Abstracts for website preparation

2nd UCU Annual Research Symposium | 4-6 November 2026

53 revised submissions: 24 oral presentations and 29 posters. Revision status is taken from the spreadsheets dated 30 October 2026. Posters run Wednesday-Friday at Agape Square. All talks take place on Thursday in M Block. Individual presentation times remain to be confirmed.

The supplied book contributes 47 abstracts. Six revised submissions absent from that book are included from individual files. Author names, co-authors, formats and oral tracks follow the spreadsheets. The supplied book provides 26 poster track assignments. Three posters are grouped under Others. Individual presentation times remain unassigned.

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From Institutional Pressures to Institutional Voids: Reframing Integrated Management System Adoption in Civil Society Organizations

Stanley Dennis Wobusobozi

UCU-2026-P001 | Poster presentation | Business, Trade, Law and Economic Development

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Integrated Management Systems (IMS) integrate multiple management standards and organizational processes to enhance coordination, accountability, efficiency, and performance. Despite substantial research, organizations exposed to similar technical requirements, capabilities, and institutional pressures exhibit markedly different adoption outcomes. This study systematically reviews the determinants, theoretical foundations, and contextual patterns of IMS adoption and assesses the transferability of established explanations to civil society organizations (CSOs), particularly in donor dependent and institutionally fragile environments. Following a PRISMA guided search of Scopus and Web of Science, 921 records were progressively screened, yielding 118 articles. The synthesis identifies four recurrent determinants: leadership and governance commitment, organizational capacity and resources, institutional and stakeholder pressures, and technical factors. However, these determinants do not operate uniformly across institutional environments, while the evidence underpinning prevailing explanations remains concentrated outside CSOs. The review therefore reframes rather than replacing established explanations: Institutional Voids Theory explains why IMS may acquire different functions where institutional infrastructure is weak; Organizational Capacity Theory explains whether organizations can sustain and regenerate systems under resource volatility; and Institutional Logics explains how competing actors, accountability demands, values, and power relations shape implementation. The study positions CSOs as a theoretically consequential context for refining IMS adoption theory.

Keywords: Integrated Management Systems; IMS adoption; civil society organizations; organizational capacity; institutional voids; institutional logics; systematic literature review

Unlocking the potential of Kigezi potatoes through use of geographical indication as a marketing solution for potato system development and promotion

Peter Nareeba

UCU-2026-P002 | Poster presentation | Business, Trade, Law and Economic Development

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Introduction

The potatoes are a major source of nutritious food and income to Kigezi farmers who contribute 60% of the total production and if improved would go a long way in improving livelihoods. The proposed project aims to unlocking the potato commodity value-chain potential as a geographical indication in Uganda to strengthening farmers financial empowerment. This is through a demonstrable, evidence-based link between the Kigezi's geographic origin and the potatoes distinctive characteristics as provided for in the Uganda Geographical Indications Act 2013.

Methodology

A cross-sectional sequential mixed methods design will be adopted incorporating comparative product testing and laboratory analysis, covering 3 districts known for the production of Kigezi Potato. A survey technique will be applied to collect socio-economic and characterization base line data on the potatoes product which will be measured, and compared with the potato from other regions. To validate reputation and consumer recognition, interviews from identified farmer groups and consumer survey to collect information which will form a basis for the development and the standardisation of procedures and protocols. To establish procedures for increased production, experiments will be conducted where samples for the raw materials used (potato tubers) and the products assessed using laboratory-based procedures (Near Infra-Red Spectroscopy). A criteria for improvement will be identified using HPLC and wet chemistry in addition to NIRs.

Results

Drawing from the quality characteristics profiled, the GI will be registered; and a developed potato farmer network shall collectively own it, set standard operating procedures, and establish rigorous marketing and promotional strategies.

Significance

Conditional outcomes from the GI registration with Uganda Registration Services Bureau (URSB), include collective producer ownership, market recognition, increased bargaining power, incomes and value chain development for established farmer producer groups. These will be linked to relevant promotion bodies such as Uganda Co-operative Alliance, and NARO, as producer platforms promoting strategies like BUBU.

Keywords: Geographical Indicator, Kigezi Potato, Uganda

Household Welfare in Uganda: Consumption, Poverty Transitions and Inequality in Official Survey Evidence, 2015/16 to 2023/24

Joseph Jakisa Owor

UCU-2026-P003 | Poster presentation | Business, Trade, Law and Economic Development

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Purpose: This study examines changes and disparities in household material welfare in Uganda, focusing on real household consumption, poverty incidence, poverty transitions and consumption inequality. It seeks to establish the extent to which improvements in living standards have been accompanied by reductions in poverty, household vulnerability and socioeconomic inequalities across population groups and geographical regions.

Methods: A descriptive synthesis draws on published Uganda Bureau of Statistics (UBOS) Uganda National Household Survey (UNHS) estimates for 2019/20 and 2023/24 and Uganda National Panel Survey (UNPS) poverty-transition statistics for 2015/16-2019/20. The target population is households represented by the respective national survey designs. Published aggregate estimates, rather than household microdata, are analysed using absolute changes, percentage changes and percentage-point differences. Cross-sectional and longitudinal findings are presented separately.

Findings: National real monthly consumption per adult equivalent increased from UGX 158,805 to UGX 167,573 between 2019/20 and 2023/24 (5.5%), although urban consumption fell by 7.5%. In 2023/24, poverty was 16.1% nationally, compared with 27.7% in Northern Uganda and 6.6% in Central Uganda. The 2015/16-2019/20 panel statistics classify 6.5% of households as chronically poor, 10.0% as exiting poverty and 7.5% as entering poverty. National consumption inequality declined from a Gini of 0.413 to 0.382.

Conclusion: Material welfare gains were uneven across locations and household groups. Poverty entry and exit reveal vulnerability that a single headcount cannot capture. The evidence supports geographically responsive policy monitoring and attention to persistent deprivation and risk of poverty entry, but it does not identify causal effects of growth or policy.

Keywords: Uganda; household consumption; poverty transitions; inequality; household welfare; UBOS

Youth perspectives of drug and alcohol use at a Faith-Based University in Uganda: A Qualitative Analysis

Jacqueline Kobusingye; Jennifer Hatzfeld; Edward Mukooza; Elsie Naruszewiczn; Jason Paltzer

UCU-2026-P004 | Poster presentation | Others

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Purpose: Substance use among Ugandan youth and undergraduate students arises from the complex interactions and combined influences of individual, social, family, and environmental factors. The transition to university life also introduces multiple risks that make students vulnerable to substance use and dependence. Studies have found nearly half of university students in East Africa use substances. This study focused on better understanding the student perspective of why students at UCU decide to use alcohol or drugs, and what might be a way to prevent or address substance use on campus. Methods: This qualitative component of a larger mixed-methods study used focus group discussions to explore students' perspectives on factors influencing substance use and potential prevention strategies at Uganda Christian University (UCU). The larger study employed a mixed-methods approach to complement quantitative findings with deeper insights into students' experiences, motivations, and suggested interventions.

Results: Several key themes emerged, providing a multifaceted view of the reasons university students believed they and fellow classmates used substances and how to address them. Overall, students felt substance use began primarily to improve academic performance, but academic performance was also most often cited as being negatively impacted. Several protective factors were identified, including UCUs culture and supportive community as well as students' faith and faith communities. When asked how to prevent and address substance use on the UCU campus, students most often highlighted the importance of peer support systems and social activities that did not involve alcohol. Discussion: Perspectives reflect the interaction of academic, social, and environmental pressures with influencing factors and proposed solutions generally consistent with findings from East Africa and other global studies. However, given the impact of faith practices, faith-based institutions have an important role to play in prevention and rehabilitation by creating safe, nonjudgmental spaces for young people to seek help.

Key words

Substance use; university students; Uganda; faith-based university; protective factors

Behaviour Change Leadership: A case of mindset change on Solid wastes sorting into separate colour coded bins for reuse and recycling

Asiimwe Joy Turyamwijuka

UCU-2026-P005 | Poster presentation | Technology, Innovation and Sustainable Communities

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Introduction

The menace of plastic wastes to the environment, the demand for recyclables and the need for organic wastes for manure requires sorting it carefully. However, communities in Uganda do not posses the habits of sorting. Unless they change their mindset from linear use of resource to adopt the circularity mindset, sorting will not be achieved. Al though Uganda banned the use of the 30micron plastic packing bag (kaveera) in 2019, enforcement failed. The study hypothesised that availability of sorting containers and awareness on plastic pollution leads to higher response of sorting plastic waste.

Methodology

A Quasi experimental study was undertaken at BBUC Campus. This involved 60 students from Social sciences department, and staff from Hygiene services WINTRUST. Participants were first sensitised about sorting wastes in 6 colour coded bins. The solid Bins were labelled accordingly in English and Local language. In 10 months, BBUC students were sensitised about sorting plastics from paper, organics, with observations and informal assessment conversations.

Results and findings

Sorting behaviour was done at the canteen only. With sorting bins occasionally found with mixed solid wastes. The online survey got 28 responses only, 71.4% used the bins correctly, 7.1 % indicated not keen to sort solid wastes, 21.4% said they sometimes sorted. Inadequacy of 6 colour coded bins in the various premises such as classroom area and residences was sighted as a sorting obstacle. The study findings agree that stages of adoption in diffusion theory of Everett Rogers has fast adopters and slow adopters, the hypothesis was nullified.

Conclusion

Consistent training and availing adequate sorting infrastructure should be backed by sanctions to impart behaviour change initiatives in communities.

Keywords: Behaviour Change, Urban Community, Solid Waste Management

Assessment of Ministries, Departments, and Agencies (MDAs) Performance on Care-Related Actions in Uganda Using the National Care Policy Scorecard

Mary Ssonko Nabacwa; Denis Onene; Kyagulanyi Ronald; Susan Acen; Rita Aciro

UCU-2026-P006 | Poster presentation | Business, Trade, Law and Economic Development

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Introduction

Although Uganda has made progress in recognising unpaid care and domestic work (UCDW) within national policies, less is known about how consistently these commitments are reflected in government spending, institutional practices and service delivery. This study assessed the performance of selected Ministries, Departments, and Agencies (MDAs) in implementing care-related policies and interventions using the National Care Policy Scorecard. Building on the 2023 baseline, the assessment examined progress up to 2026 across government institutions responsible for gender, labour, social protection, health, education, infrastructure, planning and statistics.

Methodology

The study adopted a mixed-methods, policy-oriented assessment design, combining quantitative scorecard assessments with qualitative inquiry. MDAs were selected based on their responsibilities for care-related policies, services and investments. Data were collected through document reviews, key informant interviews, focus group discussions and stakeholder consultations. Using the National Care Policy Scorecard, indicators covering policy adoption, financing, implementation and institutional accountability were rated on a three-point scale (0, 0.5 and 1), representing no, partial and full achievement. Indicator scores were aggregated and converted into percentages to assess performance across policy domains. Qualitative evidence was analysed thematically and compared with the scorecard findings to explain observed progress and implementation gaps.

Results

The findings indicate that Uganda has strengthened its policy and institutional framework for care, although progress in implementation varies across policy domains. Care Services recorded the highest score (72%), up from 40% in 2023, followed by Care-supporting Physical Infrastructure (60%) and Care-related Social Protection (56%). Lower scores were recorded for Measurement Frameworks and Time-use Data (42%) and Social Norms (35%). These percentages represent achievement against the assessed policy indicators and are used to gauge the extent to which care policies are transformative, rather than directly measuring changes in unpaid care burdens. Improvements were particularly evident in healthcare, early childhood development, water and sanitation, and social protection. However, inadequate financing, fragmented institutional coordination, weak enforcement, limited protection for paid care workers, insufficient technical capacity and persistent gender norms continue to hinder implementation. The findings reveal a continuing gap between policy commitments and the services and support available to caregivers.

Conclusion

The assessment shows that strengthening care-related policies is an important step, but greater attention is needed to ensure that these commitments are implemented and adequately financed. Institutionalising the National Care Policy Scorecard within government planning, budgeting and monitoring systems would help MDAs track their commitments, identify funding and implementation gaps, and improve accountability for results. Stronger coordination across institutions, regular collection of care-related data and sustained investment in public care services and infrastructure are also essential. These measures would help translate policy progress into practical improvements in the lives of caregivers and those who depend on their care.

Keywords: National Care Policy Scorecard; Unpaid Care and Domestic Work; Institutional Performance; Care Policy; Gender Equality; Uganda

Building Quantum Capacity Layer by Layer: A Component-Level Buildability Study for Quantum Hardware Development in Uganda

Robert Wanyama; on behalf of the UCU Quantum Computing Chapter

UCU-2026-P007 | Poster presentation | Others

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Introduction. No African country has yet built its own quantum computer, and hands-on quantum hardware capacity across the continent remains scarce. Students increasingly learn quantum theory and run programs on cloud processors hosted abroad, but rarely engage with the physical machine. This study by the Uganda Christian University (UCU) Quantum Computing Chapter addresses three research questions:

RQ1 How does each subsystem of a quantum computer work, and what does it require?

RQ2 Which subsystems can be built locally with present skills, materials and infrastructure?

RQ3 Where can local innovation reduce the cost or complexity of quantum hardware?

Methods. We are comparing five qubit technologies (superconducting circuits, trapped ions, neutral atoms, photonics and silicon spin qubits) to select a reference architecture. The team is then decomposing the architecture into its subsystems. Each subsystem will be modelled in 3D, studied in peer-led sessions, and scored for local buildability on four criteria: cost, materials, skills and infrastructure (Table 1).

Layer	Subsystems studied	Key local-buildability question
Quantum	Qubit chip or physical qubits	Can it be fabricated, or only modelled?
Environment	Cryostat, vacuum or optical table	What cooling, isolation or optics is required?
Control	Wiring, signal generation, readout	Can low-cost electronics replace commercial units?
Structure	Mounts, enclosures, shielding	Can parts be 3D-printed or machined locally?
Software	Compiler, control software, interface	Can open-source tools be adapted locally?

Table 1. Assessment framework: each layer is modelled in 3D and scored for cost, materials, skills and infrastructure.

Preliminary Findings. A review of published results shows that leading platforms now exceed 99.9% two-qubit gate fidelity, but depend on millikelvin cooling, ultra-high vacuum or advanced semiconductor fabrication not available locally. However, early assessment suggests that the structural, control, software and room-temperature optical layers may be within local reach. These are the most promising areas for student innovation, such as low-cost control hardware and 3D-printed components.

Conclusion and Expected Outputs. Rather than waiting for full-scale facilities, institutions can build quantum hardware capacity layer by layer. The study will produce (i) a complete 3D model of a quantum computer, (ii) a component-level buildability map, and (iii) a staged roadmap toward a first working Ugandan prototype. It also offers a replicable model for teaching quantum hardware and growing student research communities across Africa.

Keywords: quantum hardware; capacity building; 3D modelling; buildability assessment; student research; Africa

Guild Market: A Verified, Commission-Based Campus Marketplace for Student Entrepreneurship at Uganda Christian University

Jacob KARUGABA

UCU-2026-P008 | Poster presentation | Technology, Innovation and Sustainable Communities

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Introduction / Purpose

While primarily at university for academics, many students engage in small-scale commerce to supplement allowances and cover living expenses. However, Uganda Christian University students lack a trusted framework for these transactions, relying on fragmented social media groups where seller identity, payment safety, and delivery are unverified. This project designed an online campus marketplace to structure student entrepreneurship, providing a safe peer-to-peer commerce environment without disrupting academic focuses.

Methods

Using an iterative design-and-development approach, a web-based, online marketplace was built on the Base44 platform. The system caters specifically to student artisans, retailers, and service providers trading textbooks, electronics, apparel, and food. It integrates seller identity verification via student IDs, administrator approval, server-side price validation, escrow-style payment holding, row-level access controls, and a 5% commission calculated automatically per delivered order.

Results / Findings

Guild Market is live at guild-market.com, currently onboarding 18 registered student sellers, with 11 actively managing storefronts. The online platform allows verified sellers to list products free of charge. Student buyers browse listings, pay securely via mobile money, card, or pay-on-delivery, and track orders using GPS-assisted delivery data and an integrated AI order assistant.

Discussion / Conclusion

Guild Market demonstrates that a low-cost, online platform can institutionalize and secure student commerce without charging subscription fees. Future phases will integrate direct Mobile Money collection, automate seller payouts, and execute an access-control security audit. Gathering feedback during the upcoming campus pilot will help refine this replicable model for community innovation and student micro-entrepreneurship in African universities.

Keywords: campus marketplace, student entrepreneurship, mobile money, e-commerce, community engagement

Auto Swift: Leveraging Digital Innovation to Transform Roadside Assistance and Support Sustainable Mobility in Uganda

Trevor Ayeni

UCU-2026-P009 | Poster presentation | Technology, Innovation and Sustainable Communities

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Introduction/Purpose: Vehicle breakdowns can disrupt mobility, compromise motorists' safety, and create difficulties in accessing dependable mechanical and towing services. Auto Swift is a digital platform designed to connect stranded motorists with mechanics and towing service providers. This paper examines its value proposition as a technology-driven response to roadside assistance challenges and its potential to support digital entrepreneurship within Uganda's automotive sector.

Methods: The paper adopts a descriptive case-study approach, examining Auto Swift's platform model, service offering, target users, and potential commercial and community benefits. It considers how digital connectivity can facilitate interactions between motorists and roadside service providers. Further empirical research would be required to establish measurable impacts on response times, customer satisfaction, and business performance.

Results/Findings: Auto Swift provides a digital channel through which motorists can seek mechanical assistance and towing services. Its model offers the potential to improve service discoverability, connect service providers with prospective customers, and create opportunities for automotive service businesses to expand their reach. The platform also illustrates how locally developed technology can address practical mobility challenges while supporting entrepreneurship and digital economic participation. Quantitative evidence of its operational impact remains an area for further evaluation.

Discussion/Conclusion: Auto Swift demonstrates the potential of locally developed digital platforms to improve access to roadside assistance and contribute to innovation in Uganda's transport ecosystem. Realising this potential will depend on platform reliability, customer trust, service-provider participation, affordability, and a sustainable business model. The paper highlights the importance of strengthening local technology ventures as practical solutions to everyday challenges and as potential contributors to sustainable mobility and economic development.

Keywords: Digital innovation; roadside assistance; sustainable mobility; digital entrepreneurship; Uganda

Improving the Discoverability of Job Opportunities and Small Businesses Through a Digital Marketplace

Daniel Jiga Buyinza

UCU-2026-P010 | Poster presentation | Technology, Innovation and Sustainable Communities

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Introduction / Purpose

Access to job opportunities and business visibility remain important challenges for people seeking livelihoods and small businesses seeking customers. Young people looking for jobs and gigs may rely on personal referrals and chance to find opportunities. Tufike is a digital marketplace being developed to improve the discoverability of service providers, businesses, and opportunities. This paper presents the motivation, development, and early implementation of Tufike.

Methods

An exploratory, early-stage approach was used. Five young adults aged 25-30, recruited from the founder's friends and acquaintances, were engaged through interviews conducted in person or online. Interviews lasted approximately 15-20 minutes; responses were documented using worksheets or Google Forms. Informal conversations were also held with five business owners about their marketing practices and challenges. User testing involved participants creating accounts, profiles, and service listings on Tufike.

Results / Findings

The interviewed young adults described relying on friends and social media to find work and gigs, experiencing inconsistent work, and sometimes missing opportunities because potential clients were unaware of their skills or availability. Business owners described competing for visibility on social media and receiving unclear client requirements. Tufike has onboarded 15 providers. Users have generated profile views and followers, but no employment, completed-gig, or customer-acquisition outcomes have yet been confirmed. Some provider profiles remain incomplete.

Discussion / Conclusion

Early findings identify discoverability challenges among the participants and inform Tufike's ongoing development. The platform provides a mechanism for providers to present their skills and offerings, but its effectiveness in improving access to work and customers remains unestablished. Further evaluation should examine user engagement, opportunity matching, and actual employment and business outcomes. Findings are preliminary and cannot be generalised from this small, convenience-based sample.

Keywords: Digital marketplace, job discoverability, small businesses, technology and innovation, sustainable communities

Building Research Capacity for Technology and Innovation: A Sustainable Research Mentorship Framework for Uganda's Private Universities

Sylvia Nabasumba; Amaniyo Mercy; Martin Kiziito; Doreen Kukugiza; Robert Umarwoth

UCU-2026-P011 | Poster presentation | Faith, Education and Community Empowerment

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Introduction: As African universities respond to rapid technological change, artificial intelligence, data-driven research, and emerging innovation demands, institutional capacity to generate, apply, and communicate knowledge becomes increasingly important. Yet, many private universities in Uganda still face constraints on research productivity, including limited institutional research support, weak mentorship structures, and uneven opportunities for early-career researchers and postgraduate students. This study examines the current landscape of research mentorship in Uganda's private universities, its contribution to research productivity from a gender lens perspective, and the elements required for an effective and sustainable research mentorship framework.

Methods: The study adopts a mixed-methods approach combining descriptive cross-sectional and descriptive case-study designs. The study will sample approximately 300 faculty members and 300 postgraduate students from ten selected private universities using stratified and simple random sampling, and will purposively select key informants who will include directors of postgraduate schools, research coordinators and managers of mentorship programs. Research productivity will be measured by indicators such as number of publications, number of conferences attended, grants written, students supervised and books authored. The study will use a structured questionnaire to collect quantitative data and a semi-structured interview guide to generate qualitative data. Quantitative data will be analysed using descriptive and inferential statistics, while qualitative data from interviews will be analyzed thematically with the support of NVivo tool. The mentorship framework will be developed through participatory approaches with the relevant stakeholders.

Findings: The study is expected to identify mentorship practices associated with stronger research productivity, institutional and gender-related barriers to effective mentorship, and the critical elements required for a sustainable research mentorship framework. We anticipate that a sustainable research mentorship framework may involve multidimensional elements beyond a mentor and mentee to include institutional and community level elements.

Discussion: Strengthening research mentorship can build the human and institutional capabilities that universities need to generate, use, and communicate knowledge in an era of increasing technology and innovation. The mentorship framework output is expected to enhance universities' capacity to generate relevant knowledge, nurture researchers, build collaborative research cultures, and engage more effectively with emerging technological and societal challenges, while offering a potentially scalable model for similar African higher-education contexts.

Conclusion: The study is expected to generate a research mentorship frame work that will guide universities and policymakers in strengthening institutional research mentorship systems, building research capacity, and improving research productivity.

Keywords: Research mentorship; research productivity; innovation; capacity building; sustainable knowledge communities; private universities; Uganda

International Linkages, Financial Capacity and Green Upgrading: Firm-Level Evidence from Uganda

Henry Mugisha; Dan Ayebale (Kyambogo University)

UCU-2026-P012 | Poster presentation | Business, Trade, Law and Economic Development

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Green upgrading can help Ugandan firms improve resource efficiency, respond to changing environmental expectations and prepare for more sustainability-conscious markets, yet many operate with limited financial and technological resources. Prior studies suggest that exporting, foreign ownership and foreign technology can expose firms to environmental standards, knowledge and technologies, while financing constraints may limit investment in greener practices. Less clear, particularly in Sub-Saharan Africa, is whether these different international linkages are associated with green upgrading in similar ways and whether financial capacity conditions those relationships. This study examines these questions using data from 605 firms in the 2025 Uganda Enterprise Survey. International linkages are measured by export participation, foreign ownership and use of technology licensed from a foreign-owned company. Financial capacity is proxied by whether a firm has a loan or line of credit from a financial institution. Green upgrading comprises CO_2-emissions monitoring, energy management practices and on-site solar-energy use, with a 0-3 count capturing the breadth of adoption. Descriptive statistics and binary logistic regression examine individual practices, while Poisson regression with robust standard errors assesses green-upgrading breadth. Interaction terms test whether financial capacity conditions the relationship between each international linkage and green upgrading, controlling for firm size, age, sector and region. Initial findings show that 30.8% of firms monitor CO_2 emissions, 52.9% use energy-management practices and 12.1% use on-site solar energy. In the adjusted Poisson model, international linkages and their interactions with financial capacity are not statistically significant, whereas larger firms exhibit broader green upgrading (IRR = 1.17, $p < 0.001$). The findings caution against assuming that international exposure or conventional financial access alone is sufficient for environmental upgrading. Uganda may therefore need more targeted financial, trade and investment support to strengthen firms' capacity to adopt greener practices.

Keywords: international linkages; financial capacity; green upgrading; sustainable finance; international business; Uganda

Between Compliance and Care: Christian Stewardship in Sustainable Public Procurement

Pascal Muloosi

UCU-2026-P013 | Poster presentation | Business, Trade, Law and Economic Development

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Despite regulations intended to promote sustainable public procurement in public entities, its adoption remains uneven. Some procurement officers continue to rely on conventional purchasing practices because sustainable options may be perceived as costly, risky, technically difficult or administratively burdensome. Yet sustainable public procurement can use public purchasing power to support environmental protection, social inclusion and long-term economic value. Sustainable public procurement is therefore understood as the integration of environmental, social and economic considerations into procurement planning, specification, supplier selection, contract award and contract management. Regulatory compliance refers to adherence to the laws, procedures and accountability requirements that govern these processes. The study argues that regulation alone may not secure substantive adoption. It proposes Christian stewardship as a general ethical framework for public service through which procurement actors may approach sustainability requirements as responsibilities for the resources, communities and environmental consequences entrusted to them. Informed by Christian ideas of custodianship, care for creation, accountability and responsibility for future generations, stewardship may support procurement officers to exercise their discretion in ways that pursue public value. Public value refers to the collective environmental, social and economic benefits that public procurement should deliver for citizens and communities. The study is conceptual. It reviews peer-reviewed literature on sustainable public procurement, procurement regulation, public administration, stewardship and Christian ethics, together with relevant procurement policy sources. Institutional Theory is used to explain how regulation creates formal obligations and pressures for legitimacy, while Stewardship Theory explains how embracing an ethical orientation may influence the interpretation and application of those obligations. The theories are integrated to develop a conceptual framework linking sustainability regulation, stewardship orientation and substantive sustainable procurement adoption.

The paper contributes an ethical stewardship framework for procurement actors. It explains how stewardship may support responsible decisions on specifications, life-cycle considerations, supplier evaluation and contract management without weakening legal compliance, transparency or accountability.

Keywords: sustainable public procurement, Christian stewardship, regulatory compliance, public value, institutional theory, procurement ethics

Designing Research Participant Compensation Governance: A Decision-Support Framework for Low-Income Research Contexts

Osborn Ahimbisibwe; Kofi Sarpong Adu-Manu; Edward Kibikyo Mukooza; Dan Ayebale; Angella Napakol

UCU-2026-P014 | Poster presentation | Others

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Introduction / Purpose

Research governance systems in low-income settings must ensure fair participant compensation, yet existing guidance, including the UNCST guidelines (2025), offers principles without operational tools. Researchers and regulators therefore make inconsistent, poorly justified compensation decisions, leaving economically vulnerable participants under-compensated or excluded. This study designs and evaluates a Compensation Governance Decision-Support Framework (CGDF) for consistent, transparent, and locally calibrated compensation decisions.

Methods

The study follows Design Science Research, structured by Hevner's Three-Cycle View, which links field relevance, iterative design, and theoretical rigour, and by Action Design Research, which builds the framework with its users. Four kernel theories each shape the design: Social Exchange Theory frames compensation as fair reciprocity for participant burden; organisational justice theory guides fair outcomes and decision procedures; institutional theory aligns the framework with regulatory norms to support adoption; and the Dickert-Grady typology classifies compensation by purpose. Three co-design workshops will engage 17-23 participants: 6-8 multidisciplinary researchers and 11-15 regulators (8-10 members of three accredited ethics committees, 2-3 ethics administrators, and 1-2 UNCST officials). Evaluation follows the FEDS framework: expert panel review (10-14 reviewers), scenario testing on 8-10 protocols with inter-rater reliability (Cohen's Kappa), usability testing with 6-8 new users (System Usability Scale), and a field pilot with one accredited committee.

Results / Expected Outcomes

The principal output will be the CGDF, a six-component procedure: participant profiling, burden assessment, local economic calibration, compensation category determination, ethical risk assessment, and recommendation summary. Its central innovation is a Uganda-adapted Time-Inconvenience-Expense (TIE) formula anchored in the currency point (UGX 20,000). Expected gains are more consistent, transparent, and adequate compensation decisions.

Discussion / Conclusion

The CGDF reframes compensation as a governance design problem, giving researchers and regulators a shared, structured decision process. Its transferable design principles suit low-income settings lacking statutory minimum wages, and it can inform research ethics training and national policy.

Keywords: Research participant compensation, research governance, Design Science Research, decision-support framework, Time-Inconvenience-Expense formula, low-income research contexts

Digital and Paper-Based Infection Prevention and Control Accountability Checklists to Enhance Hand-Hygiene Compliance in Primary Health Care Settings

Primerose Nankabirwa

UCU-2026-P015 | Poster presentation | Health and Wellbeing

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Introduction

Infection Prevention and control (IPC) is essential for promoting patient safety and preventing the spread of infections within Primary Health Care (PHC) and hospital settings. Hand-hygiene remains the most effective IPC measure to prevent morbidity and mortality; however, compliance among nurses and community in high-volume units is often suboptimal due to cognitive load, reliance on memory, and lack of real-time accountability mechanisms. Observations in General hospital settings indicate that structured accountability systems where workers document consumables like gloves and medications significantly influence clinical behaviour. Embedding hand hygiene into routine nursing documentation through a standardised IPC checklist serves as a “mental trigger,” reinforcing the WHO “Five moments of hand-hygiene,” reduces forgetfulness, and promotes habit formation.

Objective

To assess the feasibility and potential effectiveness of integrating standardised hand-hygiene accountability checklists into routine nursing documentation to improve hand-hygiene compliance in primary healthcare settings.

Methods

By adapting the proven logic of consumable accountability to IPC practices, this intervention provides a structured mechanism to reinforce hand-hygiene. The integration of Rule-based prompts is expected to significantly reduce “omission bias” by serving as a cognitive reminder during high-volume shifts. Preliminary analysis of the proposed workflow suggests the system is feasible for resource-limited settings using shared mobile devices, potentially bridging the gap between clinical knowledge and routine practice adherence. Expected outcomes include improved behavioural consistency and a measurable increase in documented IPC compliance which strengthens IPC integration within routine PHC service delivery systems.

Results

The proposed intervention is expected to improve the completeness and consistency of hand-hygiene documentation by integrating standardised accountability fields into routine nursing treatment records alongside treatment details, dates, times, and nurse identification. This will make hand-hygiene accountability a visible component of routine patient care.

The checklist is designed for integration into existing digital hospital information systems and paper-based treatment charts. By prompting nurses to consider hand hygiene during clinical activities, it may reinforce awareness of hand-hygiene opportunities and reduce documentation omissions.

Pre- and post-implementation comparisons will assess changes in documented compliance and, where direct observation is conducted, actual hand-hygiene practice. The findings will establish the feasibility of integrating the checklist into routine nursing documentation and provide preliminary evidence of its potential to strengthen infection prevention and control accountability.

Conclusion

Embedding IPC accountability into digital and paper-based documentation systems transforms hand-hygiene from a passive expectation into a measurable clinical action. This approach demonstrates how simple digital and paper-based accountability checklists can transform service delivery by embedding accountability and real-time decision support into routine nursing practice. By leveraging simple yet intelligent mental triggers, this intervention supports infection control efforts and contributes to the achievement of infection Prevention and Control in health care settings through improved healthcare and patient protection.

Keywords: Hand-Hygiene, Digital-health, IPC, Accountability Checklists, PHC

Cross-Domain Personal Development and Self-Perceived Leadership Effectiveness: An Exploratory Study

Rebekah Mugenyi

UCU-2026-P016 | Poster presentation | Business, Trade, Law and Economic Development

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Introduction / Purpose

Leadership development programmes mostly emphasise domain-specific competence, yet leaders work in “wicked” environments where problems are unfamiliar and feedback is unclear. This exploratory study asks whether personal development in fields outside a leader’s primary domain is associated with leadership effectiveness, defined here as leaders’ own perception of their effectiveness and of how their background shaped their leadership. It also examines five proposed mechanisms: adaptability, creativity, emotional intelligence, confidence and resilience, and systems thinking.

Methods

The study combines a literature review of specialisation versus generalism, illustrative case studies, and an experimental online survey of 42 leaders. Three well-documented cross-domain leaders (Demis Hassabis, Jack Conte and Mae Jemison) were purposively chosen to illustrate how sustained achievement in one field can coexist with serious pursuit of another. They were not selected as a representative sample. Each case was examined against the same questions: what the person’s primary field was, what they pursued outside it, and how the two appear to connect in their leadership. Survey respondents were recruited through the researcher’s personal contacts, making this a convenience sample, and came from technology, healthcare, education, law, agriculture and the nonprofit sector, with leadership experience from under one year to over twelve. An “outside interest” was defined as any pursuit not directly within the respondent’s field of study. Leadership effectiveness was measured by self-report only.

Results / Findings

Of the 42 respondents, 25 (59.5%) described themselves as balanced generalists, keeping depth in their field while pursuing unrelated interests. Thirty-four (81.0%) agreed or strongly agreed that their diverse background shaped their leadership style. The most common outside domains were business/entrepreneurship (15; 35.7%), music (10; 23.8%) and the humanities (10; 23.8%). Respondents’ accounts linked outside pursuits to empathy, creativity, discipline and the ability to connect ideas across sectors. The cases showed similar cross-domain integration.

Discussion / Conclusion

The findings suggest that time spent outside one’s field is associated with adaptive and relational capacity rather than diluted expertise, though causation cannot be inferred. This was an experimental, small-scale survey. It relies on self-report, uses a small, non-random sample recruited through personal contacts, and is open to self-selection bias. The three cases are prominent successes and may reflect survivorship bias, since cross-domain leaders who struggled are absent. Results are therefore exploratory and not generalisable. The aim is to run the survey with a much larger and more varied sample, ideally adding follower or peer ratings or a validated leadership scale. For universities and organisations, the findings point to leadership development that values breadth alongside depth.

Keywords: leadership development, cross-domain learning, generalism, personal development, adaptability, higher education

Effect of Banana and Pumpkin Processing Treatments on the Consumer Acceptability and Physical Properties of Composite Bread

Edirisa Mugampoza; Stephen Opiyo; Martin Mutambuka; Elizabeth Kizito

UCU-2026-P017 | Poster presentation | Food, Water and Energy

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Introduction

Composite flour technology, involving the partial or complete replacement of wheat flour in bread-making, offers a sustainable strategy to reduce dependence on imported wheat in non-wheat-producing countries. However, incorporating non-wheat ingredients often compromises bread quality. This study investigated the interactive effects of banana and pumpkin treatments (fresh, oven-dried, pasteurized, and freeze-dried) and pumpkin variety (Local and Hybrid) on the consumer acceptability and physical properties of composite bread.

Methodology

A full factorial design (4 × 4 × 2) with 32 treatment combinations and a control was employed. Composite bread was baked using the straight dough method with 20% replacement of wheat flour (10% banana and 10% pumpkin). Bread physical properties were determined using a Texture Analyser, and consumer acceptability was assessed using a 9-point hedonic scale. Data were analyzed using three-way ANOVA, Principal Component Analysis (PCA), and Cluster Analysis (CA).

Results

All main effects, banana treatment ($F = 624.451$, $p < 0.001$), pumpkin treatment ($F = 1428.196$, $p < 0.001$), and pumpkin variety ($F = 25.741$, $p < 0.001$), significantly influenced specific volume. All two-way and three-way interaction effects were also significant ($p < 0.001$), indicating that the impact of one processing method depends on the others. The highest specific volume (4.93 cm^3/g) and lowest firmness (1.67 N) were achieved with fresh banana and fresh pumpkin treatments. The control bread exhibited a specific volume of 3.91 cm^3/g and firmness of 1.84 N. Pasteurization gave the most consumer-acceptable bread. PCA revealed that specific volume, firmness, and springiness were the dominant quality attributes, while CA grouped the 32 treatments into four distinct quality clusters.

Conclusion

The use of fresh hybrid pumpkin improved the specific volume and firmness of the banana-wheat composite bread. Further research is needed to maximize consumer acceptability and volume while minimizing firmness.

Keywords: Composite bread; Banana; Pumpkin; Processing treatments; Specific volume; Consumer acceptability; PCA; Cluster analysis

Towards an operational framework for enhancing the influence of evaluation on the performance of university employees: A case of Uganda Christian University

Martin Kizito

UCU-2026-P018 | Poster presentation | Business, Trade, Law and Economic Development

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Introduction: This project proposes an operational framework by assessing the effectiveness of the existing performance evaluation process, and drawing from findings to inform its improvement.

Methodology: Its methodology follows a descriptive and explanatory research design to capture the current state of performance evaluation, while also determining its impact on employee productivity. A sequential mixed-method research approach will be adopted where a stratified random sampling technique will be used to categorize respondents within each stratum. Primary data will be collected through structured questionnaires, designed to capture quantifiable insights from a sample of 180 out of 327 full-time staff, on performance evaluation practices and their effectiveness. Stakeholder categories for the sample will include: the evaluated full- time staff, supervisors who conduct the performance evaluation, the staff of the Human Resources Directorate who oversee the implementation and the Performance evaluation committee. In addition, benchmarking data will be collected from the Aga Khan University, a university with large scale performance evaluation system operating across academic and non-academic staff in the context of Uganda. The data will capture specific aspects including; Perceptions of the effectivess of the evaluation process (inputs, activities, and outputs) on the performance of employees. The questionnaire will consist of close-ended questions (using a Likert scale) for a quantitative analysis. For analysis, SPSS software will be used, while Atlas ti will be used to analyse the qualitative data, and interpret it to determine the impact of performance evaluation on employee performance.

Outcome: An innovative framework will be developed informed by the data collected from exploring the contextual influences, stakeholder experiences, and benchmarking against best practices, to refine the UCU reward system

Conclusion: The study is significant as evidence dawn will contribute as a catalyst towards the realisation of the current UCU strategic plan, to foster a culture of excellence, and institutional performance at Uganda Christian University

Keywords: Evaluation influence, Performance management, Higher education

A Resource-Efficient Hybrid Edge-Cloud Architecture for Reliable Building Energy Monitoring and Analytics under Intermittent Connectivity

Terhemba Michael Ahile

UCU-2026-P019 | Poster presentation | Technology, Innovation and Sustainable Communities

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Internet of Things (IoT)-enabled smart metering provides high-resolution electricity measurements to monitor and manage energy use in institutional buildings. However, cloud-centric monitoring systems depend on reliable network connectivity, which can be problematic in resource-constrained environments. Communication interruptions, delayed transmissions, missing records, duplicated observations, and incorrect temporal ordering can compromise data availability and the reliability of subsequent energy analytics. Although edge computing offers opportunities for local processing and resilient data management, empirical evaluation is needed to determine the appropriate distribution of energy-monitoring functions between edge devices and cloud infrastructure.

This study will adopt a Design Science Research approach, supported by controlled experimental evaluation, to develop and assess a resource-efficient hybrid edge-cloud architecture for energy monitoring. A Raspberry Pi-based gateway will be used as the edge-computing testbed, with measured or replayed smart-meter data subjected to controlled communication disturbances, including delays, packet loss, duplicated and out-of-order records, and connectivity interruptions. A comparative experimental design will evaluate three configurations: cloud-only processing, edge-assisted processing, and intelligent hybrid edge-cloud processing. Performance will be assessed using data completeness, temporal integrity, analytical accuracy, communication overhead, processing latency, CPU and memory utilisation, and recovery performance. The experimental results will be analysed comparatively to establish the trade-offs between reliability, analytical performance, and computational cost under different connectivity conditions.

The study is expected to establish the relative performance of the three configurations under varying connectivity conditions. It will assess how edge processing and synchronisation affect data reliability, analytical accuracy, resource consumption, and recovery after network interruptions. The effects of temporal disturbances on phase-loading and imbalance estimates will also be examined.

The study will contribute an empirically evaluated architecture and task-partitioning approach for resilient, resource-efficient building energy monitoring. Its findings will inform the deployment of IoT-based energy-management systems in resource-constrained environments where connectivity, computational capacity, and operational continuity are critical.

Keywords: Internet of Things (IoT), Edge Computing, Cloud Computing, Building Energy Monitoring, Intermittent Connectivity, Resource Constrained Context, Data Integrity.

Utilising Internet of Things, Artificial Intelligence, and Gamification to Improve Energy Efficiency in Shared Spaces and Halls of Residence

Terhemba Michael Ahile

UCU-2026-P020 | Poster presentation | Technology, Innovation and Sustainable Communities

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Energy inefficiency in shared institutional and residential spaces presents both technological and behavioural challenges. Although smart metering enables detailed electricity monitoring, data alone may not translate into actionable insights or sustained energy-saving behaviour. This study aims to develop and evaluate an integrated framework combining the Internet of Things (IoT), artificial intelligence (AI), and gamification to improve energy efficiency at Uganda Christian University. The study will adopt a mixed-methods research design integrating Design Science Research, quantitative energy analysis, and participant-based behavioural evaluation across five Uganda Christian University buildings. The technical component will involve the design and experimental evaluation of a hybrid edge-cloud IoT architecture using smart meters and Raspberry Pi gateways. The intelligence component will apply time-series analysis and ML methods for consumption profiling, anomaly detection, and forecasting. The behavioural component will use gamification and participant-based data collection to examine engagement, energy awareness, and behavioural responses. Quantitative evaluation will integrate performance indicators, while participant data will be analysed to assess behavioural outcomes.

The project is expected to produce an integrated IoT-AI-gamification framework for monitoring, analysing, and improving electricity use in shared institutional and residential environments. Anticipated outputs include consumption profiles, anomaly detection, demand forecasts, and comparative building-performance insights. Evaluation will assess technical reliability, user engagement, behavioural changes, and potential energy savings. Actual outcomes will be established through empirical measurements.

The project is expected to demonstrate how IoT infrastructure, AI-driven energy analytics, and gamification can be integrated into a unified, people-centred approach to energy management in shared spaces. Integrating these insights with gamified interventions will enable the evaluation of how digital energy information may influence user engagement and energy-related behaviour. The project is expected to contribute design and evaluation insights for scalable energy-management solutions in similar environments, while identifying the technical and behavioural conditions that may support sustained energy efficiency.

Keywords: Energy Efficiency, Internet of Things, Artificial Intelligence, Gamification, Building Energy Management, Energy Literacy

Market Acceptability and Sensory Attributes of Selected Solanum aethiopicum Gilo Candidate Lines in Uganda

Brenda Nakyewa; Martin Mutambuka; Ronald Mupuya; Newton Kucel; Elizabeth Balyejusa Kizito

UCU-2026-P021 | Poster presentation | Food, Water and Energy

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

African indigenous vegetables contribute significantly to food and nutrition security, income generation, and agricultural diversification in Uganda. Solanum aethiopicum Gilo, commonly known as African eggplant, is increasingly traded in domestic markets and has potential for commercialization. However, limited understanding of consumer preferences, trader requirements, and sensory characteristics may constrain the adoption and market success of improved Gilo varieties. This study therefore aims to evaluate the market demand, trader preferences, sensory attributes, and consumer acceptability of ten S. aethiopicum Gilo candidate lines developed by Uganda Christian University.

A mixed-methods approach will be used to collect data from traders and consumers in selected markets across Mukono, Buikwe, and Kayunga. Traders will evaluate physical attributes including fruit size, colour, hardness, shape, smoothness, succulence, and overall acceptability using a tricot approach. Consumer sensory evaluation will assess fresh, chopped, and steamed fruits based on appearance, colour, aroma, taste, texture, mouthfeel, freshness, and overall acceptability using a nine-point hedonic scale. Structured questionnaires will assess consumer purchasing behavior and market demand, while focus group discussions will explore reasons underlying varietal preferences. Conjoint and regression analyses will assess consumer preferences and demand, while descriptive statistics and ANOVA will be used to compare evaluations across candidate lines.

Evaluating market demand, trader preferences, and consumer sensory acceptability will provide evidence to guide the selection of promising Solanum aethiopicum Gilo candidate lines. Aligning varietal development with end-user preferences can support potential variety release, commercialization, and improved market opportunities for farmers and value chain actors in Uganda.

Keywords: Solanum aethiopicum Gilo; consumer preferences; trader preferences; sensory evaluation; market demand

Influence of Marital Breakdown on Family Business Continuity in Uganda

Dickson Tumuramye

UCU-2026-P022 | Poster presentation | Business, Trade, Law and Economic Development

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Introduction/Purpose

Family businesses are central to private enterprise, employment, innovation, GDP, and economic stability in Uganda, yet little is known about how marital breakdown, particularly separation and divorce, affects their continuity. This study examines how separated and divorced family business owners navigate business continuity after marital breakdown. Marriage is conceptualised as any union recognised under Ugandan law: civil, religious (Christian, Islamic or Hindu) or customary, not one type of marriage. Continuity is the business surviving under the ownership or control of either former spouse, or their family, at least two years after the disruption. The study is grounded in family systems theory (FST).

Methodology

Situated within an interpretivist paradigm, the study will employ a qualitative phenomenological design. Data will be generated through in-depth, semi-structured interviews, held separately, using a purposive and snowball sampling strategy, where participants with direct, information-rich experiences of both marital disruption and family business operations are identified in Kampala, Wakiso, and Mukono, and whose disruption began at least two years after business inception. Data will be analysed using Colaizzi's phenomenological method, supported by NVivo, to illuminate the meanings and shared experiential dimensions of sustaining a family business.

Results/findings

The anticipated findings will illuminate how marital disruption reshapes the management and continuity of family enterprises, including coping mechanisms, communication strategies, relational adjustments, and pressures of shared business ownership. The study is expected to reveal how couples negotiate the overlapping demands of their personal and business lives during marital disruption.

Discussion/Conclusion

The study will extend FST into the underexplored context of divorce and separation within family enterprises in a developing economy. The findings are expected to provide evidence-based insights for governance reform and policy frameworks aimed at sustaining family businesses during familial disruption.

Keywords: Marital breakdown, family business continuity, Uganda

Holistic Transformation in the Church of Uganda: Local Congregations Navigating Faith, Praxis and Resource Constraints

Denis Onzima Ruhama

UCU-2026-P023 | Poster presentation | Faith, Education and Community Empowerment

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Local Congregations in the Church of Uganda struggle to promote holistic transformation in their communities. Holistic transformation leads to sustainable change of the whole person spiritually, physically emotionally and economically. Meaning congregations by their very nature, are to espouse ministries that are holistic/integral. With the focus on spiritual aspect of humanity, it is not clear how local congregations are promoting holistic transformation amidst the challenges. The intention of the study was to explore how local Church of Uganda congregations have holistically transformed communities.

This qualitative study adopted multiple case study to gain insights into the holistic transformation praxis in the Church of Uganda. A total of 60 participants (members of synods, clergy and laity were purposively identified from the dioceses of Kampala, West Ankole and Madi West Nile. Semi-structured interviews guided focused group discussions and review of church documents were employed to collect data. Michael Cowan's 2000 LIM Model (practice-theory-practice) guided the study. The study involved three steps. First, understanding the real situation on ground through collection of data from participants. Secondly, Comparing the real situation with the traditions of faith. And finally, making recommendations to improve situation for the better.

Local congregations have holistic transformation, despite challenges. The congregation teach Christians to embrace education and engage in income generating ventures, provide skills training and partners with local governments. Other congregations provided school fees, basic needs, and promoted voluntary saving and loan activities, especially among women. Members have owned these activities part of their faith practice.

Congregational holistic transformation initiatives promote effective member participation as they touch all aspects. Most importantly, local initiatives have more meaning as people learn to transform within. Congregational holistic transformation is therefore more viable strategy to transform communities than depending on donor driven initiatives which perpetuates dependency.

Keywords: Holistic Transformation, Church of Uganda congregations, Resource constraints

Nature of gene action involved in resistance of Uganda's cowpea germplasm to aphids

Ronald Kityo; Alfred Ozimati; Isaac O. Dramadri; Patrick Obia Ongom; Jeninah Karungi

UCU-2026-P024 | Poster presentation | Food, Water and Energy

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Crop losses in African countries due to insect pests are estimated at 49% of the expected total crop yield each year. In cowpea, losses in grain and foliage attributed to field pests ranges from 20% to almost 100% including aphids. Insecticide use for aphid control has been the most common strategy but has been recorded to have serious public health concerns and ecological backlashes. Host plant resistance which is now the most sustainable alternative for management of aphids in cowpea fields requires a detailed understanding and knowledge of gene action involved in the resistance of cowpea to aphids. The objective of this study was to determine the nature of gene action involved in the resistance of cowpea to aphids in Uganda. Six (6) parental genotypes were cross pollinated by hand in March 2021 to generate F1 progenies which were advanced to F2. The F2 progenies together with parental genotypes were evaluated in Kabanyolo and Serere in a completely randomized block design for aphid resistance. Data were imported into the Analysis of Genetic Designs with R for windows (AGD-R) software to extract genetic components and heritability values. Results revealed high heritability values for resistance of cowpea to aphids in Uganda, indicating that the trait is controlled multiple genes. The study revealed significant ($P \leq 0.001$) general combining ability (GCA) effects and specific combining ability (SCA) effects for resistance of cowpea to aphid infestation. The presence of phenotypic differences among cowpea genotypes in both parents and segregating F2 generations for resistance of cowpea to aphids revealed in this study is important for selection of best parents and crosses for advancing into varieties or further breeding. Conclusively, aphid resistance in cowpea is highly heritable, being controlled by several genes, involving both additive and non-additive genetic effects, with predominance of additive gene effects.

Keywords: Aphis craccivora, Vigna unguiculata, heritability, gene effects, Uganda

Evaluating the Scope: The Extent and Frequency of YouTube Utilization as a Supplementary Educational Resource Among Undergraduate Students.

Emmanuel Eilu; Annet Mukoya; Richard Odoki

UCU-2026-P025 | Poster presentation | Faith, Education and Community Empowerment

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Introduction/Purpose

Besides the traditional digital learning systems alike the learning management systems, video-sharing platforms such as YouTube have presented students with informal and supplementary learning environments, providing on-demand access to instructional explanations, demonstrations, tutorials, and other educational content (Alvarez-Alvarez & Ruthven, 2024; Pires et al., 2022). YouTube provides multimedia format that allows scientific information to be presented through combinations of narration, visuals, demonstrations, animation, and on-screen text. These formats may be particularly relevant to science learning because they can give students alternative ways to access explanations and observe processes that may be difficult to represent through text alone (Beautemps & Bresges, 2021).

Undergraduate students increasingly rely on YouTube as an informal educational repository to clarify complex course concepts. While casual use is high, the exact duration, frequency, and scope of academic utilization remain unquantified in many institutional settings. Investigating the frequency of YouTube utilization by undergraduate students as an informal, supplementary tool for academic studies and learning support will highlight the critical necessity of integrating YouTube into the educational process. Without empirical data on the extent of this digital habit, institutions cannot effectively curate resources, address credibility concerns, or optimize hybrid learning frameworks.

Main Objective

To evaluate the frequency of YouTube utilization by undergraduate students as an informal, supplementary tool for academic studies and learning support.

Specific Objectives

To establish data consumption and screen time patterns

To determine how frequently undergraduate students access YouTube for academic or course-related purposes.

To identify the specific types of educational content students look for on YouTube

Methodology

The study undertook a quantitative survey involving 100 students from the departments of Computing and Technology, Business, Social Science and Education at Uganda Christian University Mbale University College. A Likert scale questionnaire was used to investigate how frequently undergraduate students access YouTube for academic or course-related purposes, and identify the specific types of educational content and subjects' students look for on YouTube. Data was cleaned for errors and ended into SPSS. Descriptive statistics was used to generate various statistical results as presented below.

Results

Data and Time usage

The study found out that 60% of the students used a minimum of 1GB of personal data per day. The study also revealed that 60% of the student spent a minimum of 3 hours on social media per day, while 83.5% spent a minimum of 2 hours on social media per day. About 74% acknowledged that they spent a minimum of 2 hour on online entertainment sites only. The study also revealed that 60% of the students spent an average of 3 hours on online learning per day, while 94% of the students spent an average of 2 hours on online learning per day

The study further found out that 65% of the data is used for learning and research, while 35% of the data is used on social media and entertainment

Frequency of YouTube usage

The study showed that 44% of the student often visited academic learning channels on You Tube, 36% often downloaded academic learning videos from You Tube.

Purpose of YouTube Usage

Major Activities

When the students were asked the kind of activities they majorly engage in when using you tube, 63% said for academic purposes, 26% said for academic purposes and 11% said for social interaction

Academic Activities

While 73.5% acknowledged the contribution of You Tube to their learning, only about 49% of the students often visited You Tube to gain more understanding and clarity on what has already been taught by the lecturer, 51% often visited you tube to gather relevant information about an exercise/assignment given by the lecturer.

Conclusion

Learning drives the majority of data consumption: Even though students spend significant daily hours on leisure activities, 65% of their total data is dedicated to learning and research.

High participation in digital learning: Online learning is a near-universal daily habit, with 94% of students averaging at least 2 hours of online learning per day, and a strong majority (60%) extending that to 3 hours.

High Active Engagement: Nearly half of the students (44%) treat YouTube as an active learning platform (engaging with academic learning channels on You Tube)

Offline Study Preference: Over a third of students (36%) choose to download videos, indicating a need for offline access, likely due to data costs, internet connection limits, or study flexibility.

While a strong majority (73.5%) value YouTube as a learning tool, Students are slightly more inclined to use YouTube for immediate, task-oriented goals (51% for assignments/exercises) rather than for general review or deep understanding of lecture material (49%).

The data indicates that classroom lectures alone do not completely cover students' academic needs, leading roughly half of the student body to seek out secondary visual or explanatory resources to clarify concepts or complete their coursework.

Keywords: YouTube Utilization, Frequency, Students

The Blind Trust Effect: Evaluating the Extent of Generative AI Usage Among University Students

Emmanuel Eilu; Joseph Mutemere; Chebijira Justine; Dorothy Amony

UCU-2026-P026 | Poster presentation | Faith, Education and Community Empowerment

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Introduction/Purpose

‘’Blind Trust’’ is accepting AI generated outputs without scrutiny or verification, yet research has shown that several AI systems generate inaccurate information, misleading sources, or factual errors (Spearing et al., 2025). Over reliance on AI generated information without verification is a growing concern and a great threat to academic integrity and research credibility. A study conducted by Deutsche Welle found out that that 45% of chatbot responses contained major errors. Another similar study conducted by British Broadcasting Co-operation (BBC) in 2025 the study found that more than 50% all AI answers it checked had significant issues (Sullivan, 2025). Uncritical acceptance of AI generated information poses significant risks across various domains in the academic sector and therefore warrants deeper exploration (Abuzar et all (2025).

While much of the existing research has highlighted AI’s usability and benefits in education, it has largely overlooked the risks associated with students’ blind trust in AI. There is insufficient evidence on how frequently users verify the accuracy of AI-generated content (Abuzar et al 2025; AllahRakha, 2026). Therefore, there is a limited empirical understanding of how deep this blind trust extends across different academic disciplines

Main Objective

To evaluate the extent of generative AI usage among university students while measuring the level of trust students place in AI-generated outputs

Specific Objectives

To assess the frequency and patterns of generative AI usage among university students across different academic tasks.

To measure the level of trust students place in AI-generated outputs.

To identify the key drivers of uncritical reliance or "blind trust" in generative AI tools among university students.

Methodology

The study undertook a quantitative survey involving 162 students from the departments of Computing and Technology, Business, Social Science and Education at Uganda Christian University Mbale University College. To evaluate the extent of generative AI usage among university students while measuring the level of trust students place in AI-generated outputs, a scaled questionnaire was designed and distributed among student respondents. A total of 162 students out of 200 that were contacted fully responded (indicating 81% response rate). Data was cleaned for errors and ended into SPSS. Descriptive statistics was used to generate various statistical results as presented below.

Results

Frequency of generative AI use

61% of the students often use Artificial Intelligence tools like Chapt GPT, Google Gemini, Copilot etc for academic work, 37% rarely use generative AI

64% ChatGPT was the most widely used by the students (64%), followed by Google Gemini (20%).

52% Receive guidance from your lecturers on how to ethically use AI in assignments

Trust Levels

Overall trust level= 89%

Overall trust level without verification 58%

Conclusion

Mainstream integration: A clear majority of students (61%) actively use generative AI for academic work.

Platform preference: ChatGPT is the dominant tool of choice among the student population.

Primary function: Students rely on these tools mostly for information retrieval rather than complex creative or problem-solving tasks.

Vulnerability to misinformation: With a 31-percentage-point drop in trust when verification is mentioned (89% vs. 58%), many students are accepting unverified AI output at face value.

Critical thinking hazard: Uncritical acceptance driven by time-saving motives increases the risk of academic dishonesty, blind trust in hallucinations, and a decline in independent research skills.

Keywords: Generative AI, Blind Trust Effect, Students

Religiosity and Family Planning Knowledge, Attitudes and Practices among University students in Uganda: A Scoping Review Protocol

Boniface Mutatina; Emmanuel Otieno; Elizabeth Ekong; Emmanuel Mukeshimana; Robert Basaza

UCU-2026-P027 | Poster presentation | Health and Wellbeing

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Introduction: University students constitute an important population for understanding family planning knowledge, attitudes and practices. No synthesis has systematically mapped how religiosity has been conceptualized and measured, which dimensions of religiosity have been examined, and how these dimensions relate to different family planning outcomes among university students in Uganda. This scoping review shall identify what has been studied, how religiosity has been conceptualised and measured, what religious beliefs and norms have been reported, and where important evidence and methodological gaps remain.

Objective: To identify, map and characterise the available evidence on the relationship between religiosity and family planning knowledge, attitudes and practices (KAP) among university students in Uganda.

Methods: The review will be conducted using the Arksey and O'Malley scoping review framework, with methodological refinements informed by the Joanna Briggs Institute guidance for scoping reviews. The review will be structured using the Population, Concept and Context framework and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews. Relevant peer-reviewed and grey literature will be identified through systematic searches of electronic databases, including PubMed/MEDLINE, Scopus, Web of Science, Google Scholar and relevant African or regional databases where accessible. Studies conducted in Uganda and addressing university or higher-education students, religiosity or religion, and family planning knowledge, attitudes or practices will be considered for inclusion. Two reviewers will independently screen titles, abstracts and full texts against predefined eligibility criteria. Data will be charted using a piloted extraction form capturing study characteristics, participant characteristics, conceptualisation and measurement of religiosity and family planning outcomes among others. Findings will be summarised using descriptive numerical analysis and narrative synthesis, with results presented in tables, figures and thematic categories. This review is registered with the International Platform of Registered Systematic Review and Meta-analysis Protocols (INPLASY202690065).

Keywords: Religiosity, Family Planning outcomes, KAP, protocol Scoping review, Uganda

Governance and User Experience in Online Learning Systems in Sub-Saharan Africa: Preliminary findings from a scoping review

Hamilton Mbokureeba

UCU-2026-P028 | Poster presentation | Faith, Education and Community Empowerment

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Introduction and Purpose

Since 2020, online learning in sub-Saharan African higher education institutions has grown rapidly. The literature appears largely split into two streams, governance (policy, regulation, oversight and accountability) and user experience of students, lecturers and administrators. This apparent separation, a preliminary observation and possible knowledge gap, motivates this review of how the two are conceptualised and empirically connected, within an ongoing doctoral study.

Methods

Completed: The review follows Joanna Briggs Institute (JBI) methodology and the PRISMA-ScR checklist, using Population, Concept and Context with governance and user experience equally weighted. Searching began with Google Scholar, supplemented by open web and backward and forward citation searches, for English-language peer-reviewed and named grey literature (2016-2026) on online, blended or hybrid tertiary learning in sub-Saharan Africa. One reviewer screened records on structured eligibility forms, endorsed by an experienced academic. Included studies were charted on a structured form and classified as governance, user experience or both, with no quality appraisal, consistent with JBI guidance. Planned: wider database searching and dual-reviewer screening checks.

Preliminary Results and Findings

Twenty-one studies from 15 sub-Saharan African countries were preliminarily eligible, nine from Uganda and South Africa. One addressed governance only and seven user experience only. The remaining thirteen addressed both, though usually treating one as background. Some studies explicitly connecting the two suggested associations between absent or unenforced policy and disengagement or inequitable access. For example, one Eswatini study attributed a programme's collapse to the absence of a remuneration policy for online teaching.

Discussion and Conclusion

These preliminary findings suggest governance arrangements may influence online learning experiences, yet the two appear rarely studied as an integrated phenomenon. Given the limited preliminary search, this apparent integration gap is not yet established, and the nature and extent of these relationships need a more comprehensive scoping review. The completed review will strengthen the evidence base for the study's empirical phase via a single-institution case study. More broadly, early evidence mapping will identify conceptual gaps and sharpen later research design. Beyond technology and user experience, governance conditions may shape online learning in sub-Saharan Africa.

Keywords: online learning; higher education; governance; user experience; sub-Saharan Africa; scoping review

From Economic Resources to Economic Transformation: A Conceptual Framework for Explaining Women’s Divergent Economic Outcomes

Simon Peter Turker Mukisa; I. W. Katono; R. Sebaggala

UCU-2026-P029 | Poster presentation | Business, Trade, Law and Economic Development

Wednesday-Friday, 4-6 November 2026 | Agape Square | Time to be confirmed

Introduction

Education, employment and income provide women with economic resources, yet their possession does not necessarily ensure asset accumulation, diversified income or lasting economic security. This raises a question: why might women with comparable resources experience different economic outcomes? Sen's Capability Approach and Kabeer's Empowerment Framework illuminate the importance of opportunities and agency, but further specification is needed of the relationships through which resources contribute to economic achievements. This paper develops a conceptual framework to examine these relationships, with particular reference to female primary school teachers in Uganda.

Methods

The paper adopts a purposive, theory-informed conceptual synthesis and model-development approach. Relevant scholarship is examined to identify definitions, explanatory contributions and limitations concerning resources, substantive capabilities, agency and achievements. The analysis compares these constructs, specifies their proposed relationships and examines how household, social and institutional conditions may influence them. Four theoretical propositions are subsequently formulated.

Results / Findings

The resulting framework conceptualizes women's economic transformation through four connected constructs: economic resources, substantive capabilities, economic agency and economic achievements. Three propositions specify the relationships between successive constructs, while a fourth identifies contextual conditions as potential moderators of these relationships. Economic achievements are reflected in productive asset accumulation, viable additional income sources and improved economic security. Their persistence, improvement or reversal provides a temporal basis for assessing sustained transformation.

Discussion / Conclusion

The framework distinguishes possessing economic resources from having feasible opportunities, exercising meaningful economic choices and realizing economic achievements. Its contribution lies in specifying these relationships and identifying where contextual constraints may interrupt economic advancement. It provides propositions for subsequent empirical investigation among female primary school teachers in Uganda, without presuming that the proposed relationships have already been established.

Keywords: Women's economic transformation; substantive capabilities; economic agency; economic achievements; female primary school teachers; Uganda

Assessing the availability, functionality, barriers, and facilitators of palliative care units in Ugandan hospitals and Health Center IVs

Mukooza Kibikyo Edward; Mwesigwa Donald Mark; Irumba Christina Lisa; Kirungi Gloria; Ahern Lacy N; Namisango Eve; Muwanga Moses; Zalwango Joyce; Sisk L.Mathew; Tumwakire Emire; Olaro Charles

UCU-2026-O001 | Oral presentation | Health and Wellbeing

Thursday, 5 November 2026 | M Block | Time to be confirmed

Background: Palliative care (PC) is an essential component of quality healthcare for patients and families affected by life-threatening illness. Despite its recognition as a basic human right, access to PC remains limited in many low- and middle-income countries. In Uganda, previous estimates suggested that only 11% of people in need accessed PC services and that that 4.8% of public hospitals provided such services. However, evidence on the availability and functionality of PC units and the barriers and facilitators to their establishment remains limited. This study assessed the availability and functionality of PC services and explored barriers and facilitators to their establishment in Ugandan health facilities.

Methods: A cross-sectional mixed-methods study was conducted using a census approach targeting 428 eligible health facilities, of which 398 were accessible and contacted, and 304 participated, yielding a response rate of 76.4%. Quantitative data were collected using a structured electronic questionnaire, while qualitative data were obtained through in-depth interviews with 24 purposively selected health facility in-charges. Descriptive statistics were used to summarise the availability and characteristics of PC services, while qualitative data were analysed thematically.

Results: A total of 304 health facilities participated in the study, comprising 48 hospitals and 256 Health Centre IVs (HC IVs). Overall, 34.9% of health facilities had some form of PC service. The most common model combined inpatient and outpatient services, particularly among public facilities in the Western and Central regions. All national referral hospitals and all but two regional referral hospitals, provided PC services. Of the 84 facilities providing PC services, 47 (56.0%) had all three essential components of a PC unit: a trained PC worker, oral morphine, and designated space. Fifty-three (63.1)of the 84 facilities providing PC services had a designated budget for PC. Key facilitators included health-worker commitment and motivation, supportive leadership, external partnerships, and availability of essential medicines. Major barriers were weak institutionalisation of PC, inadequate resources, staffing gaps, and limited financing.

Discussion: PC services were available in approximately one-third of surveyed facilities, but gaps in essential human resources, infrastructure, financing, and institutionalisation constrained the development of fully functional PC units.

Conclusion: Scaling up PC in Uganda will require stronger institutionalisation, sustainable financing, adequate staffing and infrastructure, reliable access to essential medicines, and supportive leadership.

Keywords: Palliative Care, Uganda, Availability, Barriers, Facilitators

ACADEMIC DEMANDS AND MENTAL WELL-BEING OF UPPER PRIMARY LEARNERS IN UGANDA: A STUDY OF GOVERNMENT AND PRIVATE SCHOOLS IN MUKONO MUNICIPALITY

Faith Mbabazi Musinguzi; Ellen Asiimwe; Denis Onzima Ruhama; John Semakula; Christabella Aceng; Kukunda Elizabeth Bacwayo

UCU-2026-O002 | Oral presentation | Health and Wellbeing

Thursday, 5 November 2026 | M Block | Time to be confirmed

This study investigated how academic expectations, prolonged study hours, and participation in co-curricular activities relate to the emotional, psychological, and social well-being of upper primary learners in government and private schools in Mukono Municipality, Uganda. An explanatory sequential mixed-methods design was employed. Quantitative data were collected from 232 Primary Six and Seven learners in four selected schools using structured questionnaires, while qualitative data were obtained from seven purposively selected teachers and school administrators through interviews. Learners were selected using stratified and simple random sampling procedures. Quantitative data were analysed using descriptive statistics and multiple linear regression in SPSS version 23, while qualitative data were analysed thematically. The regression model explained 24.4% of the variation in learners' mental well-being scores ($R^2 = .244$). Length of time spent on academic activities ($\beta = .219$, $p = .001$) and co-curricular activities ($\beta = .347$, $p < .001$) were statistically significant predictors of mental well-being scores. However, high academic expectations ($\beta = .101$, $p = .111$) were not statistically significant. The findings also indicated variations in the associations between academic demands and learners' emotional, psychological, and social well-being across government and private schools. Qualitative findings highlighted examination-related pressure, prolonged study schedules, fatigue, emotional distress, reduced concentration, and limited opportunities for rest and social interaction. The study concludes that the amount of time learners spend on academic activities and their participation in co-curricular activities are significantly associated with their mental well-being. These findings highlight the need for schools to balance academic demands with adequate opportunities for rest, recreation, and psychosocial support. Although the study was limited to four schools in Mukono Municipality, it provides useful insights for promoting school practices that support both academic achievement and the emotional, psychological, and social development of upper primary learners.

Keywords: Academic demands, mental well-being, upper primary learners, academic expectations, co-curricular activities, government and private schools, Uganda.

Changes in Breast Self-Examination Knowledge, Beliefs and Practices Following a Health Belief Model-Guided Digital Health Education Intervention Among Women at Uganda Christian University, Mukono

Faith Sebuliba

UCU-2026-O003 | Oral presentation | Health and Wellbeing

Thursday, 5 November 2026 | M Block | Time to be confirmed

Background: Breast cancer remains a major public health concern in Uganda, where limited breast-health knowledge and delayed recognition of breast changes may hinder timely clinical assessment. Although breast awareness and prompt help-seeking are important, routine breast self-examination (BSE) has not been shown to reduce breast cancer mortality. Evidence on theory-guided digital breast-health education in Ugandan universities remains limited.

Purpose: To assess changes in BSE knowledge, attitudes, Health Belief Model (HBM) constructs, self-efficacy, practice frequency and technique accuracy following a digital health education intervention among women at Uganda Christian University, Mukono, and explore its usability, acceptability and cultural relevance.

Methods: A single-group pretest-posttest mixed-methods design will recruit female students and staff aged 18 years and above through consecutive sampling. The five-month intervention will combine face-to-face education, breast-model demonstrations, web-based resources, USSD and SMS reminders. HBM constructs will guide educational content addressing perceived susceptibility, severity, benefits, barriers, cues to action and self-efficacy. In-person baseline and follow-up assessments will measure knowledge, attitudes, beliefs and reported BSE practices using structured questionnaires. Technique accuracy will be assessed using standardized breast-model checklists. Paired statistical tests will examine changes, while purposively selected participants will contribute to focus group discussions analyzed thematically.

Expected outcomes: Improvements in BSE knowledge, attitudes, HBM constructs, self-efficacy, practice frequency and demonstrated technique are anticipated. Findings will also provide insights into the usability, acceptability and cultural relevance of digital breast-health education. Technique accuracy will represent educational skill acquisition rather than screening effectiveness. Without a comparison group, observed changes cannot be attributed solely to the intervention. Findings may inform future controlled studies and accessible breast-health education programmes.

Keywords: Breast self-examination; Health Belief Model; Digital health education

The influence of conspiracist ideation on vaccine hesitancy in Uganda: Lessons from COVID-19 Vaccination

Kukunda Elizabeth Bacwayo; Richard Sebaggala; Emilly C. Maractho; Solomon Mwije; Mercy Amaniyo; Clare Cheromoi; Evas Kemigisha; Jacqueline Kobusingye

UCU-2026-O004 | Oral presentation | Health and Wellbeing

Thursday, 5 November 2026 | M Block | Time to be confirmed

Introduction / Purpose

The emergence of COVID-19 triggered a global health crisis and an "infodemic", characterized by misinformation and conspiracy theories that undermined public trust in scientific guidance regarding the virus's origins, severity, and vaccines. Driven by fear, intergroup tensions, and perceived loss of control, these included claims the virus was engineered, linked to 5G, or biologically targeted. This study investigated the prevalence and associated factors of COVID-19 vaccine conspiracy beliefs in Uganda, identifying key vulnerability determinants.

Methods

Data were collected from 1,201 respondents using a dual-mode sampling strategy-an online survey (convenience/snowball sampling) and in-person questionnaires during field visits to eight purposively selected districts. The survey instrument included a validated set of items with high internal consistency (Cronbach’s alpha = 0.89). Data was analysed using Analysis of Variance, contrast analysis, and multivariable regression to adjust for potential confounders.

Results / Findings

A high prevalence of conspiracist ideation was observed, with 56% of respondents categorised as holding ‘strong’ COVID-19-related conspiracy beliefs. A statistically significant association was found between the strength of these beliefs and vaccination likelihood ($\chi^2(3) = 117.65$, $p<0.001$). Among individuals unlikely to be vaccinated, 84.4% held strong conspiracy beliefs. Healthcare workers were the most trusted source of vaccine information (62.7%), whereas the government was one of the least trusted (24.0%). While men were more likely to endorse conspiracy theories (60.1% vs 52.1% of women), women who held these beliefs demonstrated a stronger translation from belief to vaccine refusal. These beliefs also significantly influenced parental opposition to paediatric vaccination.

Discussion / Conclusion

This study provides robust empirical evidence that conspiracy beliefs were a primary, statistically significant driver of COVID-19 vaccine hesitancy in Uganda. The findings underscore a critical deficit of trust in official institutions, which complicates state-led public health campaigns. To overcome this, communication strategies must be reoriented to empower trusted messengers, particularly healthcare workers, and to directly address the specific narratives fuelling hesitancy within the population.

Keywords: Pandemic, vaccination, conspiracy beliefs, global health, COVID-19, Uganda

Beyond Mental Illness: Mental Health and Well-Being Among Adolescents and Young Adults in Uganda-Evidence, Determinants, Gaps, and Priorities for Action

Godfrey MUGISA; Cosmas Goodluck; Michael Nangulu; Judith Nakyanzi; Isaaya Missinga; Francis Byaruhanga; Maiga Ayub Hussein

UCU-2026-O005 | Oral presentation | Health and Wellbeing

Thursday, 5 November 2026 | M Block | Time to be confirmed

Introduction: Uganda remains one of the world's most youthful nations, with a median age of 15.9 years, yet mental health and well-being among its adolescents and young adults remain fragmented across a growing, illness-focused evidence base. This narrative review synthesized evidence on the burden, determinants, help-seeking barriers, interventions, and evidence gaps affecting adolescents and young adults in Uganda, and identified priorities for strengthening mental health and well-being.

Methods: We conducted a structured, evidence-informed narrative review of Uganda-based literature published between January 2015 and August 2026. The thematic synthesis drew on 28 Uganda-based sources: 22 empirical studies, four intervention studies, one national meta-analysis, and one national census analysis. Literature was identified through PubMed/MEDLINE, publisher databases, and national policy repositories. Findings were synthesized across mental-health burden, determinants, help-seeking, interventions, and measurement gaps.

Results: Evidence indicated a substantial and heterogeneous mental health burden across population groups and settings. Depression prevalence varied by population, from 7.8-7.9% in the general population and some HIV-risk samples, through 14.0-21.5% among in-school versus out-of-school adolescents, 26.9-34.1% among university students and poverty/conflict-affected adolescents, to 56.0-67.6% among adolescent girls and young women at high HIV risk and refugee/displaced youth. Anxiety followed a similar trend, from 3.8% in the general population to 10.3-17.5% among in-school versus out-of-school adolescents and up to 26.1-27.5% among vocational-training and conflict-affected youth. Suicidal ideation ranged from 14 to 32% among school-going adolescents and university students, rising to 66.3% among displaced youth. Poverty, food insecurity, trauma, violence, school exclusion, and rising substance use recurred as determinants, while stigma, low mental health literacy, and mistrust of services persisted as durable help-seeking barriers across the decade. Randomized trials showed that tele-support psychotherapy, sport-for-protection, and school-based physical-activity and psychosocial interventions substantially improved engagement and symptoms, yet well-being and positive mental health remained almost entirely unmeasured, and no nationally representative, repeated-measures survey existed for this population.

Conclusion: Mental health challenges among adolescents and young adults in Uganda are substantial, heterogeneous, and shaped by social and structural conditions. Uganda should strengthen youth mental health surveillance, targeted prevention, and evidence-based interventions while integrating mental health into education and social protection. Measuring positive mental health and well-being can support a broader, prevention-focused approach beyond mental illness.

Keywords: adolescent mental health, youth well-being, Uganda, determinants, help-seeking, narrative review

EXPERIENCES OF PRESENTEEISM AMONG MIDDLE-LEVEL ADMINISTRATORS IN SELECTED UNIVERSITIES IN UGANDA

Faith Mbabazi Musinguzi; Dr. Henry Majwala; Dr. Mary O. Kagoire

UCU-2026-O006 | Oral presentation | Business, Trade, Law and Economic Development

Thursday, 5 November 2026 | M Block | Time to be confirmed

This study seeks to explore the lived experiences of presenteeism among middle-level administrators in selected Ugandan universities. Presenteeism is conceptualised as employees' physical attendance at work despite health-related or psychological challenges that compromise their ability to perform effectively. Although presenteeism has received increasing scholarly attention internationally, limited empirical evidence exists on how middle-level university administrators in Uganda experience and manage this phenomenon. Specifically, the study will explore the physical, behavioural and psychological manifestations of presenteeism, examine the personal and organisational factors influencing it, and investigate its perceived implications for employee well-being, productivity and service delivery. The study will adopt a qualitative phenomenological design, guided by the Job Demands-Resources Theory and Conservation of Resources Theory. It will be conducted in four purposively selected universities, comprising two public and two private institutions. Middle-level administrators with relevant experience of presenteeism will be purposively recruited, with participant numbers guided by the adequacy and richness of the information obtained. Data will be collected through in-depth interviews, supplemented by key informant interviews with relevant university personnel. Thematic analysis will focus on participants' lived experiences, meanings and interpretations. Ethical safeguards will include informed consent, confidentiality, anonymisation and voluntary participation. The study is expected to illuminate how workload demands, organisational expectations, health challenges, coping strategies and available support systems shape presenteeism. It will also explore perceived consequences for administrative effectiveness and service delivery. Findings are anticipated to contribute context-specific knowledge to human resource management scholarship and inform recommendations for supportive workplace policies, employee well- being, and sustainable institutional performance.

Keywords: Presenteeism, middle-level administrators, employee well-being, organisational support, productivity, universities, Uganda.

Financial Cooperatives and Social Enterprise Development: A Mechanism-Contingency Framework

Henry Mugisha; Michael Omeke (Kyambogo University)

UCU-2026-O007 | Oral presentation | Business, Trade, Law and Economic Development

Thursday, 5 November 2026 | M Block | Time to be confirmed

Hybrid-organising research explains how social enterprises manage social and commercial demands; cooperative-finance scholarship examines member ownership and intermediation; and relationship-lending research shows how repeated interaction improves borrower information. Yet these literatures do not fully explain how financial-cooperative attributes support social enterprise development or why similar cooperatives produce different outcomes. The theoretical problem is that shared social orientation is treated as evidence of compatibility, despite cooperatives' duty to protect member funds and control credit risk. This paper develops a mechanism-contingency framework through a purposive integrative synthesis of peer-reviewed research and selected institutional reports. We identified the literature through targeted keyword searches of publisher and institutional repositories and references cited in major reviews. We selected sources for their relevance to cooperative attributes, financing needs, relational information, support processes, outcomes, and boundary conditions. The evidence was organised around these categories to identify recurring relationships and explanatory limits. The central insight is that cooperative attributes are potential resources rather than direct causes of development. They operate through five connected mechanisms: mission-appropriate finance, capability development, network brokerage and market access, community-oriented investment, and advocacy and institutional mediation. Capability development can improve investment readiness; network access can strengthen revenue and repayment prospects; and institutional mediation can address constraints that finance alone cannot resolve. Their operation depends on governance competence, capital capacity, member participation, regulatory coherence, impact evidence, trust, digital inclusion and ecosystem partnerships. The framework extends institutional logics research from intra-organisational tensions to relationships between organisations managing social and financial demands. It positions relationship lending as one informational process within a broader support system and recognises trade-offs between flexibility and credit discipline, relational knowledge and favouritism, participation and capture, and digital reach and exclusion. The proposed relationships require empirical testing.

Keywords: financial cooperatives; social enterprise development; institutional logics; relationship lending; hybrid organising; mechanism-contingency framework

Skills Mismatch and Economic Transformation in Uganda: Aligning Business and Financial Competencies with Government Priority-Sector Value Chains

Eva Nalubowa

UCU-2026-O008 | Oral presentation | Business, Trade, Law and Economic Development

Thursday, 5 November 2026 | M Block | Time to be confirmed

Purpose

Uganda's ambition to transform its economy into a competitive upper-middle-income country by 2040 is underpinned by the Tenfold Growth Strategy, which focuses on the priority sectors of Agro-Industrialisation, Tourism Development, Mineral-Based Development, and Science, Technology and Innovation (ATMS) to drive economic transformation. However, the effectiveness of these interventions depends, in part, on the availability of appropriately skilled human capital. A persistent mismatch between skills supplied by education and training institutions and competencies demanded by employers may constrain business productivity, investment, and participation in value chains, while contributing to unemployment. This study examines the mismatch in business and financial competencies within the ATMS' value chains. It explores how demand-driven skills identification and enhancement can support education and training institutions to develop curricula that equip learners with competencies required to contribute to Uganda's economic transformation.

Methods

The study adopts a value-chain mapping approach to examine the ATMS and the business and financial functions required across their respective value chains. Stakeholder consultations with employers, enterprises, industry representatives, and relevant institutions will identify occupational requirements, emerging competencies, and gaps between available and demanded skills.

Findings

The study is expected to identify key areas of skills mismatch and emerging competencies required to support enterprise growth, formalization, financial management, investment, trade, and effective participation in value chains.

Conclusion

The study proposes a demand-driven approach to skills enhancement in which skills requirements are identified based on actual enterprise and value-chain needs rather than solely on existing occupational structures. This approach will strengthen the alignment of curricula with the evolving needs of employers and enterprises, thereby improving productivity and supporting the realization of Uganda's Tenfold Growth Strategy

Keywords: Business and financial competences, skills mismatch, value chain

WHO GETS THE LIGHT? DIGITAL FINANCIAL INCLUSION, GENDER AND OFF-GRID SOLAR ADOPTION IN RURAL UGANDA

Lorraine Akinyi Otieno

UCU-2026-O009 | Oral presentation | Business, Trade, Law and Economic Development

Thursday, 5 November 2026 | M Block | Time to be confirmed

Introduction

Energy poverty remains a persistent constraint on household welfare in rural Uganda, where grid extension is slow and costly and the rapid expansion of digital financial services has yet to translate into widespread energy access. Pay-as-you-go (PAYGo) solar has emerged as a potential response, but it is also a credit product delivered through mobile money, so eligibility and uptake depend on a household's position within the digital financial system.

While existing studies show that digital financial inclusion can improve household welfare and facilitate renewable energy adoption, limited evidence explains which dimensions of inclusion matter, and for whom. This gap is especially salient for rural women, who often bear the heaviest burden of energy poverty while holding weaker mobile-money histories and less effective control over assets, the very attributes providers use to assess eligibility. This study examines the association between digital financial inclusion and off-grid solar adoption in markets served by PAYGo providers, and whether that association differs by gender. Its strongest contribution lies in recognising that access to a mobile phone or mobile-money account does not automatically translate into effective financial agency or the capacity to acquire solar energy.

Methodology

Positioned within critical realism, the study forms the extensive, quantitative component of a wider programme of research and draws on Diffusion of Innovations theory and Transaction Cost Economics. It treats eligibility for digital credit as a mechanism through which financial inclusion may enable or constrain energy access, and uses a quantitative, explanatory survey design to identify the demi-regularities that indicate how, and for whom, this mechanism operates.

A probability sample of approximately 400 households in districts with active PAYGo markets will be surveyed, with female-headed households oversampled and the final size confirmed by a power analysis. Digital financial inclusion is operationalised as three distinct dimensions, access, usage and capability, rather than a single index. Solar ownership is the primary outcome, with PAYGo financing and intensity of use as secondary outcomes.

Gender is measured in two complementary but analytically distinct ways: (1) household headship and (2) women's actual decision-making power, captured through control over the phone, the mobile-money account and energy-purchase decisions. This distinction is maintained throughout the conceptual framework, measurement models and statistical analysis. PLS-SEM will validate the inclusion constructs; logit and probit models will estimate associations with solar adoption and test gender interactions for both headship and decision-making power. A complementary analysis of the Uganda National Panel Survey will add nationally representative evidence. Instrumental-variable estimates are reported only as sensitivity checks and are not presented as primary causal claims.

Expected Findings

The study is expected to show which dimension of inclusion is most strongly associated with adoption, whether capability matters beyond mere access or usage, and whether the strength and direction of these associations

differ for women according to headship versus actual financial decision-making power. In doing so, it moves the evidence from whether finance is correlated with uptake towards how and for whom the digital-energy pathway operates.

Anticipated Conclusion

By clarifying the associations between specific dimensions of digital financial inclusion and solar adoption, and by distinguishing household headship from women's effective financial agency, the study will supply evidence relevant to gender-responsive PAYGo financing under Uganda's Energy Transition Plan and National Financial Inclusion Strategy, and to the design of more equitable digital-finance and renewable-energy mechanisms for rural households. As the first stage of a wider programme of research, it also lays the foundation for subsequent work that can trace how adoption translates into household welfare.

Keywords: digital financial inclusion; off-grid solar; PAYGo; gender; critical realism; rural Uganda

A Holistic Approach to Briquettes Adoption and Commercialization in Uganda

Sarah Kizza-Nkambwe; Miria Agunyo; Simon Peter Mukisa; Martin Kizito; Sharon Longola; Anold Mugisha; Livingstone Mutyaba

UCU-2026-O010 | Oral presentation | Food, Water and Energy

Thursday, 5 November 2026 | M Block | Time to be confirmed

Uganda’s continued reliance on charcoal and firewood contributes to deforestation, environmental degradation, and indoor air pollution. Although biomass briquettes offer a potential alternative through the utilization of agricultural residues and organic waste, their adoption and commercialization remain limited. The key research gap is the lack of an integrated, evidence-based approach that addresses feedstock availability, product quality standardization, technical skills, consumer awareness, and entrepreneurship and marketing capacity. This study therefore seeks to address this gap by developing an integrated approach to improving briquette production, quality standardization, skills development, and commercialization, focusing on Mukono District and UCU.

The study will adopt a mixed-methods, experimental, and applied research design, integrating quantitative surveys, qualitative interviews, focus group discussions, and laboratory experiments. Surveys will target selected briquette producers and users, while purposively selected key informants will provide insights into feedstock supply, production technologies, marketing, and commercialization challenges. Sampling procedures and sample sizes will be specified. Laboratory tests will assess briquette calorific value, moisture content, ash content, and compaction using standardized procedures and quality controls. Findings will guide the establishment of a pilot production unit at UCU and the development of practical training materials on production, quality control, entrepreneurship, and marketing. Integration through triangulation will combine survey, qualitative, and laboratory findings to inform pilot development, training interventions, and recommendations for briquette standardization and commercialization. The study is expected to deliver (i) an operational pilot briquette production unit, evaluated through operational performance and production consistency; (ii) locally appropriate production and quality-control procedures, assessed through laboratory tests of moisture content, ash content, calorific value, and compaction characteristics; (iii) training materials and improved technical competencies, evaluated through pre- and post-training assessments; and (iv) strengthened entrepreneurial and marketing capacity, assessed through participants’ business plans and market assessments. The study will also generate evidence to inform briquette standardization and policy development, promote the productive use of agricultural and municipal waste, and support viable community-based briquette enterprises. Collectively, these outputs are intended to strengthen briquette adoption and commercialization while contributing to waste valorization, environmental protection, and sustainable cooking energy in Uganda.

Keywords: Briquettes, Sustainable Energy, Waste Valorization, Cabonisation, Value Chain, UCU

From farm waste to functional care: Developing a low- caffeine coffee leaf infusion as a complementary product for sickle cell disease management in Uganda.

Lillian Ajuna; Andrew Napandu; Dr. Sseremba Godfrey

UCU-2026-O011 | Oral presentation | Food, Water and Energy

Thursday, 5 November 2026 | M Block | Time to be confirmed

Introduction/Purpose: In Africa, Uganda carries the highest SCD burdens with a sickle cell trait prevalence of 13.3% and an estimated births of 15000 each year. Blood transfusion and hydroxyurea remain costly and hard to reach for many rural households and there is wide use of unvalidated herbal remedies. Meanwhile, coffee farms in Uganda discard large volumes of coffee leaves and prunings. Coffee leaves are rich in chlorogenic acids, flavonoids and tannins, mangiferin, and caffeic acid a building block of chlorogenic acid which delays sickle hemoglobin polymerization and limits its oxidation in-vitro. Yet no study has tested coffee leaves for ant-sickling activity. This project aims to develop and evaluate a low caffeine coffee leaf infusion as an affordable complementary product for SCD management.

Methods: Robusta coffee leaves from 3 selected varieties grown under uniform management will be collected, authenticated and processed using standard protocols by NaCORI. Four topmost fully open leaves from 5 plants of each of the selected varieties will be piloted over the wet and dry seasons. Four processing methods will be used shade vs oven dried, with and without caffeine reduction step since caffeinated drinks are generally discouraged in Sickle cell disease (SCD) patients. Prototypes will be profiled for total phenolics, flavonoids, chlorogenic acid, mangiferin and caffeine (HPLC method) and antioxidant capacity (DPPH and FRAP methods). With ethical approval and informed consent, blood from 2 groups of people (each n=10; HbAA, HbSS) will be used to test the anti-sickling activity and membrane stability of the coffee leaf-based prototypes using sodium metabisulphite to induce sickling against hydroxyurea and saline controls. The prototypes will be tested and validated for safety by collaborating with NDA. The best prototype will undergo sensory evaluation and an acceptability and willingness to pay survey among persons living with SCD and their caregivers. Data will be analyzed using a generalized linear mixed model and significant differences declared at 99% confidence level.

Expected Results: We anticipate a dose - dependent reduction in the sickled cells, improved membrane permeability and processing route that retains phenolics while lowering caffeine.

Discussion/Conclusion: A validated leaf infusion would turn farm waste into a locally made, low-cost complementary product for SCD care, open a new income stream for coffee farmers and lay the foundation for in vivo and clinical studies.

Keywords: Sickle cell disease, coffee leaf, phytomedicine, value addition, antisicking

Social networks, agricultural extension and technology adoption among smallholder sweet potato farmers in Uganda

Mutyaba John Livingstone

UCU-2026-O012 | Oral presentation | Food, Water and Energy

Thursday, 5 November 2026 | M Block | Time to be confirmed

Adoption of improved agricultural technologies by smallholder farmers is essential for raising productivity, enhancing food and nutrition security, and improving rural livelihoods in sub-Saharan Africa. Technology adoption, however, is not determined solely by access to technologies or conventional agricultural extension services; it is also shaped by the social networks through which farmers acquire information, learn from peers, and evaluate the benefits and risks of new practices. This study examines the role of social networks in the adoption of improved sweet potato production technologies among smallholder farmers in Uganda. Drawing on cross-sectional survey data from Kayunga and Kamuli Districts, the study characterizes farmers' access to extension services and social networks and estimates their associations with technology adoption. Descriptive statistics and econometric methods are used to assess the effects of extension access, network participation, information exchange, peer interactions, and farmer characteristics, while controlling for relevant household, farm, institutional, and socioeconomic factors. Particular attention is given to the complementary roles of formal extension and farmer-to-farmer information exchange in overcoming information constraints and reducing uncertainty about improved technologies. The study is expected to show that farmers embedded in stronger, more information-rich social networks and those with greater access to effective extension services are more likely to adopt improved technologies. The findings will inform the design of integrated extension strategies that combine formal advisory services with farmer networks, peer learning, and locally embedded knowledge systems, thereby accelerating technology diffusion and contributing to sustainable productivity growth and livelihood improvement among smallholder sweet potato farmers in Uganda.

Keywords: technology adoption; social networks; sweet potato; smallholder farmers; farmer-to-farmer learning

EFFECT OF SOAKING AND SHORT COOKING TIME VARIETIES ON HOUSEHOLD ENERGY USE AND WOMEN'S WORKLOAD: COMPARISON BETWEEN FIELD AND LABORATORY COOKING TIMES

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Introduction

Iron deficiency affects 32% of women of reproductive age in Uganda and iron-biofortified beans are a major dietary source of iron. However, long cooking times raise fuel use and women's workload, which limits consumption. This study assessed the effect of soaking and short-cooking varieties on household energy use and women's workload, and compared field and laboratory cooking times.

Methods

A survey of 747 women bean farmers in the eight major bean producing districts in Uganda was combined with field Kitchen Performance Tests (KPTs) on Narobean 1, 2, 3 and 6, local varieties, and with Mattson Bean Cooker tests (20- and 24-pin drops). The KPTs used charcoal and firewood as energy sources. Cooking time was measured from the time the beans started boiling to the time the women declared them ready. Data was analyzed with Pearson's regression.

Results

Soaking beans for 6 hours reduced cooking time by up to 50 minutes per meal. Cooking time fell by 37-47% across the biofortified varieties and by 36% in the local varieties. Narobean 3 and Narobean 6 cooked fastest in seven of the eight districts. Soaking cut charcoal use by 31% per 1 kg meal. Short-cooking varieties saved about UGX 1,730 per week, or 23% of weekly charcoal expenditure as compared to the long cooking varieties. Mattson Cooker times explained 48% (20-pin) and 60% (24-pin) of the variation in charcoal KPT times, and 41% and 39% for firewood, showing that the laboratory test is a useful but partial predictor of household cooking time. Despite these benefits, 83% of households never soak beans and only 7% always do. Households with heavier time and energy burdens, mainly farm work, childcare and cooking, were less likely to soak.

Conclusion

Soaking and short-cooking varieties therefore offer low-cost ways to reduce fuel use and women's workload. There is need to promote these time and energy saving technologies.

Keywords: Bean soaking; Cooking time; Iron-biofortified beans; Kitchen Performance Test; Mattson Bean Cooker; Household energy use; Women's workload; Uganda

Indigenous knowledge of foods and nutritional care among mothers of children five years and below in peri-urban areas of Mukono, Uganda

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Indigenous food knowledge encompasses beliefs about locally available foods, their nutritional benefits, and traditional food selection and preparation practices transmitted through families and communities. This study explored mothers' indigenous food knowledge and factors influencing food choices for children under five in peri-urban Mukono, Uganda.

A sequential explanatory mixed-methods design was employed, with quantitative data collected first through a questionnaire survey of 225 mothers, followed by qualitative data collection using two focus group discussions, each involving eight mothers and interviews with two key informants. Quantitative data were analysed descriptively and using regression in Stata. Qualitative data were transcribed, manually coded, and organized into themes to explain and contextualize the quantitative findings. Integration was achieved by interpreting qualitative themes alongside survey results to provide a broader understanding of mothers' indigenous food knowledge and child-feeding practices.

Commonly reported foods included posho, rice, matooke, cassava, beans, and groundnuts. Affordability influenced food choices, with 67% citing it for posho and 69% for beans. Family members were the main reported source of nutrition knowledge, although knowledge gaps persisted. Regression analysis showed significant associations between carbohydrate choice and home-garden food sources ($p = 0.030$), protein choice and land ownership ($p = 0.004$), and fruit and vegetable choice, nutritional understanding ($p < 0.001$), and knowledge sources ($p = 0.035$).

The findings highlight indigenous food knowledge as a valuable child-feeding resource, constrained by knowledge gaps, economic barriers, and food access. Culturally appropriate nutrition education and improved access to affordable indigenous foods should promote dietary diversity, appropriate preparation, adequate portions, and age-appropriate feeding to support children's nutritional needs.

Keywords: Indigenous knowledge; child nutrition; food choice

From waste stream to wall: wastepaper-polyethylene terephthalate (PET) fiber blocks for non-load-bearing construction in Uganda

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Introduction / Purpose

Kampala generates about 180 tonnes of plastic waste daily, with only 40-50% reaching landfills; paper and pulp make up about 1.60% of its household waste. The study evaluated lightweight masonry blocks in which waste paper replaces quarried aggregate and PET-bottle fiber reinforces the mix, seeking the best balance of strength, weight, water absorption and impact resistance.

Methods

Waste paper (0-100% of the coarse aggregate) and PET fiber (0-1.5% of cement weight) were varied experimentally in an optimum cement-sand-aggregate mix (water-cement ratio 0.65). Thirty-five mixes casted in triplicates were tested for weight, compressive strength and water absorption and each paper level's peak mix for impact resistance then benchmarked against Ministry of Works and Transport (MoWT, 2013) specifications and BS 6073/BS 2028 block classes.

Results / Findings

Paired t-tests showed 1.5% PET significantly increased strength ($p=.002$), absorption ($p=.006$) and weight ($p=.008$) whereas 25% paper significantly cut weight and strength and raised absorption (all $p<.001$). All paper mixes were lightweight (957-1445 kg/m³). Strength peaked at 1.25% PET for mixes with 50% or more paper before easing. Only mixes with up to 50% paper met the ~24% water-absorption allowance. The recommended mix, 50% waste paper with 1.25% PET fiber, achieved 3.26 MPa (48% above the MoWT Type 2 minimum), 1317 kg/m³ and 23.10% absorption clearing the allowance by only 0.90 points. At 50% paper, impact resistance was favourable (scale 1, minor abrasion) at 1.25% PET.

Discussion / Conclusion

By mass balance, each recommended block keeps roughly one and a half ream of paper and nearly two 500 ml bottles of PET out of Kampala's waste stream and avoids quarrying roughly 0.007 m³ of crushed aggregate versus a paper-free block. The blocks suit interior, non-load-bearing partitions and infill; their narrow absorption margin calls for rendering during pilot-scale deployment. Limitations: rendering untested on the block and one mix ratio tested only.

Keywords: PET fiber reinforcement; waste paper; circular economy; lightweight masonry blocks; sustainable housing

Genotype-Specific Dormancy-Breaking Strategies in African Eggplant (Solanum aethiopicum): Evidence from Shum and Gilo Groups

Tuhirirwe Jenipher; Elizabeth Balyejusa Kizito; Mildred Julian Nakanwagi

UCU-2026-O016 | Oral presentation | Food, Water and Energy

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Seed dormancy is a major physiological barrier limiting the propagation and productivity of Solanum aethiopicum (African eggplant), an indigenous vegetable of high nutritional and economic importance across sub-Saharan Africa. Despite its adaptability and contribution to household food security, uneven and delayed germination continues to constrain seedling establishment and yield potential. This study aimed to determine the comparative effectiveness of mechanical and chemical methods in breaking seed dormancy in two cultivar groups Shum and Gilo representing distinct genetic lineages of S. aethiopicum. Laboratory experiments were conducted at Uganda Christian University from January to April 2025 using gibberellic acid (GA_3) at 300, 500, and 700 mg L^{-1}; potassium nitrate (KNO_3) at 0.25%, 0.75%, and 1.0%; and mechanical treatments (scarification and hot-water soaking). Germination percentage (GP), mean germination time (MGT), and germination vigor index (GVI) were recorded for 14 days under controlled conditions and analyzed using ANOVA and Tukey's HSD tests. Results revealed genotype-specific responses: Shum exhibited significantly higher germination under GA_3 500 mg L^{-1} (GP = 92.5%, MGT = 3.1 days, GVI = 33.5), while Gilo responded best to mechanical scarification (GP = 38.8%, MGT = 8.6 days, GVI = 4.9). Potassium nitrate treatments produced weaker and inconsistent effects across both cultivars. These findings confirm that Shum and Gilo possess distinct physiological and physical dormancy mechanisms, requiring tailored interventions for optimal germination. The study recommends the use of GA_3 500 mg L^{-1} for Shum and mechanical scarification for Gilo as cost-effective, scalable treatments to improve seed germination uniformity and crop establishment. Adoption of these genotype-specific protocols can enhance seed quality, support sustainable African eggplant production, and strengthen local seed systems across East Africa.

Keywords: seed dormancy, germination physiology, indigenous vegetables

PHOTOVOLTAIC SOLAR WATER HEATER SYSTEM FOR UCU KITCHEN

Miria Agunyo

UCU-2026-O017 | Oral presentation | Food, Water and Energy

Thursday, 5 November 2026 | M Block | Time to be confirmed

About 90% of cooking energy at Uganda Christian University (UCU) is from traditional biomass, mostly firewood. This causes emission of carbon dioxide and other greenhouse gases that contribute to indoor pollution, climate change impacts, in addition to high procurement costs for firewood. Adopting clean cooking measures, an 800litre thermal water heating system was installed at UCU Kitchen in 2022 and this reduced use of firewood for heating of water by 15% daily. However, the system performs less optimally during rainy seasons. The study adopted an experimental research design to evaluate the performance of two solar-powered water-heating technologies: a flat-plate solar thermal system and a photovoltaic (PV)-powered resistance-heating system. The experimental component involved monitoring water-temperature changes under contrasting seasonal and weather conditions, including dry-season and cloudy-day operation. To obtain an understanding of the solar thermal system, qualitative component was incorporated to document system configuration, operating practices, maintenance requirements and operational challenges through interviews and focus group discussions with relevant system operators, and kitchen staff who are a key beneficiary. Solar thermal system consisted of 16 flat-plate collectors, heating 400 litres of water from 28°C to 80°C in a day which is eventually discharged once a day.

While the a 4.2kWp photo voltaic (PV) system consisting of 445V string array, 20A direct current isolator converting direct current to AC using a 5.5kW hybrid inverter, heating 200 litres of water using three 1500w heaters. The comparative assessment of both systems showed a solar irradiance ranging from 150w/m2 in the morning hours to 1173 W/m2 especially in afternoons. The measurements were made during both dry and cloudy season, results showed that PV system heated water from an average of 28°C to 80°C in about four hours in the dry season, while during the wet season, the PV system still produced hot water reaching 60°C in an average of six hours.

While, the existing solar thermal systems produced hot water of at least 80°C and 35°C during the dry and cloudy seasons respectively and this was discharged for use only once a day. While the solar PV systems is ¼ the size of the current solar thermal system, its ability to still generate heated water (upto 60°C) during cloudy season suggests it may be a viable complementary solution for solar thermal system during the cloudy season.

Keywords: Solar thermal, PV solar system, clean cooking options

Parameter-Guided Digital Evidence Triage: An Explainable Machine Learning Approach to Scoped Forensic Artefact Classification: A Case Study of the Uganda Police Force

Paul Ifemene Chukwumaobim

UCU-2026-O018 | Oral presentation | Technology, Innovation and Sustainable Communities

Thursday, 5 November 2026 | M Block | Time to be confirmed

Introduction/Purpose: Uganda Police Force (UPF) examiners may search extracted data only for what a court order and Police Form 17A authorise, and this review is largely manual. An Auditor General review found equipment and manpower shortages and 28 percent performance in the digital forensics laboratory, while reported cybercrime nearly doubled in 2024. Manual review is a likely contributor to delay. Extraction tools such as Cellebrite UFED, to the author's knowledge, do not let examiners state authorised scope and receive classified, explained results. This study designs and evaluates a prototype that does.

Methods: Design science research is used; requirements come from literature and a consented, anonymised UPF digital forensics examiner interview. Pretrained model outputs are thresholded to label each artefact in scope, borderline or out of scope; this is the "classification". Sentence-BERT matches text by meaning, CLIP matches images to descriptions or reference images, a local language model converts plain-language requests into parameters, and rules filter metadata, call logs and contacts. Each result shows its basis (matched keywords, best-matching passage, filter conditions or reference image). Only the image matcher learns: a contextual bandit (reinforcement learning) re-ranks CLIP results from examiner accept/reject feedback, over frozen embeddings, reset per case and logged. Evaluation uses public datasets (GovDocs1, NIST CFReDS), synthetic call and contact records, and simulated examiner feedback. No UPF data is used; processing is local.

Results/Findings: Preliminary finding (interview): examiners work from narrowly scoped requests and must justify each item, shifting the design to parameter-based triage. The prototype is under development; no performance results yet. Planned measures: precision, recall and time-to-triage against keyword search, and precision gain across feedback rounds.

Discussion/Conclusion: The anticipated contribution is scope-bound, explainable triage needing little casework data. These benefits require validation with additional examiners on realistic data; court admissibility depends on legal standards beyond this study.

Keywords: digital forensics; evidence triage; explainable AI; machine learning; Uganda Police Force

Aligning Faculty Work Design with Competence-Based Education: An HRM Perspective from a Ugandan University

Florence Nakiyingi

UCU-2026-O019 | Oral presentation | Faith, Education and Community Empowerment

Thursday, 5 November 2026 | M Block | Time to be confirmed

Competence-Based Education and Training (CBET) is reshaping academic work through the new expected deliverables for faculty. Existing scholarship has predominantly examined this transition through pedagogical, curriculum, assessment, and faculty development perspectives, while comparatively less attention has been given to its HRM implications, particularly whether existing faculty work design arrangements are aligned with the changing structure and demands of academic work. This gap is significant because in a country like Uganda where the transition is mandatory under a national reform agenda, universities may introduce new faculty responsibilities without corresponding adjustments in roles, workload, autonomy, time allocation, coordination, and organisational resources, thereby creating structural conditions that constrain sustainable implementation. Accordingly, this study aims to examine how anticipated CBET requirements reshape faculty work and to assess the extent to which existing work design arrangements are structurally aligned with these emerging requirements in a Ugandan university.

Drawing on Work Design Theory and Job Demands Resources Theory, the study adopts a theory informed qualitative embedded single case design. The case is purposively selected as a Ugandan university actively preparing for the national transition to CBET, making it an information rich setting for examining work design alignment during institutional reform. Embedded faculties will be selected purposively to represent contrasting forms of academic work, including differences in professional orientation and modes of teaching and assessment. Participants will be recruited through purposive maximum variation sampling to capture perspectives across faculty ranks and key institutional roles including academic leaders, HR personnel, and curriculum actors directly involved in CBET implementation. Data will be generated through semi-structured interviews and analysis of relevant regulatory and institutional documents. Structural alignment will be assessed by systematically mapping anticipated CBET work requirements against existing work design dimensions, roles, responsibilities, workload, time allocation, autonomy, interdependence, coordination, job demands, and organisational resources. Thereafter these will be classified as aligned, partially aligned, or misaligned.

The study is expected to identify areas of alignment and misalignment across key work design dimensions including faculty roles, workload, time allocation, autonomy, interdependence etc. It will distinguish capability related constraints from structural work design constraints and develop an HRM framework linking specific CBET work requirements to corresponding role, workload and resources needed to support sustainable implementation.

The study is expected to contribute theoretically by extending Work Design Theory and Job Demands Resources Theory to explain how mandatory educational reform can generate structural misalignment between changing work requirements and existing HR arrangements. Practically, it will provide an HRM oriented diagnostic framework to guide universities in redesigning faculty roles, workload, coordination, and resource systems for CBET implementation. Although the findings will be context specific to a single Ugandan university, the framework may offer analytically transferable insights for comparable higher education institutions undergoing competence-based reform.

Keywords: Competence-Based Education and Training; Faculty Work Design; Human Resource Management Alignment

Christian Ethics, Servant Leadership, and Firm Level Tax Compliance in Sub Saharan Africa: A Conceptual Framework

Richard Asiimwe

UCU-2026-O020 | Oral presentation | Faith, Education and Community Empowerment

Thursday, 5 November 2026 | M Block | Time to be confirmed

Introduction/Purpose: Strengthening firm-level tax compliance remains a significant challenge in Sub Saharan Africa, where conventional approaches have largely emphasised enforcement, deterrence, and institutional factors. Although tax morale and ethical considerations have received scholarly attention, the relationship between Christian ethical orientation, organisational leadership, and corporate tax behaviour remains insufficiently theorised. This paper develops a conceptual framework explaining how Christian ethical orientation relates to firm-level tax compliance and how servant leadership moderates this relationship.

Methods: The paper adopts a conceptual research approach grounded in critical theoretical analysis and integrative synthesis of literature on Christian ethics, servant leadership, and tax compliance. Drawing on Christian ethical principles and established organisational leadership scholarship, the study identifies relevant constructs, examines their theoretical relationships, and develops two propositions explaining firm-level tax compliance.

Results/Findings: The conceptual analysis produces two propositions. (i) Christian ethical orientation, reflected in stewardship, justice, honesty, and accountability, is proposed to be positively associated with firm-level tax compliance through accurate reporting, timely filing, and full payment of tax obligations. (ii) servant leadership, characterised by humility, service, stewardship, and moral responsibility, is proposed to strengthen this relationship by reinforcing ethical commitments in organisational decision making. These propositions represent theoretical expectations rather than empirically tested findings.

Discussion/Conclusion: The framework extends tax compliance scholarship by integrating Christian ethical theory with servant leadership and organisational fiscal behaviour. It positions tax compliance not merely as a response to regulatory enforcement but also as an expression of organisational moral responsibility. The paper highlights the potential importance of ethical leadership in strengthening voluntary compliance and provides a foundation for future empirical research and leadership development initiatives in Sub-Saharan Africa.

Keywords: Christian ethics; servant leadership; firm-level tax compliance; tax morale; organisational ethics; Sub Saharan Africa

“Bridging the Gap: Change Management Strategies and the Transition to Competency-Based Education and Training in Higher Institutions”. A Case of Uganda.

John Ssengonzi; Doris Atino Eggo; Dr. Eilu Emmanuel; Mr. Wangwe James

UCU-2026-O021 | Oral presentation | Faith, Education and Community Empowerment

Thursday, 5 November 2026 | M Block | Time to be confirmed

Many higher education institutions struggle to shift from traditional learning to Competency-Based Education and Training (CBET) due to unstructured change management strategies. This study examined the influence of change management approaches on CBET implementation across four universities in Uganda. Specifically, the study sought to: (1) assess the effect of strategic leadership communication, (2) determine the influence of faculty development, (3) analyze the influence of institutional policy alignment, and (4) examine the role of industry engagement. Using a cross-sectional mixed-methods design, quantitative data were gathered from 233 respondents via simple random and purposive sampling, alongside qualitative interviews and document reviews. Simple regressions revealed that strategic leadership communication ($R^2 = 0.286$, $B = 0.499$), faculty development ($R^2 = 0.241$, $B = 0.463$), institutional policy alignment ($R^2 = 0.236$, $B = 0.430$), and industry engagement ($R^2 = 0.203$, $B = 0.469$) each significantly predicted CBET implementation ($p < 0.001$). Jointly, these dimensions accounted for 40.3% of the variance ($R^2 = 0.403$, $F(4, 228) = 38.521$, $p < 0.001$). Qualitatively, leadership commitment was noted as often rhetorical rather than resource-backed, and training was predominantly one-off. The study concludes that: (1) strategic leadership communication significantly enhances CBET implementation; (2) faculty development significantly equips lecturers with practical competencies; (3) institutional policy alignment anchors CBET within formal structures; and (4) industry engagement ensures curriculum relevance against labor market demands. The study recommends that higher education institutions: (1) back leadership visions with dedicated resources; (2) transition from one-off workshops to continuous faculty training and peer learning; (3) update grading policies alongside digital infrastructure; and (4) establish structured, ongoing partnerships with industry.

Keywords: Change Management, Competency-Based Education and Training, Strategic Leadership Communication, Faculty Development, Industry Engagement

Towards a Theology of Love Gift in African Christian Marriage

Julius Izza Tabi

UCU-2026-O022 | Oral presentation | Faith, Education and Community Empowerment

Thursday, 5 November 2026 | M Block | Time to be confirmed

Bridewealth, a groom-side material transfer to the bride's family and distinguished from dowry and other family or ceremonial gifts, is a practice in African Christian contexts that fosters relationship building and community involvement in marriage. Bridewealth has, however, evolved to carry counterproductive characteristics such as commercialization, coercion, indebtedness, valuation and entitlement. Despite substantial anthropological, legal and theological scholarship on bridewealth, limited attention has been given to the construction of a Christian theology of marital giving addressing these challenges. This paper therefore proposes the Love Gift model as a trans-contextual Christian-African way of rethinking marital giving rather than a description of all African marriage practices. The study proposes marital giving, which is non-conditional, freely given rather than demanded, non-negotiated in economic value, and non-equivalent. The proposed model departs from the transactional nature of bridewealth while preserving gratitude, kinship recognition, relationship building and community engagement.

This is theoretical constructive theology study informed by inculturation and African Christian ethics employs literature on bridewealth, gift and reciprocity, biblical and Christian theology, African relational ethics, and gender and dignity. Relationality, voluntariness, human dignity, non-coercion, and non-entitlement provide the main criteria for evaluating the Love Gift model. The model safeguards the autonomy of both spouses and participating families and does not recommend a permanent gendered direction of giving. It therefore allows culturally appropriate giving or reciprocal generosity from either side. The paper proposes Love Gift as a transformation in the moral grammar of marital giving, where relational exchange is maintained without economic equivalence, coercive obligation, or entitlement. This theological construction requires further empirical testing through interviews, denominational dialogue, case studies, or community-based application across different African contexts. The paper makes three constructive contributions: it distinguishes reciprocity from equivalence, develops diagnostic criteria from Love Gift, and proposes a Gift-Transaction continuum.

Keywords: bridewealth, Love Gift, theological construction, marital giving, African Christian marriage

Everyday Peace and Intercommunal Strife in Uganda's Refugee-Hosting Districts: The Role of Schools in Fostering Peace Between Refugees and Host Communities in Adjumani District

David Andrew Omona; Sarah Kiza-Nkambwe; Alfred Wonyaka; Anne Cherotwo; Hamilton Mbokureeba

UCU-2026-O023 | Oral presentation | Faith, Education and Community Empowerment

Thursday, 5 November 2026 | M Block | Time to be confirmed

Uganda's inclusive refugee policies provide access to education, work, services, and economic opportunities. Yet prolonged displacement can strain refugee-host relations amid scarce land, forests, water, livelihoods, schools, and services. This article examines how schools foster everyday peace and positive inter-communal relations in Adjumani District. Using qualitative data, the study synthesises scholarship, Ugandan policies, institutional reports, and research on refugee-host relations, education, and peacebuilding. It draws on a larger study of 150 participants-88 refugees, 52 host-community members, and 10 institutional informants-selected by leaders from communities near the camps. The framework combines Mac Ginty's everyday peace perspective, intergroup contact theory, and social connections that support refugee integration. Respondents described children attending the same schools, sharing language and fee arrangements, and interacting through play and broader community cooperation. These accounts point to schools as shared institutions where people can become familiar with one another and recognise common interests. Scholarly literature and programme documentation show how cooperative activities, inclusive governance, and supported dialogue may strengthen these encounters. Findings suggest schools can serve as everyday peace infrastructure through inclusive schooling, cooperative learning, peace and citizenship education, clubs, sports, cultural activities, peer mediation, psychosocial support, participatory governance, and teachers' non-discriminatory conduct. Analysing the findings through the theoretical framework reveals that these practices encourage positive contact, empathy, friendship, trust, shared identities, dialogue, and nonviolent conflict resolution. However, contact alone does not guarantee peace: overcrowding, scarce resources, trauma, language barriers, limited teacher preparation, perceived inequality, discrimination, and weak community participation can reproduce wider tensions. The article argues that school practices foster everyday peace through relationships shaped by institutional and community conditions. Refugee education policy should look beyond access and achievement and view schools as local peace infrastructure that connects learners, families, and communities. It recommends inclusive activities, representative parent participation, adequate resources, and appropriate safeguarding.

Keywords: Adjumani, everyday peace, intergroup contact, peacebuilding, peace education, refugees, refugee-host relations, schools, social cohesion, Uganda

Measuring the Level of Lecturers' Competence in Using CBE Assessment Methods in Higher Education

Bernard Omukunyi

UCU-2026-O024 | Oral presentation | Faith, Education and Community Empowerment

Thursday, 5 November 2026 | M Block | Time to be confirmed

Competency-Based Education (CBE) assessment is important for aligning higher education with societal and workplace needs. However, lecturers' competence in applying CBE assessment methods may be constrained by gaps in training, practical experience, and institutional support. This study examined lecturers' self-reported competence and readiness to use CBE assessment methods in higher education institutions in Uganda, with attention to theoretical knowledge, reported implementation practices, confidence, and perceived institutional and technological constraints. A cross-sectional descriptive survey was conducted among lecturers from three universities in Uganda using a structured questionnaire. The findings should therefore be interpreted as respondents' reported knowledge, experiences, and perceptions rather than as a direct observation or objective test of pedagogical competence. The reported results indicate moderate theoretical knowledge and inconsistent practical implementation. Although 66.7% of respondents reported having received formal CBE training, half of those trained had received training lasting less than one week; 38.1% identified insufficient training as a major barrier. High workload and large class sizes were also reported as constraints. In addition, 42.9% identified access to digital assessment tools as a strategy for improving assessment practice, while 23.8% reported the absence of digital portfolio platforms as a barrier. These percentages indicate perceived needs and constraints; they do not, on their own, establish that technology causes an increase or decrease in lecturer competence. Overall, the findings point to a reported gap between lecturers' preparation and the practical demands of CBE assessment, alongside institutional and technological challenges. Higher education institutions should consider sustained professional development, mentorship, practical training in rubric design and assessment implementation, and appropriate digital and institutional support. Because the study used a cross-sectional self-report survey, the findings describe respondents' reported competence and experiences and should not be interpreted as causal evidence or as a definitive measure of demonstrated performance.

Keywords: Competency-Based Education; CBE assessment; lecturer competence; higher education; self-reported readiness; Uganda