

NAME: OPICHO DOMINIC SIMIYU

REG NO: PHD/AM/001/23

Conference Title: Kibabii University 7th Biennial Virtual International conference

Conference Theme: Harnessing Innovation for Sustainable Growth

Conference Dates: 11th-12th June 2025

Host Institution: Kibabii University

TITLE: LEVERAGING ARTIFICIAL INTELLIGENCE IN MATHEMATICAL MODELLING OF MALARIA VACCINE IMPACT.

Abstract

Artificial Intelligence (AI) is revolutionizing public health surveillance. In Africa, where health systems frequently encounter failed health information systems. This paper aims at leveraging AI in mathematical modelling of malaria vaccines impact that will incorporate epidemiological data from local surveillance to simulate malaria transmission dynamics on basic reproduction number R_0 on vaccination scenarios in order to predict the reduction in malaria incidence. The BNNs model algorithms and computational pipelines created for leverage genomic data and immune system interactions of AI predictive power algorithms for pathogenic epitopes, assess immunogenicity and prioritize antigens for experimentation with optimal safety and efficacy profiles in which data heterogeneity, model interpretability and regulatory considerations will be addressed to realize the full potential of AI in malaria vaccine impact. Therefore, integrating AI will enhance understanding of malaria vaccine design precision and scalability to accelerate the delivery of safe and effective malaria vaccines in health sector.

Keywords: Leveraging, (AI) Artificial Intelligence, Basic reproduction number (R_0), Efficacy and immunogenicity

INTERNAL CONTROL PRACTICES AND FINANCIAL EFFICACY OF MANUFACTURING FIRMS IN MOMBASA COUNTY, KENYA

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Theme: Industrialization and Manufacturing

ABSTRACT

The study sought to establish the influence of internal controls on financial efficacy of manufacturing firms in Mombasa County of Kenya. This study was anchored on Attribution theory. This research adopted descriptive research design. The target population for the study was 611 employees of the 31 manufacturing firms in Mombasa County. The sample size was 62 respondents comprising of chief executive officers and finance officers of the manufacturing firms selected using purposive sampling method. Both primary and secondary data were used. Structured questionnaires collected primary data while audited annual financial statements of manufacturing firms provided secondary data. Inferential and descriptive statistics was used in analyzing data through Statistical Package for Social Sciences (SPSS) version 20. Inferential statistics included correlation and regression analysis. The confidence level was 95% with an error margin of 5%. The study therefore rejected the null hypothesis and settled that Internal control has a statistically important effect on the financial efficacy of manufacturing firms in Mombasa County, Kenya. Internal control had a positive standardized beta coefficient. This indicates that a unit improvement in the internal controls was likely to result to an increase in financial efficacy of manufacturing firms in Mombasa County, Kenya. The equation was ascertained: $Y = 2.267 + 0.145 IC$. This implies that (holding other factors constant) a component rise in internal controls will result to 0.145 times increase in manufacturing firms' financial efficacy. It emerged that, internal controls have a significant positive influence on financial efficacy of manufacturing firms in Mombasa County of Kenya. The study recommends that Kenya Association of Manufacturers should formulate policies that would ensure all manufacturing firms have common internal control practices as guided by accounting bodies such as ICPAK. Companies should formulate some policies that all accountants and auditors should have the authority to unearth corruption scandals that would arise in the course of business operations. Finally, Kenya Association of Manufacturers (KAM) should encourage all manufacturing firms to embrace modern technology for the betterment of future productivity. The most outstanding limitation for this study was winning respondents trust to give a true reflection of their respective organization financial affairs.

BUDGETARY CONTROL PRACTICES AND FINANCIAL PERFORMANCE OF SALT MANUFACTURING FIRMS IN KILIFI COUNTY, KENYA

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THEME: BUSINESS AND INDUSTRY

7th Biennial Virtual Conference held June 11-12, 2025, Kibabii University

ABSTRACT

The numerous financial difficulties faced by salt manufacturing firms in Kenya have resulted in the closure of many businesses, as they are unable to operate efficiently and sustainably. These financial shortcomings have largely been attributed to weak adherence to cash control practices. This study sought to examine the effect of budgetary control practices on the financial performance of selected salt manufacturing firms in Kilifi County, Kenya. The study was guided by the Stewardship Theory. A descriptive research design was employed, targeting a population of 1,100 employees from the four salt manufacturing firms in Kilifi County. A sample of 293 respondents, consisting of senior and middle level managers, were selected. Primary data was collected using structured questionnaires, while secondary data was obtained from audited annual financial statements of the firms. A pilot study was conducted in salt manufacturing firms located in Mombasa County, with questionnaires distributed to finance officers. Reliability testing using Cronbach's alpha yielded a coefficient of 0.814, indicating strong internal consistency. Additionally, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for budgetary control practices was 0.784, surpassing the acceptable threshold of 0.5. Data analysis involved both descriptive and inferential statistics, with the help of the Statistical Package for Social Sciences (SPSS). Inferential analysis included correlation and regression analysis, and ANOVA tests were also carried out. The findings revealed that budgetary control practices have a significant positive influence on the financial performance of manufacturing firms in Kilifi County. The study concluded that effective budgetary control practices enhance financial performance. Therefore, future research should focus on additional factors that may influence the financial performance of manufacturing firms across the country to establish more comprehensive conclusions.

Keywords: Budgetary Control Practices, Financial Performance, Salt Manufacturing Firms, Stewardship Theory

Name: Mary Maruti

Reg No: PHD/EMPS/004/21

Degree Program: Doctor of Philosophy in Educational Management and policy studies

Conference Title: Kibabii University 7th Biennial Virtual International conference

Conference Theme: Harnessing Innovation for Sustainable Growth

Conference Dates: 11th-12th June 2025

Host Institution: Kibabii University

**Paper Title: Effect of Role Modelling on Professional Conduct of Teachers in Public
Secondary Schools in Western, Kenya**

Abstract

Teachers are perceived most valuable asset or resource to the achievement of the primary objectives of education in any Kenyan school. Just like employees in other institutions, their professional conduct should be given due consideration if public secondary schools have to meet their strategic goals. Role modeling has been acclaimed as a powerful teaching strategy to impact behavior. However, despite the use of role modeling, the issue of teacher professional misconduct in public secondary schools in Kenya is still prevalent. This study aims to investigate the effect of role modeling on professional conduct among public secondary school teachers. Mixed method design was adopted. 1304 respondents comprising of 68 principals, 279 HoDs and 957 teachers drawn from extra county secondary schools were targeted. A sample size of 299 was determined using Krecjcie and Morgan table (1970). It comprised, 23 principals, 138 HoDs (mentors) and 138 teacher mentees. Simple random sampling was employed to select 23 extra county schools where the respondents were drawn. Principals were purposely sampled while simple random sampling was used to select mentors and mentees). Data from principals was collected using interview schedules while questionnaires were administered to HoDs and novice teachers. Results revealed a very weak positive relationship between role modeling and professional conduct. The weak correlation ($R = 0.038$), negligible explanatory power ($R^2 = 0.001$), and non-significant ANOVA results ($p = 0.558$) collectively indicate that role modeling, as examined in this study, is not good a predictor of teacher professional conduct. The results suggest that role modeling may have some intrinsic value in mentorship programs, but does not independently serve as a key determinant of professional conduct among teachers. The researcher recommends a reevaluation of role modelling mentorship role as a strategy for teaching behavior with need to explore alternative or additional factors that may more substantially influence professional behavior among educators in this context.

Keywords: Role modelling, Professional conduct, Mentorship

NAME: Emilly Angushi Magambo

REGISTRATION NO.: PHD/KIS/004/21

DEGREE PROGRAM: PHD in Kiswahili Studies

TITLE OF CONFERENCE: CHAKITA – Kongamano la 25 la Kimataifa la Chakita

CONFERENCE THEME: Kiswahili na Taaluma Nyinginezo katika Karne ya 21

DATE: 7TH – 8TH March, 2025

HOST INSTITUTION/ORGANIZATION: Chuo Kikuu Cha Alupe, Busia, Kenya

ABSTRACT (IKISIRI)

Makala hii inajadili suala la ndoa linavyojitokeza ndani ya futuhitandao tukizingatia afya ya akili miongoni mwa Wakenya. Ndoa ni mojawapo wa asasi muhimu na ya kimsingi katika maisha ya binadamu. Ndoa ina manufaa kwa jamii na ni mfumo unaochangiwa na vipengele vyake vyote ili kuleta mshikamano na utangamano. Taasisi ya ndoa iliyoumbwa na Mungu leo hii iko chini ya mashambulizi makali. Utafiti huu ulijikita katika mitandao ya kijamii ya *Facebook, Twitter na YouTube*. Utafiti huu uliongozwa na nadharia ya Burudiko iliyoasisiwa na Sigmund Freud. Tulitumia muundo wa kimaelezo tukizingatia mkabala wa kithamano katika kuwasilisha na kuchanganua data. Mbinu ya utazamaji na uchanganuzi wa yaliyomo zilitumika kukusanya data. Sampuli ya kimakusudi na kinasibu zilitumika kukusanya data. Utafiti ulibainisha kuwa kupitia mitandao ya kijamii kuna Wakenya wengi wanaopitia changamoto za ndoa, lakini huweza kujifunza namna ya kukabiliana nazo wanapoingia kwenye mitandao na kushiriki mazungumzo. Futuhi mtandaoni inamfanya mtu acheke na kupunguza msongo wa mawazo ambao huweza kuathiri pakubwa afya ya akili.

Istilahi muhimu: Asasi, Futuhitandao, Mitandao ya kijamii, Ndoa,

Student's Name: AGWENYI Christopher

Registration No.: PHD/IT/001/23

Title of conference: THE INAUGURAL NATIONAL BIENNIAL POSTGRADUATE STUDENTS' CONFERENCE

Host institution/Organization: Maasai Mara University Narok, Kenya,

Conference Date: 28th – 30th May 2025

Conference theme/Date: *Innovation for Sustainable Development: Postgraduate Research for Societal Transformation.*

Paper Title: Technological Innovations as Enablers of Sustainable Development: Bridging Socio-Economic Gaps through Smart Solutions

Abstract

Technological innovations, particularly in Information and Communication Technology (ICT) and Artificial Intelligence (AI), are becoming central to accelerating sustainable development. These smart solutions offer transformative potential to address socio-economic disparities by enhancing productivity, optimizing service delivery, and fostering inclusive growth across sectors such as healthcare, agriculture, and education. However, adoption remains uneven, especially in low- and middle-income regions. Barriers such as digital inequality, ethical concerns, limited technical capacity, and infrastructural gaps hinder the full realization of these technologies' benefits. Furthermore, empirical evidence on the effectiveness of ICT and AI in closing socio-economic gaps across specific sectors is still limited. This paper investigates the role of ICT and AI as enablers of sustainable development and tools for bridging socio-economic divides. The study aims to evaluate their impact in critical sectors, identify enabling and constraining factors, and offer strategic recommendations to support inclusive and equitable technological deployment. A mixed-methods approach was employed. Qualitative data were gathered through semi-structured interviews with experts in technology and development, while quantitative data were drawn from secondary sources, including global reports and case studies from 2015 to 2024. Inclusion criteria encompassed peer-reviewed studies, pilot projects, and relevant policy analyses focused on ICT and AI applications in health, agriculture, and education. Excluded were non-empirical sources and studies lacking sectoral or contextual specificity. Findings indicate that AI-driven tools such as predictive analytics and automation boosted agricultural productivity by up to 25% and reduced healthcare operational costs by approximately 30% in select initiatives. ICT platforms significantly improved access to education in remote areas, helping bridge the urban-rural divide. Nonetheless, issues such as data privacy risks, algorithmic bias, poor infrastructure, and low digital literacy continue to impede widespread adoption. The study contributes to policy, practice, and academia. It advocates for inclusive digital policies, ethical AI governance, and investments in digital infrastructure. Practically, it provides guidance for deploying smart technologies in underserved communities. Theoretically, it offers a framework for understanding how technological innovations can be leveraged to promote equitable and sustainable socio-economic development.

Keywords: ICT, Artificial Intelligence, Smart Solutions, Sustainable Development, Socio-Economic Inequality, Digital Innovation

Name: Dr. Praxedes Lusambili
Reg. No.: PHD/BA/002/22

CONFERENCE: The 8th International Conference on Contemporary Issues in Victimology, Victim Assistance and Crime Prevention at the University of Nairobi, Kenya.

MAIN THEME: *Use of Digital Technology to Enhance Crime Prevention and Victim Support.*

DATE: 22/10/2025

TITLE: Cyber Harassment of Women in Kenyan Politics: Dynamics and Implications for Democratic Participation.

Abstract

The rise of social media as a political arena in Kenya has amplified the visibility of women leaders while exposing them to intensified forms of cyber harassment. This paper investigates technology-facilitated violence targeting women in politics across platforms such as Facebook, X (formerly Twitter), TikTok, and WhatsApp. Drawing on a PRISMA-guided desk review of 23 reports, media archives, and legal documents published between 2020 and 2024, the study identifies recurring patterns of abuse—including sexualized defamation, deepfake manipulation, impersonation, coordinated trolling by political influencers-for-hire, and threats of physical violence. These attacks are not incidental but strategically deployed to police women’s presence in public life, generating psychological harms such as anxiety, hypervigilance, and self-censorship, and resulting in reduced online engagement and campaign withdrawal. Although Kenya’s Computer Misuse and Cybercrimes Act (2018) and related statutes offer legal recourse, enforcement remains weak due to evidential gaps, digital jurisdiction challenges, and normalization of abuse as “part of politics.” Emerging interventions including AI-based hate speech detectors, cyber forensic tracing tools, and encrypted peer-support networks—demonstrate both institutional and grassroots strategies for resistance. The paper argues that protecting women’s digital participation is not merely a safety issue but a democratic imperative. Without proactive legal, technological, and socio-political safeguards, women’s political presence online risks becoming symbolic rather than substantive. A coordinated response that integrates legislation with platform accountability and feminist digital literacy is essential for sustaining inclusive governance.

Keywords: Cyber Harassment, Women in Politics, Digital Gender Violence, Online Victimization, Democratic Participation, Kenya