodox *Tewahdo* church's indigenous knowledge, the donors often demand African scholars to work on tribal conflicts, which exacerbate the already existing tension between tribes, and to promote democracy in Africa. Democracy is a fancy word embedded in the Western imperialist political culture, which does not seem to give much sense in the African context because the so called "democracy" has been used as a tool by the Western powers to overthrow African governments that are disobedient to them. Some African scholars are engaged in this kind of research work to secure research funding. Indeed, this does not in any way contribute to achieving research excellence in African higher education institutions but results in the dependency that compromises the independence of African scholars in defining their own research questions and methodologies. Also, this kind of research practice portraits African researchers as more of data collectors than independent intellectual scholars in the African context.

Moreover, due to the donor-driven research agendas, local epistemologies and community engagement practices are compromised, and hence the results of such research deny the local needs but meet the donor benchmarks of publishing them in Western journals, which often have limited accessibility and relevance to local policymakers and communities (Ndlovu-Gatsheni, 2013).

Influence of Western Ideologies and Philosophies

The academic research in Africa is often founded on the philosophical and ideological concepts that appear to be highly influenced by Western paradigms, a legacy of colonialism, and continued academic dependence on institutions in the Global North (Hountondji, 1997). The African academia has been dominated by Western frameworks, methodologies, and epistemologies, which compromised the development of African knowledge systems (wa Thiong'o, 1986). Lack of these systems have encouraged many African youth and scholars to flee to the West and to seriously compromise their African identity. It is often reported that African immigrants believe

doctors, professors, managers, and leaders are best if they are white in the United States. An African immigrant mother told me recently that she would only see white medical doctors because she believes they understand her disease better. This kind of attitude has been developed mainly due to the marginalized African knowledge systems that were supposed to promote that living in Africa is the best and African professionals are competent.

Moreover, the Western ideological supremacy impacts not only what is researched but also how it is researched in the African higher education system. Dei (2014) explains that research grounded in Western methodologies may misrepresent the values of communal, oral and indigenous knowledge that define the characteristics of African people. In effect, the knowledge/findings may be irrelevant to the local communities. On top of that, the ambition to get their research work published in high-impact Western journals, a major standard for academic advancement in the West, African scholars become conformist to the Western dominant academic research tradition that devalues Afrocentric knowledge and decolonial approaches to research (Mamdani, 2011). This result in the production of research work that maybe internationally recognized but encourages intellectual marginalization in African higher education institutions.

All in all, the paper argues strongly that the external influence on research agendas and the influence of Western philosophies and ideologies to research work in the African higher education institutions are the major challenges that require immediate attention. Although

sustainable funding for research, better infrastructure and administrative resources for quality research, and international collaborations may provide African higher education institutions with the opportunities to achieving research excellence, without setting African agendas and promoting African traditions, identities, values, and norms, methodologies, epistemologies, and indigenous knowledge, African higher education institutions have a slim opportunity to achieving research excellence.

Recommendations

Based on the discussion given above, the following recommendations are made.

Promoting Research Sovereignty: African higher education institutions should develop mechanisms for setting and funding their research agendas that meet the needs of the local and regional people. This does not mean they should not work with international partners but should know their priorities.

Promoting Indigenous Knowledge Systems: African higher education institutions should encourage their scholars to produce research work using methodologies and paradigms rooted in African epistemologies; this should be part of the graduate education and mentorship systems for the next African generation of researchers. Ultimately, this could pave the way for the local knowledge to be part of the major academic discourse in the institutions.

Balancing Global and Local Relevance: African higher education institutions should motivate their scholars to engage in international partnerships and collaborations, but the institutions

should develop mechanisms that research excellence is measured by contributions to national development and societal influence.

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Challenges and Opportunities in Creating Research Partnerships with Overseas Universities: The Case of Kotebe University of Education, BekaluAtnafu (PhD)

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Abstract

This study explores the challenges and opportunities associated with establishing research partnerships between Kotebe University of Education and overseas universities. A mixed-method research design was employed, incorporating quantitative and qualitative approaches. Seventy instructors were randomly selected to complete questionnaires, while qualitative data were gathered through semi-structured interviews. Quantitative data were analyzed using descriptive and inferential statistics, and the qualitative responses were examined through thematic analysis based on participants' verbatim accounts. The findings revealed that several factors hindered the development of international research collaborations. These included inadequate ICT infrastructure, bureaucratic administrative systems, an inefficient organizational structure, limited faculty commitment, and a lack of practical research engagement among staff. Additionally, the study highlighted the underutilization of Ethiopia's rich epistemological and intellectual traditions, which remain largely unexplored due to insufficient scientific research and collaborative efforts. This gap contributed to the country's marginalization in global knowledge production.

Keywords: Research Partnerships, International Collaboration, Higher Education

Introduction

In the evolving landscape of higher education, partnerships have emerged as a critical strategy for fostering innovation, enhancing research capacity, and navigating global challenges. Broadly defined, a partnership refers to a cooperative arrangement between two or more organizations or individuals that emphasizes collaboration over competition, substitution, or subordination. In the context of universities, partnerships are increasingly regarded as strategic mechanisms for responding to globalization and advancing institutional missions (Altbach, 2005).

Internationalization, as Egron-Polak (2015) articulates, serves as a roadmap to quality improvement, competitiveness, and talent acquisition. Similarly, Altbach and Knight (2007) emphasize that motivations for internationalization encompass enhancing research capacity, promoting intercultural understanding, increasing institutional prestige, and fostering strategic alliances. As a result, both faculty and students are actively seeking opportunities for collaborative learning, research, and professional development, while university leaders view partnerships as vital to fulfilling their mandate of serving as stewards of community and national development (Altbach et al., 2009).

The spectrum of university partnerships ranges from localized community collaborations to high-stakes public-private partnerships. Samoff and Carrol (2004) offer a classification that includes university-level partnerships, department- or faculty-level collaborations, inter-university partnerships, and informal scholar-to-scholar engagements. While the first three categories typically arise from formal institutional agreements, the latter often begin informally and may eventually evolve into structured collaborations (Samoff&Carrol, 2004; Baskerville, 2013).

In practical terms, partnerships enable the exchange and co-creation of knowledge, promote research, and build institutional capacity. Kinser and Green (2009) define such partnerships as cooperative agreements between higher education institutions designed to coordinate activities, share resources, or fulfill shared objectives. These may include collaborative research projects, student and staff exchanges, curriculum development, joint workshops and conferences, and community outreach initiatives (Kot, 2016). Moreover, partnerships with local schools—such as programs that introduce college-level content to high school students—represent another critical dimension of these collaborations.

However, effective partnerships require more than shared goals; they depend on mutual trust, continuous communication, and institutional preparedness. According to De Wit (2015), Egron-Polak (2015), and Marginson (2015), successful collaborations are built over time through transparent processes and reciprocal engagement. Rosas and Camarinha-Matos (2009) identify factors that influence partnership readiness, including technological compatibility, organizational character, ethical standards, shared values, and willingness to collaborate. A lack of alignment in these areas often leads to failed partnerships, as collaborative efforts frequently fall short of their intended outcomes (Simonin, 1997).

Altbach (2005) cautions against the potential for unequal power dynamics in international collaborations, warning that such relationships should not become a new form of academic

colonialism. Historically, dominant institutions have tended to impose their academic models, programs, and curricula on less-resourced partners, undermining the principles of mutual respect and co-creation.

To address these challenges, Stewart (2015) outlines ten principles for effective international collaboration. These include: clarifying goals and objectives; defining roles and responsibilities; respecting cultural and academic diversity; establishing ethical standards; supporting faculty and students throughout their participation; ensuring institutional capacity; creating databases to track collaborative agreements; and implementing systems to assess the outcomes and impacts of partnerships.

In light of these principles, universities must approach international collaboration with a strategic mindset that balances institutional priorities with global engagement. Particularly for institutions in the Global South, such as those in Ethiopia, partnerships offer a pathway to knowledge production, resource sharing, and capacity building—provided they are developed on the basis of equity, trust, and shared benefit.

Statement of the Problem

In the context of globalization, the higher education landscape is undergoing rapid transformation. As national boundaries become increasingly permeable to the exchange of knowledge, globalization has rendered the world a "global village," with far-reaching implications for the structure and purpose of tertiary education (Altbach, 2005). In response, universities and governments worldwide are adopting internationalization as a strategic perative. Egron-Polak (2015) underscores that internationalization is no longer optional but serves as a roadmap for enhancing educational quality, boosting competitiveness, and attracting global talent. Altbach and Knight (2007) further emphasize that the drive to internationalize strengthens institutions' capacity for research, fosters intercultural understanding, enhances institutional prestige, and cultivates strategic global alliances.

Governments are increasingly urging their universities to engage globally by supporting institutional-level partnerships in research and teaching (Steve, 2013). These partnerships are essential for building knowledge-based economies. In this regard, tertiary education contributes directly to global productivity and is instrumental in enabling countries to remain competitive on the world stage. Fischer and Lindow (2008) argue that without robust collaboration in higher education, especially in Africa, the continent's development potential will remain under-realized. Similarly, Damoc (2017) highlights the economic dimension of partnerships, asserting that in today's knowledge-driven economies, industries require workers capable of innovation, knowledge management, and commercialization—competencies best fostered through robust university collaborations.

University partnerships offer a multitude of opportunities for both students and faculty. These include joint research ventures, staff and student exchanges, curriculum development, dual degree programs, and access to global resources. Such collaborations also enhance cultural awareness, promote global citizenship, and support problem-solving through shared innovation.

As noted by the Association of American Colleges and Universities (2014, cited in Kot, 2015), global learning encourages students to understand and appreciate cultural differences, reflect on their responsibilities in an interconnected world, and collaboratively address global challenges.

The increasing complexity of higher education and global challenges requires universities to develop strategic alliances. Kot (2015) outlines three institutional benefits of international partnerships—institutional capacity, academic effectiveness, and global engagement—and four personal benefits including academic development, cultural enrichment, economic opportunity, and strategic networking. These benefits demonstrate that embracing partnerships does not entail compromising institutional identity; rather, it enhances resilience and adaptability in an increasingly volatile global environment.

Globally, institutions are recognizing the value of collaboration, especially in science and technology. As Knobel et al. (2013) assert, international research collaborations are becoming indispensable for institutions seeking global recognition. Faculty members are encouraged to pursue joint research projects and knowledge-sharing initiatives (Brew et al., 2013). The rise of multi-stakeholder partnerships reflects a growing awareness that complex problems - from climate change to public health - require interdisciplinary and international cooperation (Gray, 1989; Levina, 2005). Sutton (2014) observes that the twenty-first century is witnessing an unprecedented surge in international partnerships across diverse disciplines.

Despite these global trends, higher education institutions in Ethiopia lag significantly behind in forming robust international partnerships. Collaborations with overseas universities remain limited, particularly in areas such as joint research, faculty and student exchanges, curriculum co-development, and international conferences or community engagement initiatives. Ayenew (2006) found that such partnerships in Ethiopia are highly inadequate, a concern echoed by many scholars and stakeholders in the field.

This gap raises urgent questions regarding the structural, institutional, and cultural barriers that hinder Ethiopian universities—such as Kotebe University of Education—from fully participating in the global knowledge economy. This study seeks to explore the underlying challenges and existing opportunities in establishing and sustaining research partnerships with overseas universities. Specifically, it aims to answer the following research questions:

What are the major challenges faced by Kotebe University of Education in establishing partnerships with overseas institutions?

What opportunities exist for expanding and deepening research collaborations across borders?

Objectives of the study General Objective

The overarching aim of this study was to explore the challenges and opportunities involved in establishing and sustaining research partnerships between Kotebe University of Education and overseas universities.

Specific Objectives

In alignment with the general objective, the specific aims of the study are to:

Identify and analyze the key challenges faced by Kotebe University of Education in initiating and maintaining research partnerships with international higher education institutions; and

Explore the potential opportunities and strategic advantages that such international research partnerships can offer to the university and its academic community.

Significance of the Study

This study holds practical and academic relevance as it sheds light on the barriers and enablers of international research collaboration in the Ethiopian higher education context. By examining the case of Kotebe University of Education, the findings aim to guide institutional strategies for building sustainable global partnerships. The study contributes to ongoing discourse on internationalization by offering localized insights that can inform policy, capacity development, and institutional reforms. It also provides valuable input for decision-makers seeking to enhance research productivity and global visibility through collaborative engagement.

Methodology

Research Design

To address the research questions, the study employed an exploratory case study design, which enabled an in-depth investigation of the challenges and opportunities associated with creating research partnerships within the specific institutional context of Kotebe University of Education (Stake, 2005). A mixed-methods approach was utilized, combining both quantitative and qualitative data to obtain a comprehensive understanding of the research problem. The integration of these methods provided robust insights into the complexities surrounding the formation of international research collaborations.

Sampling and Sample Size

Kotebe University of Education comprises five colleges and one institute: the College of Educational Sciences, the College of Science and Mathematics Education, the College of Language Education, the College of Social Science Education, the College of Business, Technology, and Vocational Education, and the Institute of Physical Education and Sport. The university employs over 400 academic staff, of whom more than 150 hold a doctoral degree. From this population, seventy instructors were randomly selected to participate in the study.

Data Collection Instruments Questionnaire

To explore the challenges and opportunities in establishing research partnerships with overseas universities, a structured questionnaire was developed as the primary data collection instrument.

The questionnaire was designed to gather both quantitative and qualitative insights from academic staff across various colleges within Kotebe University of Education. It included closed-ended items measured on a five-point Likert scale (ranging from "Strongly Disagree" to "Strongly Agree") to assess the respondents' perceptions of institutional, administrative, and infrastructural factors influencing international collaborations.

In addition to the scaled items, the questionnaire contained a few open-ended questions that allowed participants to elaborate on their views regarding potential opportunities for international partnerships and to suggest strategies for improving collaboration practices. The design of the questionnaire was guided by the objectives of the study, focusing on key areas such as institutional readiness, faculty engagement, technological and logistical support, and the perceived value of cross-border research cooperation.

The instrument was reviewed for content relevance and clarity before distribution to ensure that it aligned with the study's purpose and would yield valid and actionable data.

Semi structured Interview

Dörnyei (2007) emphasizes that in qualitative research, the primary goal of sampling is to identify individuals who can offer rich and diverse insights into the phenomenon under investigation. This aim is most effectively achieved through purposive sampling. Accordingly, purposive sampling techniques were employed to select participants for the semi-structured interviews, ensuring the inclusion of individuals with relevant experience and perspectives on the study topic.

A total of more than seven academic staff members and officials at various levels participated in the interviews. The semi-structured format allowed for flexibility in probing deeper into participants' views while maintaining consistency across key thematic areas. The interviews were designed to triangulate data collected through the questionnaire and to provide a more nuanced understanding of the challenges and opportunities in establishing international research collaborations with overseas universities.

All interviews were audio-recorded and subsequently transcribed for analysis. The research team adopted a qualitative phenomenological approach to explore the lived experiences of the participants. As noted by Creswell (2007), phenomenological research aims to describe the shared experiences of individuals to gain a deeper understanding of a particular phenomenon. Among the two main types of phenomenology—hermeneutic and empirical/transcendental (also referred to as psychological)—this study adopted the latter. The focus was placed on the direct experiences of the participants, with the intention of capturing their authentic perspectives on international academic partnerships.

Procedures

About hundred copies of the questionnaires were distributed to the teachers. The return rate was about 80%. In administering the quantitative tool, throughout the procedure, teachers were

allowed to ask for clarification on any issue they did not fully understand in order to avoid confusion or misinformation. The questionnaire and the qualitative measure (interview) were used to triangulate the data collected by the inventory and to get in-depth information about the challenges and opportunities of establishing research collaboration.

During Interviews, the researchers made a brief explanation on the objectives of the research. We were able to create a non-threatening environment by engaging in warm- hearted conversations with the subjects in order to extract the necessary information from the interviewee. At the beginning of the discussion, an explanation of the formal procedure was given.

The interviews were audio recorded and transcribed. The researchers used digital audio-recorder. Before the discussion, we informed members that we would tape record the session and why we needed to do so. The interviews were conducted in Amharic, a local language all discussants operated in at native like proficiency.

Once on site, we checked once again if the participants were happy to proceed. Similarly, we gave them a detailed explanation of the objective and purpose of the study. Regarding the ethical issues, we assured participants that everything discussed would be confidential and by any means they would not be at risk. To this end, it was agreed with the participants that coding would be used and the identity of the informants would be masked. In the process, the participants were quite concerned about the issue and they were fully immersed in the interview. During the interview, the researchers listened well. We completed the interviews within the time frame. At last, we thanked the participants for giving us their time and sharing their views with us.

Data analysis

For the quantitative section of the study, Statistical Package for Social Sciences (SPSS version 20) was employed for analyzing the quantitative data collected from the survey questionnaire. Descriptive and inferential statistics were used to analyze the data.

The qualitative data were transcribed, and the verbatim accounts were thematically analyzed. In order to uncover the hidden deeper meaning of the data, a certain analytical process was followed. Dornyei (2007) noted that there are five phases used in analyzing the qualitative data. These are transcribing the data, coding, categorizing, producing derived data (tentative interpretation), and interpreting the data. The research team followed Dornyei's classification of data analysis. Interpreting the data was built after following the procedures mentioned above. This is the stage where the process is turned into a product. Central themes that were highly connected with the objectives of the research were identified and interpreted. The processed data that passed through systematic and detailed procedures were analyzed and interpreted.

Quotes in Writing: Researchers in qualitative research have used the voices of the participants in the study. In doing so, Creswell (2007) noted that there are three types of quotes: short eye-catching quotations, embedded quotes, and longer quotations. Creswell further stated that short, eye-catching quotations are easy to read, take up little space, and stand out from the narrator's

text and are indented to signify different perspectives. Influenced by Creswell's argument, we used short, eye-catching quotations throughout the analysis.

Ethical Issues: All the participants were willing to take part in the study. Another important issue in qualitative research is concealing the participants' identity and maintaining the security of their views. The full transcripts, which were coded with anonymous names, would remain the researchers' documents. Even during the sessions, both the interviewees were informed about the anonymity of the participants. We told them that we would mask their names from the analysis and from the data by coding names.

Results and Discussions

As stated earlier, the primary objective of this study was to explore the challenges and opportunities associated with creating research partnerships with overseas universities. To achieve this, both quantitative and qualitative data were collected and analyzed. The analysis focused on identifying key issues that either hinder or facilitate the establishment of such collaborations. The findings derived from the questionnaire are presented below.

Major challenges in creating research partnerships with overseas universities

Based on the responses of the participants, several factors were identified as significant challenges to establishing research partnerships at Kotebe University of Education (KUE). These include:

Infrastructure facility of the university

Table 1: Responses of the participants on the facility of the university

Items	Strongly disagree	disagree	Strongly agree	agree	Missing items
Instructors are comfortable in the infrastructure of the University in creating research partnerships with overseas universities	38.5	53.8		5.1	2.6
The facility of the university inspires and motivates the staff involved in research partnerships.	34.6	52.6	-	7.7	5.1

The great majority of the participants of the study, 92.3% (38.5% and 53.8%) reported that instructors were not comfortable in the infrastructure of the University for creating research partnerships. In a similar manner, 87.2% (34.6% + 52.6%) of the participants of the study also noted that the facility of the university did not inspire and motivate the staff to be involved in research partnerships. In a globalized world, the absence of basic internet facilities has brought tremendous influence in creating and maintaining partnerships.

The results obtained from the qualitative section corroborate the findings stated above. With regard to the challenges of establishing international research partnerships, the participants of the study listed down a number of deterrents. The most recurring factor is the ICT facility of the university. An interviewee stated the issue as follows:

Our ICT infrastructure is the main challenge; we do not have strong ICT Infrastructure, internet, or whatever (Int.1). Similarly, Interviewee Two has added the following: In fact, there are several challenges that we usually face in establishing relationships with overseas universities; one major challenge is infrastructure which remains to be one serious challenge (Int.2).

In a similar manner, interviewee three noted: *Infrastructure is a main challenge. The university does not have basic facilities; I do not feel comfort bringing any form of partnership here at KUE since the university does not have basic facilities (Int.3).*

From the excerpts above, it can be inferred that lack of ICT infrastructure, such as internet connection and ICT infrastructure, discouraged the staffs from creating research partnerships with overseas universities. In addition to this, poor infrastructure, in turn, could deter the staff from showing commitment. In light of the above, an attempt was made to see the direction of the relationship between the commitment of the academic staff in creating partnerships and the ICT facility of the university. To this end, a chi-square test was carried out, and the following table shows the point at hand.

Table 2: Chi-Square Tests showing the association between the commitment of the academic staff and ICT facility

Chi-Square Tests

Value		Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	36.716[a]	9	.000
Likelihood Ratio	34.773	9	.000
Linear-by-Linear Association	10.180	1	.001
N of Valid Cases	75		

As can be seen from the table above, the chi-square value is significant at 5%. This indicated that there is an association between the commitment of the academic staff in creating partnerships and the ICT facility of the university. This implied that when the ICT facility of the university is conducive, faculty members could be committed to creating partnerships with overseas universities. The commitment of the staff to research is likely to rely on the ICT infrastructure, and there is a need to establish a strong research infrastructure so as to improve sufficient in-house research practice and collaboration.

One of the interviewees (interviewee five) reported that staff's initiation to create research partnerships is very low. The interviewee elaborated on the issue in such a way:

Although the academic staffs have incentives for establishing partnerships, the staffs don't have that much interest, and there is infrequent involvement in such areas (Int.5).

To show the staff's low commitment in the areas of research, the other interviewee also said:

Other universities have been announcing different research calls; however, the academic staff is found to be reluctant to respond to those calls. There are some individuals who got involved in such calls and already started doing research in collaboration with other institutions, but it is not satisfactory when we compare it with the number of staff in the university (Int. 6).

It was pointed out that the involvement of the staff in research is very weak, and it is one of the major challenges in creating international research collaboration; it was evidenced from the data that the three activities that are required from the academic staff of the university are community service, research, and teaching. These activities need teachers' full engagement. One of those things that help teachers function well in such areas is having linkage with other similar institutions, but the staff seemed to be negligent in doing research.

Research experience of the academic staffs

It was noted that the research experience of the academic staff could also be one of the major challenges of forming any international partnerships. The following table depicts the points of the discussion.

Table 3: Responses of the participants of the study on the research practices of the staff

	Strongly disagreed	Disagree	Strongly agree	agree	Missing items
Most department members have good experiences in doing research	26.9	46.2	6.4	15.4	5.1

s per the table above, the majority of the participants of the study, 73.1% (26.9 % and 46.2%), stated that most department members did not have much experience doing research. This finding is in line with the results of the qualitative study. The participants of the qualitative section of the study reported that lack of experience is also mentioned as one of the major impediments in creating any international collaboration with overseas universities. In this regard, for instance, Interviewee Three has said:

The staff has limited experience in searching for grants and doing research in collaboration; lack of rich experience in doing research in collaboration is the main reason (Int.3).

In a similar manner, Interviewee One has the following to say:" *We do not have full-fledged practices and experiences; our research experience is not good compared with overseas universities (Int.1)."*

It can be inferred from the above points that the staff did not have the practice of doing research. Although lack of practices is a challenge in establishing collaboration with overseas universities, forming partnerships could enhance the capacity of the academic staff to be involved in research. Then, this suggests that steps should be taken to ensure that countries with less developed research capacity benefit from opportunities involving collaboration (Samuel et al., 2020). Similarly, Tigist and Rafael (2020) noted that Ethiopian-based NGOs in particular highlighted that research partnerships were filling an important gap arising from the lack of in-house research capacity. To fill in this research gap, scholars at more privileged institutions are supposed to assist their colleagues in gaining access to key journal articles in the field (Matthew 2018).

Teachers' lack of research experience is due to the absence of research culture in the university and it is clear from the foregoing paragraph that it is legitimate to have weak research culture, which is the result of poor research practice. The chi-square test below showed that there is an association between teachers' efforts in exploring new opportunities to expand research partnerships and the culture of establishing a clear and shared sense of direction about international partnership.

Table 4: Chi-square tests showing the association between the effort of teachers and the culture of establishing research partnerships

Chi-Square Tests

	Value	Df	Sig.(2-sided)
Pearson chi-square	57.121	9	.000
Likelihood ratio	46.655	9	.000
Linear by linear association	25.838	1	.000

As can be seen from the table above, the chi-square value is significant at 5%. This indicated that there is an association between teachers' efforts in exploring new opportunities to expand research partnerships and the culture of establishing a clear and shared sense of direction about international partnership. This implied that the effort of teachers is determinant to create a culture of establishing a shared sense of direction about international partnership. This further indicated that the commitment of the staff seemed to be a decisive factor for creating a strong research culture. However, the findings obtained from the qualitative section of the study noted that the academic staff is not committed to being involved in research activities. The following excerpts elaborated the points at hand. Interviewee Two stated the case as follows:

Staff commitment is another challenge; many of us are novices for such types of practices (Int.2).

Another participant of the study has also the following to say: *The commitment of the staff is poor. Instructors are not engaged in research activities because they are not rewarded for what they have done. Most of the academic staff does not have such a culture. Individuals are not willing to respond to even international calls (int. 6)*

As per the excerpts stated above, the commitment of the staff appeared to be very low, which downgrades the practices of research works. A deep commitment from academic and administrative staff is fundamental to the success of international partnerships; however, due to various reasons, the academic staffs are not involved in research activities. One major reason for the poor research practice is lack of experienced teachers in the university. As per the responses of Interviewee Two, the university is staffed primarily by young instructors and lecturers who do not have much practice in research; thus, creating capacity for faculty research is deemed a vital endeavor so as to make teachers producers of knowledge.

Organizational Structure

Table 5: The participants of the study were asked to assess the features of the management of the university

	Strongly disagree	disagree	Strongly agree	agree	Missing items
The bureaucratic nature of the management is a major bottleneck for research works.	34.5	41.3	13.1	3.0	2.1
The structure or the system of the university does not encourage teachers to be involved in the research works the university	11.5	51.3	23.1	9.0	5.1

As per the table above, the great majority of the participants75.8%= (34.5 +41.3) reported that the bureaucratic nature of the management is a major bottleneck for research works. In a similar manner, the majority of the subjects, 62.8% (11.5 % and 51.3%), noted that the structure of the university did not encourage teachers to be involved in research works. In addition to this, the qualitative section of the study revealed that both bureaucratic nature of the management as well as the organizational structure of the university were said to be the major challenges for creating international collaboration. In this regard, interviewee One said the following:

The managements are neither researchers nor academicians; they are politicians who do not bother about the research activities done in the university.

Sharing his experience, Interview Five has addressed the points below:

I had a few research projects with overseas universities and I couldn't find the required boss to sign the contractual agreement because he was in a meeting. It has been extremely discouraging.

Interviewee three said: "*We do not have a structure that facilitates such types of partnerships; in other universities the director, or the dean, or the department head can discharge the responsibility of handling the research cases because the system is decentralized, but here everything is centralized and decided by either one or two persons (Int.3).*"

Similarly, interviewee four has the following to say: "*I have not seen any concerned office that facilitates research partnerships with overseas universities (Int. 4).*"

As can be seen from the excerpts above, the bureaucratic nature of the management as well as the structure of the university could not attract teachers to carry out research. Once an undesirable research culture is formed, teachers would not be drawn to perform their usual tasks. In this regard, Stewart (2015) observes that effective partnership requires building an institutional culture that supports international collaboration. According to Boyer (1990), it is understood that a university's three major tasks are teaching, research, and services. Therefore, the organizational structure of a university is often based on how a university balances these three main functions, particularly teaching and research. For instance, if a university prioritizes teaching, it may only care about structuring its organization in a way that best promotes teaching and learning. However, if a university wants to promote research, it must consider building its organizational structure so as to enhance research activity. In other words, in shaping research policy and practice, a university needs to have a sound and appropriate research management structure (Bosch & Taylor, 2011). This implies that in structuring and organizing research, universities need to create appropriate research management positions. Likewise, as it is reported in ACCC 2004, to successfully establish partnership with other universities, a well-defined organizational structure is needed. It is further stated that the scope of responsibility for all positions should be specified, including reporting lines and performance benchmarks.

The bureaucratic nature of the management

A chi-square test was used to see the association between effective procedures in place to support international research collaboration and the bureaucratic procedures of the university. The following table depicts the point of our discussion.

Table 6: Chi-square tests showing the association between absence of effective procedures and the bureaucratic procedures of the university

Chi-Square Tests

			Asymptotic Significance (2-sided)
Value		Df	
Pearson Chi-Square	29.795[a]	6	.000
Likelihood Ratio	31.031	6	.000
Linear-by-Linear Association	19.908	1	.000
N of Valid Cases	76		

As can be seen from the table above, the chi-square value is significant at 5%. This indicated that there is an association between the absence of effective procedures in place to support

international research collaboration and the bureaucratic procedures of the university. This implied that the presence of effective procedures could reduce the bureaucratic procedures of the university.

Table 7: Showing the correlation between the absence of effective procedures and the bureaucratic procedures of the university

Symmetric Measures

		Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Interval by Interval	Pearson's R	.515	.076	5.171	.000[c]
Ordinal by Ordinal	Spearman Correlation	.571	.079	5.985	.000[c]
N of Valid Cases		76			

There is also a correlation between the absence of effective procedures in place to support international research collaboration and the bureaucratic procedures of the university. The correlation coefficient is 5.171. This implied that 5.1% of variation in effective procedure was accounted for by bureaucratic procedures.

It was frequently mentioned in the interview sessions that the bureaucratic nature of the management was also mentioned as a major challenge. In this regard, interviewee six has addressed the points below:

On my side, I could say I am highly eager to participate in research works, but the procedure is highly bureaucratic. *The situation does not allow us to fully engage in such activity. There is a demoralizing instance with the whole system. I always observe my friends being extremely devastated with their experience of doing research in this university, let alone creating research partnership with other institutions. And because of this, I have restrained myself from such activity (Int. 6)*

Interviewee One has added the following:

We are bureaucratic; we are principle-oriented managers who stick to the rules and regulations.

Sharing the Japanese experience, the interviewee stated that Japanese professors terminated a project due to the bureaucratic nature of the management. He strengthened his point, saying *"Foreigners do not cope with our bureaucracy" (Int.1).* In addition to this, Interviewee Two has the following:

In KUE, this [the management] remains to be a challenge; I can simply share you my experience as a dean: one major area that I usually face as a point of frustration for me so long as I am running this faculty is that any kind of decision which could pass through the AC is not accepted without getting the very blessing of the higher officials. Many of the higher officials told me that they are not that much empowered; as a result of this, many of us are helpless, so the management is a great impediment in that regards (Int.2).

Likewise, Interviewee 3 mentioned:

The university is highly centralized, and the higher officials are engaged in spending their time on routine tasks (Int.3)

Interviewee seven said: *One of the major challenges limiting collaboration efforts at the university is financial management. Due to limited experience in managing international project funds, faculty members often express concern and hesitation about handling budget and financial responsibilities when entering into partnerships with overseas universities (Int.7).*

The participants complained that the system of the university does not open doors for international research culture. Though instructors knew that doing research in collaboration with other universities is highly beneficial in terms of exchanging experience, they were not as such willing to participate due to the bureaucratic nature of the university. Despite this, according to the present study, getting engaged in research has been a tiresome and somewhat humiliating process for most staff, let alone making contacts with foreign universities. The findings of Cooper and Mitsunaga (2010) revealed that remaining flexible is central to the success of international collaboration. Considering research as an extra-curricular activity

	Strongly disagree	Disagr eed	Strongly agree	agre e	Missin g items
In our university, research partnership activities are integrated into the work of the university and not considered to be 'extracurricular'	7.7	48.7	29.5	10.3	3.8

Table 7: Responses of the participants of the study on whether or not research is integrated into the work of the university and not considered as 'extracurricular'

According to the table, the majority of the subjects 56.4% (7.7 % and 48.7%), noted that research partnership activities are not integrated into the work of the university and are considered to be 'extra-curricular'. In addition to this, the data from the interview showed that the university

mainly focuses on the academic aspect rather than the research. The participants remarked that the university has done very little to assist the staff in this regard.

It seems that those who are at a higher level do not give that much emphasis to research. They think that research is an extracurricular activity. Let alone to do research jointly with other universities, nowadays it is becoming impossible to get engaged in small-scale research in the university.

Likewise, interviewee six said

However, the university has not formally established such research partnerships with overseas universities. The university has created partnerships, for instance, with Korea University, and through this partnership, a few of the staff went there to exchange experiences. And some staff from Korea also came to Ethiopia and delivered some community services at certain high schools. I could say KMU's research partnership with other universities is poor. The university mainly focuses on the academic area and, if so, on local small-scale research (Int. 6)

Though the university has started collaborating with some universities, it is academic collaboration, not research. The university has not formally established research partnerships with overseas universities. Research has not been given due attention; the staff could not get the opportunity to conduct research in collaboration with such universities.

Building research capacity in an emerging research institution also requires assessment of research management practices and identification of transitional practices to promote the evolving research agenda. Based on the classifications of Bosch and Taylor (2011), early phases are marked by "hand-holding" management, where institutional emphasis is on teaching. This might happen because at the present Kotebe University of Education, the then Kotebe College of Teacher Education, teaching and research have been secondary practices for most of the academic staff.

Opportunities for creating research partnerships

Participants of the study have listed down a number of issues that could be categorized as opportunities, and the most important matters are the following: indigenous knowledge, exchange of experience, global visibility and economic development/technology transfer.

Indigenous knowledge and experiences

The interviewees have noted that indigenous wisdom could be studied through international research collaboration. In this regard, Interviewee One stated the points below:

Indigenous knowledge and experiences are not established as a system so far, and through research collaboration, indigenous knowledge and experiences are systematized and studied; that is, collaborations are used to uncover the landscape of indigenous wisdom (Int.1).

In a similar manner, Informant 2 has the following to say:

There are a lot of unexplored areas, and through such kinds of relationships with overseas universities, we will get the opportunities of at least making a navigation through unexplored areas, and by the end of the day, wisdom is consolidated(Int.2)

Interviewee five has the following points:

We have untold and undocumented indigenous knowledge. For instance, before any nation, it was Ethiopia that used to say every man is equal. But no one knows we had such principles years ago.

Interviewee six said the points below.

Ethiopia is rich in biodiversity as well as cultural diversity. It also has a long history. Therefore,

Ethiopia is very rich in indigenous knowledge. It is very clear that there is much to be learnt from the indigenous knowledge systems of local people.

As per the excerpts above, it was noted that though Ethiopia has indigenous knowledge in terms of medicine, culture and other fields, they have hardly been introduced. Having linkage with other universities creates opportunities to share the local experience with others and exchange ideas with other scientific community. As can be seen from the excerpts above, Ethiopia has rich indigenous wisdom, traditional practices, and culture which remains largely ignored. This home-grown and culture-specific knowledge can be studied and framed with international scholars. Otherwise, knowledge that is gained but is unavailable to others is wasted.

African scholars are underrepresented and/or marginalized in/by the main global knowledge production centers (Melanie & Carmen, 2020), although Ethiopia or Africa has had vast epistemological resources. Without knowledge produced by African scholars, it will be impossible to generate local solutions to problems and to develop the range of choices which make democracy meaningful (Matthew, 2018). This is because international knowledge production cannot be materialized without considering the sociocultural realities of the South. In light of this, Matthew (2018) suggested that we need critical scholars, based both in the global North and South, to resist conditions and collaborations that further entrench the inequality in global knowledge production. Inequality in global knowledge production becomes a reality because underdeveloped countries have missed an agent that transports these diverse knowledge systems to the public. However, North-South collaboration could bring the Ethiopian epistemic system to the attention of the global community of scholars.

Exchange of experience

Another important point which was mentioned as an opportunity is the exchange of experience and culture. Through partnering with other universities, there will be experience sharing in terms

of research, which automatically makes research knowledge flourish. In this regard, Interviewee One has the points below:

Exchange of experience, a new paradigm, and shifts of thought; in doing so, you will change the habit and we become addicted doing research (Int.1).

Pointing out sharing experience as the opportunity of international research partnership, interviewee six said the following:

They are highly profiled and reputable researchers, be it in the area of language, environment, or applied sciences. In addition to staff exchange, one of the key tools to disseminate their knowledge is doing research in collaboration with other universities.

In a similar manner, Interviewee Two forwarded the point below:

You will have the opportunity of cultural exchange (Int.2)

Similarly, Interviewee Seven noted that one of the major challenges at KUE is the lack of experience in conducting research, as well as in the administrative and financial management of research funds. In this regard, collaborative research initiatives can serve as a valuable means of building and enhancing institutional capacity in these areas.

According to the responses of the participants, research partnership enables researchers to get the experiences of other researchers. It opens doors to research opportunities and to the creation of new knowledge. Creation of partnerships or collaborations is a strategy frequently followed in order to promote institutions learning from one another and pooling expertise and resources. Through experience sharing, junior researchers could get the opportunity to publish articles in an internationally renowned journal. Junior academics in particular stated that they viewed this as a space for professional development (Tigist& Rafael, 2020).

Global Visibility/Internationalization

It was stated that internationalization is the mission of universities. In connection to this, Interviewee Five has the points below:

Internationalization is one of the main missions of the university (Int.5).

In a similar manner, Interviewee Six has added the following:

Many universities are well known because they have made themselves visible internationally. Partnering makes the university visible, known and adds to its reputation and international acceptance (Int. 6).

As mentioned by the participants, by its nature, university is international. But researchers in the third-world countries are not part of the global community of scholars since they are not visible

in 'top-tier' journals. Regarding restricted visibility, Samuel et al. (2020) added that we have chosen to prioritize the perspectives of African-based researchers due to their limited visibility in global policy and practice debates. Regarding the reason for the inadequate visibility, Tigist and Rafael (2020) stated that many of the Africa-based institutes have a long tradition of doing unfunded research which has very low external visibility, and collaborating with academics based in the global North is a way of gaining recognition for the important research done in their universities and for their own academic global prominence. So it would be better for teachers to get international involvement in many areas. Knobel, Patricia Simões, & Henrique de Brito Cruz

(2013) demonstrated that international collaborations among researchers and universities have increased and are almost mandatory for institutions that seek global visibility in different areas.

Economic Development and Technology Transfer

The following excerpts are a representative sample of responses showing the opportunities of establishing international partnerships. Concerning economic development, interviewee Three has the following to say:

As a poor country, we need to develop at a faster rate, and this type of collaboration is helpful to build a knowledge based economy, and it enables us to exchange practices (Int.3).

Similarly, Interviewee Four forwarded the points:

Creating collaboration with overseas universities is useful for technology transfer, which is one of the good opportunities for developing countries.

As can be seen from the excerpts, international partnership is indispensable for the economic development of the country. It is well-documented that research drives innovation, and nearly everywhere innovation drives global competition and economic prosperity. In relation to this, Gilles and Tiina (2014) underlined that the notion of partnership in North-South relationships remains the backbone of international development cooperation, as reflected in aid effectiveness principles, in the post-2015 debates, and in the global public goods agenda. Thus, when there are research collaborations between the North and the South, the developing countries would get economic benefits, technology transfer, and capacity building as well. Samoff and Carrol (2004), based on their study, noted that from foreign partners' standpoint, the rationales for partnerships range from capacity building in African academic institutions to broader national development. Similarly, Morfit et al. (2008) informed that many believe that international partnerships bring financial resources that are vital to African institutions for their economic development.

Gore and Odell (2009) assessed the impact of partnership between the U.S. and half a dozen African countries and identified cost-effectiveness, increased human and institutional capacity building, and increased capacity of academic staff and higher education institutions to support the national development goals as main impacts. The study of Nooijer and Abagi (2009) concluded that the partnership program contributed to strengthening capacity building, institutional development, research, teacher development, networking/collaboration, and

outreach. In a similar manner, Angeline et al. (2011) suggested that efforts to strengthen research partnerships between the North and the South have been prioritized with development agency policies increasingly encouraging collaboration in research bids and projects between universities and other research bodies located in both the North and the South.

Conclusions

The primary objective of this study was to explore the challenges and opportunities associated with establishing research partnerships with overseas universities. A mixed-methods research design—comprising both quantitative and qualitative approaches—was employed. Seventy instructors were randomly selected to complete a questionnaire, while semi-structured interviews were conducted to gather in-depth qualitative data. Quantitative data were analyzed using descriptive and inferential statistics, and qualitative responses were analyzed thematically using verbatim accounts of participants.

The findings revealed that inadequate ICT infrastructure significantly hampers faculty members' capacity to contribute to knowledge production. Furthermore, low levels of staff commitment to research appear to be closely linked to these infrastructural deficiencies. The study also indicated that many academic staff, primarily young instructors with limited research experience, lacked sufficient engagement in research activities.

Another major challenge identified was the bureaucratic nature of institutional management, which limits faculty participation in research. Additionally, the university's organizational structure was cited as a barrier to fostering international collaborations.

Despite these challenges, the study identified promising opportunities for establishing research partnerships. International collaboration offers a platform for scientifically investigating Ethiopia’s rich yet underexplored indigenous knowledge systems. The country's epistemological and intellectual resources remain largely untapped due to a lack of academic inquiry and limited collaborative engagements. As a result, contextually relevant knowledge is underrepresented in global academic discourse, with much of the knowledge production dominated by scholars from the global North.

Moreover, international research partnerships can promote idea exchange, enhance global visibility for the university, and contribute to economic development. They also offer avenues for sharing experiences, facilitating cultural exchange, and enabling technology transfer.

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Collaboration for Cutting-Edge Research: A Cornerstone for Research and Development

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Abstract

Collaboration and partnership have materialized as vibrant cornerstones for driving cutting-edge research and development (R&D) in the era of progressively multidimensional and interdisciplinary challenges. This change recognizes the limitations of isolated research efforts and embraces the synergistic power of varied expertise, resources, and perceptions. This review paper examines the crucial role of collaboration in promoting cutting-edge innovations, accelerating scientific discovery, and maximizing the influence of research endeavors. We maintain that fruitful R&D hinges not only on individual intelligence but also on the capability to efficiently arrange collaborations across various boundaries, including disciplinary, organizational, and even worldwide borders. Such partnerships facilitate the combining of resources, the sharing of knowledge, and the leveraging of corresponding strengths, eventually leading to outcomes that outdo what could be achieved separately. Besides, we highlight the challenges connected with fostering successful collaborations, such as navigating intellectual property rights, handling varied communication styles, and addressing power discrepancies. Controlling these hurdles necessitates a thoughtful emphasis on establishing clear communication channels, building trust and mutual respect, and developing robust governance arrangements. By nurturing a culture of open science and encouraging collaborative initiatives, we can unlock the full potential of R&D to address pressing global challenges and drive societal progress. This paper underscores the significance of investing in infrastructure, policies, and training programs that support collaborative research, ensuring that future R&D efforts are characterized by their inclusivity and transformative impact.

Key Words: Collaboration, Research and Development (R&D), Intellectual Property Rights, Building Trust, Mutual Respect

Introduction

The setting of contemporary research and development (R&D) is unarguably observed by growing intricacy and interconnectedness, deeply requiring state-of-the-art collaborative systems to proactively deal with the world's most pressing issues. The huge challenges that are shaking virtually the entire world, such as climate change, global health crises, and the promotion of sustainable energy sources, urgently call for remedies that transcend and go far beyond individual disciplines and institutional boundaries (Longo et al., 2023). These multidimensional problems necessitate a holistic understanding and integrated approaches that no single body can provide alone. Traditionally and conventionally, research was habitually conducted within silos, with individual researchers or small groups working individualistically, pursuing narrowly defined goals. Nevertheless, the drawbacks of this methodology are becoming increasingly obvious in the face of complex issues that need diversified expertise and the wise pooling of resources. This siloed approach frequently leads to duplicated efforts, misused synergies, and at the end of the day, sluggish progress towards effective and impactful solutions. The up-to-date R&D, therefore, necessitates a paradigm shift towards collaborative systems that promote knowledge sharing, cross-disciplinary innovation, and the assembling of resources to speed up findings and interpret the discoveries into real-world effects. This needs overcoming traditional obstacles and embracing new paradigms of partnership and open science.

The embark of collaboration as a foundation of Research and Development (R&D) stems from the ultimate apprehension that the collective intelligence, diverse skillsets, and varied competences inherent in collections far outweigh the potential of isolated individuals or siloed groups. This recognition highlights the power of synergy in speeding up scientific discovery and driving impactful scientific innovation (Higgins, 2011). By purposefully bringing together researchers, scientists, engineers, and experts from diversified arenas, institutions – both educational and commercial – and geographically diverse locations, collaborations generate a fruitful environment for the cross-pollination of thoughts, the effective, efficient, and well-organized sharing of often-expensive resources, and the strategic leveraging of complementary strengths. This synergistic power, where the combined output by far exceeds the sum of individual contributions, can lead to cutting-edge discoveries, practical solutions, and groundbreaking innovations that would be unachievable through independent, individualistic efforts.

Additionally, funding organizations, government institutions, and policymakers are ever more recognizing and enthusiastically encouraging the intrinsic value of collaborative research initiatives. Grant platforms and funding opportunities time and again prioritize projects that unequivocally exhibit a collaborative methodology, knowing that these projects are not only more likely to create noteworthy and impactful results but also to foster a wider ecosystem of knowledge sharing and capacity building (Fidalgo & Magalhaes, 2023). This deliberate shift in funding priorities, driven by the aspiration to make the most of the return on investment in research, has further incentivized researchers and research institutions to embrace collaboration as a fundamental and indispensable part of their complete R&D strategies. This has promoted a principle where collaborative proposals are regarded more positively, leading to a self-reinforcing cycle of improved collaboration and speeded innovation.

This paper explores the crucial and manifold role of collaboration in promoting pioneering innovation, speeding up the pace of scientific discovery, and making the most of the overall impact and societal benefit of research endeavors (Teece, 2010). We will methodically scrutinize the numerous benefits of collaborative research, including greater creativity, value-added problem-solving, and increased knowledge transfer. We will also critically discuss the intrinsic challenges related to adopting successful and fruitful partnerships, such as navigating intellectual property rights, managing conflicting priorities, and overcoming communication barriers. Finally, we will offer evidence-based recommendations and real-world approaches for creating and cultivating an atmosphere that actively supports and encourages collaborative research, eventually contributing to a more innovative and impactful research platform. This will embrace deliberations for adopting interdisciplinary understanding, streamlining administrative processes, and building trust among collaborators.

Methodology

This paper made use of a comprehensive analysis of existing literature on collaboration in R&D. This included:

Database Searches: We conducted searches in major academic databases such as Web of Science, Scopus, PubMed, and Google Scholar using keywords related to collaboration, research and development, interdisciplinary research, scientific collaboration, and related terms.

Literature Review

We reviewed peer-reviewed journal articles, conference proceedings, book chapters, and reports from government agencies and research institutions to identify key themes, findings, and best practices related to collaboration in R&D.

Synthesis and Analysis: The collected literature was synthesized and analyzed to identify the benefits and challenges of collaboration in R&D, as well as strategies for promoting successful collaborations.

Case Study Selection: One exemplary case study highlighting the impact of a specific collaborative research project was included to illustrate the practical application of the principles discussed.

Expert Consultations: Informal discussions with researchers actively involved in collaborative projects were conducted to gain insights and perspectives on real-world experiences.

Results and Discussions

The reviewed literature overwhelmingly supports the notion that collaboration is a critical driver of cutting-edge research and development (R&D). In today's complex and rapidly evolving technological landscape, the challenges facing researchers often require diverse expertise and resources that are unlikely to reside within a single individual or organization. Consequently,

collaborative efforts have become increasingly essential for pushing the boundaries of knowledge and achieving significant breakthroughs. The benefits of collaboration, as consistently highlighted in the literature, can be broadly categorized as follows:

Enhanced Creativity and Innovation: Collaboration fosters the cross-pollination of ideas and perspectives, leading to novel insights and innovative solutions. By bringing together researchers with diverse backgrounds, experiences, and expertise, collaborations can challenge existing assumptions and spark new lines of inquiry. This cross-disciplinary interaction allows researchers to see problems from different angles, identify previously overlooked connections, and generate creative solutions that draw upon a wider range of knowledge. The synergistic effect of combining different skill sets and knowledge bases can lead to breakthroughs that would be unattainable through isolated efforts (Wu et al., 2020). For example, collaboration between material scientists, engineers, and biologists might lead to the development of a novel biocompatible material with unique properties that none of the individual disciplines could have achieved on their own. Studies have shown that collaborative projects often result in a higher number of patents and publications compared to individual research endeavors, indicating the enhanced innovative output derived from such partnerships. Furthermore, the exposure to diverse perspectives within a collaborative environment can stimulate critical thinking and problem-solving skills, further fueling the creative process.

Increased Efficiency and Productivity: Collaborations are potent engines for boosting efficiency and productivity in research. By pooling resources, sharing sophisticated equipment, and strategically distributing the workload, collaborative efforts can achieve more than individual researchers could alone (Manyika, 2011). This synergy allows for a streamlined approach to research, minimizing redundancy and maximizing the use of available assets (Krueger, McPhearson, & Levin, 2022). Leveraging the complementary strengths of different partners is a key advantage (Rastogi, Leqi, Holstein, & Heidari, 2022). For instance, one team might excel at data collection, while another specializes in advanced analysis (Biesinger, 2017). By combining these skills, collaborations can avoid wasteful duplication of effort and accelerate the pace of research and discovery. The sharing of resources, such as access to specialized, often expensive, equipment or large, complex data sets, is another significant benefit (Alkmim et al., 2012). This resource sharing not only reduces individual costs significantly but also democratizes access to essential tools, allowing a broader range of researchers to participate and contribute meaningfully.

Improved Quality and Impact of Research: Collaborative research projects are often subject to a more rigorous and comprehensive review process, involving diverse perspectives and a higher level of scrutiny than individual projects typically receive (Madaniyazi et al., 2020). This heightened level of peer review contributes significantly to improved quality and rigor in the research process (Alvarez et al., 2023). The involvement of multiple stakeholders, including researchers from different disciplines, industry partners, and community representatives, ensures that the research is relevant to real-world needs and addresses pressing societal challenges (Malhotra et al., 2022). This focus on relevance translates to a greater impact on society, as the research is more likely to be translated into practical applications and inform policy decisions (Wiessner et al., 2023). Furthermore, collaborative projects often generate more impactful

publications, as the research benefits from a broader range of expertise and perspectives, leading to more comprehensive and insightful findings (Ma, 2021). These high-impact publications, in turn; attract more funding opportunities, as collaborative projects are often viewed as more promising and impactful investments (Wang et al., 2022). Ultimately, successful collaborations lead to more effective technology transfer, bridging the gap between research discoveries and real-world applications, benefiting both the scientific community and the broader public (Adomako & Nguyen, 2023).

Expanded Access to Resources and Expertise: One of the most compelling advantages of collaboration lies in its ability to expand access to resources and expertise that would otherwise be unavailable, particularly to researchers in smaller institutions or those based in developing countries (Jayabalan et al., 2021). These researchers may face limitations in terms of specialized equipment, access to large datasets, or the availability of specific expertise. By forging partnerships with researchers from leading institutions or organizations with specialized capabilities, researchers can overcome these limitations and gain access to cutting-edge technologies, world-class expertise, and valuable resources that can significantly enhance their research capabilities. This expanded access levels the playing field, enabling researchers from diverse backgrounds and locations to participate in groundbreaking research and contribute to scientific advancements.

Enhanced Training and Mentorship Opportunities: Collaboration provides a rich environment for training and mentorship, offering invaluable opportunities for junior researchers to learn from experienced professionals and develop their skills (Li et al., 2023). By working alongside seasoned researchers from different disciplines and institutions, junior researchers can gain exposure to diverse perspectives, learn new methodologies, and expand their professional networks (Biggs, 2022). This immersive experience allows them to develop a broader understanding of the research process, from formulating research questions to disseminating findings (Dag et al., 2023). Furthermore, mentorship within collaborative projects fosters a supportive learning environment where junior researchers can receive guidance, feedback, and encouragement from experienced mentors (Brizuela et al., 2023). This mentorship can help them develop their research skills, navigate the complexities of the research landscape, and build confidence in their abilities (Cutillas et al., 2023). Ultimately, these enhanced training and mentorship opportunities play a crucial role in building the next generation of researchers and fostering a culture of collaboration within the scientific community, ensuring a continued commitment to innovation and discovery (Manyika, 2011).

Despite the numerous benefits of collaboration, there are also several challenges associated with fostering successful partnerships. Collaboration, while often yielding synergistic outcomes, is not without its potential pitfalls. Successfully navigating these challenges requires careful planning, proactive management, and a commitment to open communication and mutual respect. The following are some of the key hurdles that collaborative endeavors may encounter:

Communication Barriers: Differences in communication styles, disciplinary jargon, and cultural norms can create barriers to effective communication. Misunderstandings, delays, and frustration can arise when collaborators struggle to effectively convey their ideas, perspectives, and needs. It

is essential to establish clear communication channels and protocols to ensure that all partners are on the same page. Regular meetings (both virtual and in-person), shared online platforms (e.g., project management software, collaborative document editing tools), and the development of a common language or glossary of terms can help to overcome these barriers. Furthermore, actively listening, seeking clarification, and being mindful of non-verbal cues can improve communication effectiveness. Consider utilizing communication training to bridge the gap between different communication styles; promoting psychological safety will allow all members to openly communicate their ideas and concerns (Jafari, Khan, Kermanshahi, & Vanaki, 2023).

Intellectual Property Rights (IPR) Issues: Disputes over ownership and control of intellectual property can derail collaborations, potentially leading to legal battles and the dissolution of the partnership (Maghfirah, Zaviera, Alghazy, & Fahmi, 2023). Ambiguity surrounding IPR can stifle innovation and discourage the sharing of ideas (Wang, Qiu, & Tan, 2020). It is crucial to establish clear agreements on IPR management at the outset of the project (Jansson & Ottosson, 2021), before any significant intellectual property is generated. These agreements should address issues such as ownership of inventions, copyright of publications and software, licensing rights (who can use the IP and under what conditions), and revenue sharing (how profits will be distributed) (Belk, Humayun, & Brouard, 2022). Consulting with legal experts specializing in intellectual property is highly recommended to ensure that the agreements are comprehensive, enforceable, and fair to all parties involved (Modic & Damij, 2018). The agreement should explicitly address background IP, project IP, and future IP.

Power Imbalances: Differences in seniority, institutional status, funding levels, access to resources, or perceived expertise can create power imbalances that can undermine collaboration (Siangulube et al., 2023). These imbalances can lead to unequal participation, marginalization of certain partners' contributions, and a sense of unfairness (Gallegos et al., 2023). It is important to ensure that all partners are treated fairly and that their contributions are valued, irrespective of their position or institutional affiliation. Transparency in decision-making, open forums for discussion and mechanisms for addressing grievances can help to mitigate the negative effects of power imbalances (Haddaway et al., 2021; Huff, 2023). Actively seeking input from all partners, giving credit where it is due, and acknowledging the expertise of each individual can foster a sense of empowerment and shared ownership (Zhang & Bartol, 2010; Yao, 2021). Consider implementing a rotating leadership model to ensure that all parties have an equal share of power (Klett & Ni, 2017).

Coordination and Management Challenges: Managing large, complex collaborations involving multiple individuals, institutions, and disciplines can be inherently challenging. The complexity of the project, the geographical distance between partners, and the need to integrate diverse expertise all contribute to potential management difficulties. Poor coordination can lead to delays, inefficiencies, and a failure to achieve project goals. It is essential to establish clear roles and responsibilities for each partner to prevent duplication of effort and ensure accountability. A robust project management plan, including timelines, milestones, and deliverables, is crucial for keeping the project on track. Regular progress reports, performance evaluations (both individual and collective), and conflict resolution mechanisms (e.g., mediation) can help to identify and

address problems early on. Employing project management software and assigning a dedicated project manager can significantly improve coordination and communication.

Trust and Relationship Building: Building trust and strong working relationships takes time and effort, but it is essential for successful collaboration. Trust is the foundation upon which effective communication, shared decision-making, and mutual support are built. Without trust, collaborators may be hesitant to share ideas, express concerns, or rely on one another. Investing in relationship-building activities can significantly enhance the quality of collaboration. In-person meetings (when feasible), social events (both formal and informal), and regular informal communication (e.g., virtual coffee breaks, quick check-ins) can help to foster a sense of community and build strong bonds between collaborators. Demonstrating reliability, integrity, and a genuine commitment to the success of the project are also critical for building and maintaining trust. Proactively addressing conflicts and misunderstandings in a constructive and respectful manner reinforces trust and strengthens relationships.

Addressing these challenges proactively and implementing strategies to mitigate their impact is crucial for maximizing the benefits of collaboration and ensuring the success of collaborative endeavors. A commitment to open communication, mutual respect, and a shared vision is paramount for fostering strong, productive, and sustainable partnerships.

Case Study: The Human Genome Project

The Human Genome Project (HGP) stands as a monumental achievement in scientific history, serving as a powerful and compelling example of successful collaborative research conducted on a global scale. This ambitious international scientific research project, formally launched in 1990 and completed in 2003, aimed to map the entire human genome – all three billion base pairs – and identify all of its genes. The resulting comprehensive map provides a foundational resource for biomedical research, offering unprecedented insights into the complexities of human biology and disease. The HGP was not the work of a single laboratory or nation; rather, it involved thousands of dedicated researchers, geneticists, biologists, computer scientists, and engineers from universities, research centers, and private companies across multiple countries, including the United States, the United Kingdom, Japan, France, Germany, and China.

The remarkable success of the HGP can be attributed to several key factors that fostered a spirit of cooperation and facilitated efficient progress:

Shared Goals and Objectives: A central tenet of the HGP was the unwavering commitment of all partners to a common, clearly defined goal: to meticulously map the entire human genome and, crucially, to make the resulting data freely and openly available to the global scientific community. This shared vision transcended national boundaries and institutional affiliations, ensuring a unified and focused effort. The commitment to understand the blueprint of human life drove the researchers forward, knowing the potential impact their work would have on future generations.

Open Data Sharing: Recognizing the critical importance of accessibility, the HGP adopted a revolutionary approach to data dissemination. Data generated by the project was made publicly available in a timely manner, adhering to strict guidelines for quality and standardization. This commitment to open science dramatically accelerated the pace of discovery, allowing researchers worldwide to build upon each other's findings, validate results, and pursue new avenues of investigation without the constraints of proprietary data. Databases like GenBank and Ensembl became invaluable resources, fostering a collaborative ecosystem that fueled innovation.

Strong Leadership and Coordination: The HGP was guided by a team of experienced and visionary scientists who provided clear direction, effective oversight, and strategic planning. Leaders like James Watson (initially) and Francis Collins established a compelling vision for the project, fostered a culture of collaboration, and ensured that resources were allocated effectively.

Regular progress reports, standardized protocols, and quality control measures were implemented to maintain cohesion and ensure the integrity of the data. The leadership team also played a crucial role in navigating ethical and social implications associated with the project.

Effective Communication and Collaboration: Recognizing the inherent complexities of such a large-scale, geographically dispersed project, the HGP prioritized effective communication and collaboration. Regular meetings, workshops, and international conferences were organized to facilitate the exchange of ideas, address challenges, and foster a sense of community among partners. Advanced communication technologies, such as email and dedicated online forums, were utilized to ensure seamless information sharing and collaborative problem-solving. This environment fostered trust and mutual respect, enabling researchers to work synergistically towards their shared goals.

The HGP has had a profound and lasting impact on biomedical research and human health. It has led to new insights into the genetic basis of a wide range of diseases, including cancer, diabetes, heart disease, and neurological disorders. This newfound understanding has paved the way for the development of new diagnostic tools, personalized medicine approaches, and innovative therapeutic strategies. Furthermore, the HGP has advanced our understanding of human evolution, population genetics, and the interplay between genes and the environment.

In conclusion, the Human Genome Project stands as a testament to the power of international collaboration to achieve ambitious scientific goals and advance human health. It unequivocally demonstrates the transformative potential of open access to data in accelerating scientific progress and fostering innovation. Beyond its immediate scientific achievements, the HGP serves as a model for future large-scale research endeavors, highlighting the importance of shared goals, open communication, and effective leadership in tackling complex global challenges. The lessons learned from the HGP continue to inspire scientists and policymakers alike as they address pressing issues in healthcare, environmental sustainability, and other critical domains.

Conclusion

Collaboration is an essential ingredient for cutting-edge R&D. The increasingly complex and interdisciplinary nature of modern research demands the collective intelligence and capabilities of diverse groups. By fostering collaboration, we can accelerate scientific discovery, promote technological innovation, and address pressing global challenges. Indeed, many of the breakthroughs that have shaped our world, from the development of vaccines to the exploration of space, are testaments to the power of collaborative endeavors.

However, simply bringing people together is not enough to guarantee successful collaboration. Successful collaboration requires a commitment to open communication, where ideas are freely shared and feedback is constructively given. It also necessitates trust-building, fostering an environment where individuals feel safe to express their perspectives and take intellectual risks. Equitable partnerships are crucial, ensuring that all contributing parties are valued and their contributions are recognized. This includes fair distribution of credit and resources.

Furthermore, effective project management is paramount. Clear goals, defined roles, and established timelines are essential for keeping collaborative projects on track. Explicit agreements on intellectual property rights are also necessary to avoid future disputes and ensure that all contributors benefit appropriately from the outcomes of the research. Finally, mechanisms for resolving conflicts, whether through mediation or arbitration, should be in place to address disagreements fairly and efficiently.

By proactively addressing these challenges and nurturing a culture of collaboration, we can unlock its full potential to drive innovation and improve the lives of people around the world. Investing in collaborative infrastructure, fostering interdisciplinary training, and recognizing collaborative achievements are crucial steps in building a future where scientific progress is accelerated through the power of shared knowledge and collective effort. Ultimately, collaboration is not just a means to an end; it is a fundamental driver of human progress, enabling us to tackle the complex challenges facing our society and build a brighter future for all.

Recommendations

To foster a culture of collaborative R&D, we recommend the following actions:

Invest in Infrastructure: Governments and research institutions should invest in infrastructure that supports collaborative research, such as shared research facilities, data repositories, and communication networks.

Develop Supportive Policies: Policies should be developed to encourage collaboration, such as grant programs that prioritize collaborative projects and incentives for researchers to engage in interdisciplinary research.

Provide Training and Education: Researchers should be provided with training and education in collaborative skills, such as communication, conflict resolution, and project management.

Promote Open Science: Promote open science practices, such as open access to data and publications, to facilitate collaboration and accelerate the pace of discovery.

Address Power Imbalances: Address power imbalances in collaborative relationships by promoting transparency, inclusivity, and equitable partnerships.

Foster Trust and Relationship Building: Encourage in-person meetings, social events, and informal communication to build trust and strong working relationships among collaborators.

Develop Clear IPR Agreements: Develop clear agreements on intellectual property rights at the outset of collaborative projects to avoid disputes and ensure that all partners are treated fairly.

By implementing these recommendations, we can create an environment that supports and encourages collaborative research, ensuring that future R&D efforts are characterized by their inclusivity and transformative impact. This, in turn, will accelerate progress towards solving the world's most pressing problems.

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Closing Remarks, Ato Tedla Haile, St. Mary's University, Executive Vice President

Distinguished guests, colleagues, ladies and gentlemen,

It is now time to close the daylong conference, which has enabled us to gain thought-provoking ideas from the speakers and paper presenters. Of course, the questions raised and the comments given by you, participants, were no less significant. It should be noted here that, by mere coincidence, our conference the theme, "The Academic Profession and Research Excellence in Africa," reignited the issue as the Continental Education Strategy for Africa (CESA), which espouses building Africa's higher education and research capacity as a top priority on the African development agenda, closes this year. Truly, there are takeaways participants might ponder over as we end this closing session: whether or not research in African higher education is impactful and whether higher education institutions have lived up to the expectations of the society at large.

With that note, allow me to thank our stakeholders, who, in one way or another, contributed to the success of this conference. As has been the case with sitting ministers and state Ministers of Education over the last 23 years, the presence of H.E. Ato Kora Tushune, State Minister for Higher Education, has indeed graced the occasion. We thank him very much. Taking this opportunity, allow me to thank Professor Afework Kassu, currently working as Director of Armaeur Hansen Research Institute. As a former State Minister of Higher Education, he should be recognized today, as he was highly supportive of the private sector.

Without the keynote speakers and paper presenters, this conference could not have been materialized. Some have come in-persons from distant places; others have synced virtually from where they were. Nevertheless, all have enlivened the conference aura with their remarks and presentations. They deserve our words of thanks. Organizing such a conference is no easy exercise. Thanks go to our partners, the Ministry of Education, the Association of African Universities, the African Union Commission (AUC), the International Network for Higher Education in Africa, the University of Kwazulu-Natal in South Africa, and the Organization for Southern Cooperation (OSC). We thank the chairs and rapporteurs and our master of ceremony.

At the home turf, St. Mary's enjoys the collegiality of its diligent and untiring staff members who toiled beyond the call of duty. Of these, thanks are due to the General Services and Finance Offices, the ICT Unit, which has enabled us to get connected virtually, and the receptionists who welcomed guests upon arrival here at the Conference Hall. The team of staff at the Research and Knowledge Management Office, led by Dr. Misganaw, the Vice President for Research and International Communications, has carried the heaviest work burden of planning and executing the whole process of the conference. Many thanks to the team;

Finally, we thank you, conference participants, for committing your precious time to make this conference a success. Thanks also go to the Inter-Luxury Hotel for its hospitality rendered by the catering unit, the technical team, and others who made us enjoy our stay throughout the whole day. With that, I declare the conference closed. I thank you.

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