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## **Literature Review**

### *Virtualization and Internationalization of Higher Learning Institutions in Rwanda*

#### **Introduction**

This literature review investigates how the internationalization of higher education can be promoted, strengthened, and expanded in Rwanda and the broader East African region. The central question is whether transnational university networks including branch campuses, institutional mergers, online learning, and joint curriculum development can create the organizational structures necessary for sustainable internationalization. As Moshtari and Safarpour (2023) emphasize, the organizational structure of universities must be configured in accordance with their internationalization strategies, not retrofitted afterward.

The motivation for this inquiry is both scholarly and practical. Scholarly, because despite a substantial body of internationalization literature, comparatively little research has examined what internationalization looks like or can look like in low-resource East African contexts. Practical, because the gap between what is available to learners in Rwanda and the educational experiences available at well-resourced institutions in the Global North remains a structural concern that touches on equity, national development, and the quality of post-secondary education. The review pays particular attention to virtualization as a mechanism for closing that gap, drawing on emerging evidence that online and blended learning models can substantially expand access to internationally connected higher education without requiring the geographic mobility that has historically defined internationalization abroad.

#### **Defining Internationalization**

The most widely accepted working definition of internationalization comes from Jane Knight, who first articulated it in 2003 and refined it in subsequent work. Knight (2004) defines internationalization as "the intentional process of integrating an international, intercultural or global dimension into the purpose, functions and delivery of post-secondary education, in order

to enhance the quality of education and research for all students and staff, and to make a meaningful contribution to society" (p. 11). This definition is consequential for several reasons. First, it characterizes internationalization as intentional not as a passive consequence of globalization, but as an active institutional project requiring strategic decision-making. Second, it foregrounds the integration of international dimensions into the core purposes, functions, and delivery of education, rather than treating internationalization as a peripheral activity. Third, and most importantly for this review, it specifies internationalization as a vehicle for meaningful social contribution, locating internationalization within a broader ethical framework rather than treating it as institutional self-promotion.

Knight's (2003) earlier formulation already anticipated that internationalization would need to evolve to accommodate emerging delivery modalities, particularly those mediated by technology. The 2004 refinement reflects that evolution. Subsequent scholarship has continued to develop the definition. The European Parliament study (de Wit, Hunter, Egron-Polak, & Howard, 2015) reaffirms Knight's framework while emphasizing that internationalization is also a tool for institutional differentiation and for advancing institutional missions. De Wit (2018), in turn, provides the historical context: internationalization has shifted from a marginal institutional activity to a central component of higher education policy, although that shift has not always been accompanied by substantive change in practice.

## **Two Categories: Internationalization Abroad and at Home**

The literature distinguishes two broad categories of internationalization. Internationalization abroad or cross-border education refers to educational activities that take place across national borders, including student mobility programs, branch campuses, franchise arrangements, and joint or double-degree programs (de Wit & Altbach, 2021; Stella, 2006). Internationalization at home, by contrast, is more curriculum-oriented; as de Wit et al. (2015) describe it, internationalization at home focuses on activities that develop international or global understanding and intercultural skills (p. 45). It encompasses curriculum internationalization, language learning, intercultural campus activities, virtual collaboration with international partners, and fully online or blended programs delivered across borders.

This distinction matters profoundly for low-resource contexts. Internationalization abroad in its most prestigious forms requires substantial financial investment and infrastructure: students must be able to travel, institutions must be able to build and maintain physical campuses across borders, and the entire model presupposes that mobility is accessible. For many East African

learners, that presupposition does not hold. The cost of overseas study is prohibitive for most. The visa regimes governing student mobility from African countries to North American and European institutions are increasingly restrictive. And the brain-drain dynamic where the most accomplished students who do study abroad often do not return has produced legitimate skepticism about whether traditional mobility models serve the development needs of the originating countries.

Internationalization at home offers an alternative that is more compatible with the resource conditions and developmental priorities of East African institutions. Auschner (2020) explains that universities increasingly need to prepare graduates for working across countries and cultures, and that institutional focus has accordingly turned to the international and intercultural dimensions of programs that can be delivered locally. Importantly, Auschner argues that intercultural competence does not develop automatically in students; it must be deliberately fostered through structured pedagogical interventions. The action research described in Auschner's study demonstrates that intentional intercultural group work designed and supported within an internationalized curriculum can substantially develop the intercultural competence of business students in international double-degree programs, even when those programs are delivered without overseas travel. This finding is foundational to the present review: internationalization at home is not a lesser substitute for internationalization abroad. It is, in many respects, a more inclusive and equity-oriented version of internationalization, particularly when supported by emerging technologies.

## **Forms and Objectives of Internationalization**

Within the two broad categories of internationalization at home and abroad, the literature identifies several specific forms. These include joint research projects between institutions, student exchange programs, faculty and staff mobility initiatives, specially designed programs for foreign students, joint curriculum development, branch campuses established through the export of higher education, institutional cooperation through transnational university networks, mergers of institutions, and transnational virtual delivery of higher education (Ma & Subbiondo, 2022; de Wit et al., 2015). Each of these forms produces different educational, economic, and political effects, and each is appropriate in different contexts.

The objectives of internationalization are similarly multidimensional. De Wit (2018) identifies academic quality and development as the primary educational objective: internationalization should strengthen the quality of teaching, learning, and research by exposing institutions to

diverse perspectives, methodologies, and bodies of knowledge. From an economic standpoint, internationalization prepares individuals for work in a globalized economy, supports national development and competitiveness, and generates extra-institutional financial returns through international enrollment and partnership revenue. On the political dimension, internationalization promotes understanding, peace, and security across a divided world, and supports the development of global citizenship. Ma and Subbiondo (2022) extend this third dimension explicitly, arguing that the deeper purpose of international higher education partnerships is to contribute to global peace and harmony not only to institutional advancement.

De Wit and Altbach (2021) observe that despite three decades of conceptual development, internationalization in higher education has often remained more rhetorical than substantive. Their argument is that internationalization has evolved over the past thirty years from an ad hoc, marginal, and fragmented phenomenon to a more central and comprehensive component of higher education policy but that the shift has remained more visible in rhetoric than in concrete action, and more focused on internationalization abroad and competition than on internationalization at home and cooperation (p. 30). This is a critical observation. It clarifies that the project of advancing internationalization is not only a matter of convincing institutions to engage internationally; it is also a matter of redirecting the dominant model of internationalization toward forms that serve more inclusive educational and developmental ends.

## **The Problem in the East African Context**

The starting point of this review is a specific problem: the limited global partnership infrastructure available to universities in Rwanda and the broader East African region. This limitation has implications for educational quality, for research capacity, and for the lived opportunities available to East African learners and faculty. Creating partnerships with well-resourced universities through branch campuses, faculty research collaboration, student exchange, joint curriculum design, and fully online programs has substantial potential to improve the quality of higher education in Rwanda and to expand the opportunities accessible to its learners.

Several scholars have analyzed the structural constraints that East African universities face. Tan, Harland, and Daniel (2021) document the practical obstacles to internationalization in the region, including a shortage of trained scientific staff, inadequate organizational infrastructure, limited research equipment, and unreliable power and internet availability. The brain-drain

dynamic compounds these challenges. As the most accomplished East African scholars increasingly migrate to institutions in the Global North, the institutions left behind are expected to address pressing development problems: health, poverty alleviation, professional capacity-building with diminished human resources.

Moshtari and Safarpour (2023) identify two structural barriers as the most persistent impediments to internationalization in low-income East African countries: inadequate digital infrastructure and limited cross-institutional coordination capacity (p. 4). Both barriers are structural rather than individual. They are not problems that can be solved by training individual administrators or by persuading individual universities to adopt internationalization rhetoric. They require systemic intervention at the institutional, national, and cross-border levels simultaneously. Moshtari and Safarpour also note, however, that online and blended learning models have opened new opportunities for internationalization that may be particularly well-suited to the resource conditions of East African institutions, provided that the necessary digital infrastructure and faculty preparation can be put in place.

Lanford (2014) provides an important normative framing for the kind of international partnerships that should be pursued. Lanford argues that global partnerships should marshal their significant intellectual and financial resources to enlarge public discourse, promote the public good, and support marginalized individuals (p. 207). Partnerships, in this framing, are not simply institutional arrangements for mutual benefit; they carry obligations toward broader publics and toward learners whose voices have historically been marginalized in international higher education. Lanford's framing is directly relevant to the East African case, where the design of international partnerships shapes whether internationalization expands or further constrains access for local learners.

The challenges of internationalization in East Africa are not only technical or financial. They are also, fundamentally, questions of equity. When a small portion of African learners are able to access international education through mobility programs, and the vast majority are excluded, internationalization in its dominant form reproduces the very inequalities it is supposed to address. The case for internationalization at home supported by virtual delivery models is therefore not only practical.

## **Virtualization as a Pathway**

Virtualization, as used in this review, refers to the digital delivery of higher education programs and supporting services, including fully online courses, blended learning models, virtual mobility programs, and digitally-mediated international collaboration. Virtualization is significant to the present study because it offers a structural pathway through which internationalization at home can become operational for East African institutions. If East African universities cannot send most of their learners abroad, and cannot easily host overseas faculty on campus, the question becomes how these learners and faculty can access international educational experiences from where they are. Virtualization provides part of the answer.

The COVID-19 pandemic served as a global, involuntary experiment in the viability of virtual higher education. Yıldırım, Bostancı, Yıldırım, and Erdoğan (2021) document how the pandemic disrupted traditional international student mobility, accelerating institutional investment in online and blended delivery modalities. The pandemic forced institutions worldwide to confront questions of online pedagogy, faculty preparation for digital instruction, and the quality of virtual student experience. While the pandemic-era acceleration was uneven and produced its own set of equity challenges, it also generated evidence that high-quality virtual learning is feasible at scale, and that learner appetite for online and blended formats is substantial particularly when the alternative is no access at all.

Rwanda has been an early adopter of online learning at the professional development level. Kuteesa (2023) reports that Rwanda ranked second in Africa for online business course enrollment, drawing on data from Coursera, one of the world's largest online learning platforms. The Coursera report analyzed data from more than 124 million registered learners across 100 countries and concentrated on three job-relevant skill domains: business, technology, and data science. Rwanda's high relative enrollment in these domains suggests both a learner base receptive to online delivery and a national policy environment supportive of virtualization. This is significant evidence that the infrastructure and the appetite for virtualized higher education already exist in Rwanda, even if institutional capacity to deliver fully developed online programs is still maturing.

Moshtari and Safarpour (2023) reinforce this analysis from the institutional side. They identify online and blended learning models as among the most promising structural remedies available to East African institutions that lack the financial resources to sustain traditional mobility-based internationalization. The key, they argue, is that virtualization is not a substitute for proper institutional preparation. Online education and digitalization can provide several opportunities to

academics, but only if the necessary infrastructure and preparation are in place including stable internet connectivity, faculty preparation for digital pedagogy, learner support structures, and institutional commitment to ongoing investment in the underlying technology.

## **The Case for Online and Blended Learning in Rwanda**

Building on the literature reviewed above, several propositions emerge that frame the case for prioritizing online and blended learning in Rwandan higher education. First, virtualization is the most cost-effective mechanism currently available for connecting East African learners to international educational experiences at scale. Mobility programs serve relatively small numbers of students at relatively high cost. Virtualization can serve substantially larger numbers at proportionally lower cost, provided the digital infrastructure is sufficient.

Second, virtualization is structurally compatible with internationalization at home. It supports the curriculum-oriented, intercultural competence-building model that Auschner (2020) and de Wit et al. (2015) identify as the more inclusive form of internationalization. Rather than asking East African learners to leave their context in order to access international education, virtualization brings international education into their context.

Third, virtualization, if designed with sufficient care, can support the kind of equity-oriented partnerships that Lanford (2014) argues are obligated to support marginalized learners. Virtual programs can be designed to include learners who would otherwise be excluded including learners from rural areas, learners with caregiving responsibilities, and learners whose financial situation precludes overseas study.

Fourth, virtualization aligns with Rwanda's national development priorities. Rwanda has invested substantially in digital infrastructure over the past two decades, positioning itself as a regional hub for technology-enabled services. Higher education virtualization is consistent with this national strategy and can leverage existing infrastructure investments.

Quality assurance, however, remains a serious challenge. Stella (2006) emphasizes that the quality assurance of cross-border higher education including virtually-delivered programs requires deliberate institutional and regulatory attention. Quality assurance frameworks designed for traditional in-person programs do not transfer cleanly to virtual delivery. Institutions adopting online and blended models need to invest in quality assurance mechanisms specifically designed for the virtual environment, including faculty preparation, learner support, assessment design, and continuous evaluation.

## **Toward a Framework for Practice**

The present review establishes that internationalization at home, supported by virtualization, represents a significant opportunity for Rwandan higher education. It also identifies the conditions under which that opportunity can be realized. These conditions are simultaneously institutional, national, and cross-border in character.

At the institutional level, Rwandan universities need to develop organizational structures specifically designed to support internationalization. Moshtari and Safarpour (2023) argue that organizational structure should be configured in accordance with internationalization strategy. This means dedicated internationalization offices, faculty development programs that prepare staff for international and intercultural pedagogy, and quality assurance mechanisms specifically calibrated for virtual and blended delivery.

At the national level, policy frameworks need to recognize and support internationalization at home as a legitimate and high-priority form of internationalization. This includes policy support for digital infrastructure investment, regulatory frameworks that permit cross-border virtual program delivery, and incentives for institutional partnership-building with international universities.

At the cross-border level, the design of international partnerships needs to evolve. Traditional mobility-focused partnerships should be complemented and in many cases replaced by partnerships designed around joint virtual delivery, joint curriculum development, and faculty co-instruction across borders. Ma and Subbiondo (2022) frame this evolution in terms of partnership purpose: international higher education partnerships should be designed not only for institutional benefit but for broader contributions to global peace, harmony, and equitable educational access.

This framework points toward the kind of focused empirical inquiry that this literature review is intended to motivate. Future research including doctoral research conducted within the improvement science tradition of the Dissertation in Practice (Perry, Zambo, & Crow, 2020) should examine specific cases of virtualized internationalization in East African institutions, identify the conditions under which such initiatives succeed, and develop generalizable insights that can inform practice across the region.

## **Conclusion**

This literature review has examined the strategies, frameworks, and approaches needed to advance the internationalization and virtualization of higher education in Rwanda and East Africa. It has argued that the dominant model of internationalization mobility-focused, expensive, and accessible only to a small minority of learners is poorly suited to the resource conditions and developmental needs of East African higher education. It has presented the case for internationalization at home, supported by virtual delivery, as a more inclusive and equity-oriented alternative. And it has identified the institutional, national, and cross-border conditions under which this alternative can be realized.

What remains is the work of empirical investigation. The literature provides a strong conceptual foundation, but the specific question of how Rwandan and East African institutions can build sustainable internationalization at home through virtualization remains underexplored. The contribution of future scholarship and of the doctoral inquiry this literature review prepares for, is to develop the practical, evidence-based frameworks that can guide institutional practice.

The deeper question that runs through all of this work is one of equity. Whose access to transformative education counts as central, and whose access is permitted to remain marginal? The argument advanced here is that internationalization, properly conceived, must serve the broader public good must, as Lanford (2014) writes, marshal its significant intellectual and financial resources to support those whose access to education has historically been constrained. Virtualization is one of the most powerful instruments available for serving that purpose. Whether it does so depends on the choices that institutions, governments, and partnerships make in the coming years. This review is offered in service of those choices.

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