AFRICALICS

THE AFRICAN NETWORK FOR ECONOMICS OF LEARNING, INNOVATION, AND COMPETENCE BUILDING SYSTEMS

BIBLIOMETRIC ANALYSIS OF SCHOLARLY OUTPUTS AND COLLABORATIONS FROM THE AFRICALICS RESEARCH CONFERENCES 2015–2024 REPORT

18th January 2026

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AfricaLics Research Conference Report

1. Background and Rationale

The African Network of Researchers in Learning, Innovation and Competence Building Systems (AfricaLics) was established in 2012 to strengthen research capacity and foster collaboration in the fields of innovation and development across Africa. Central to its activities is the biennial research conference, which provides a platform for scholars, policymakers, practitioners, and civil society actors to engage in evidence-based dialogue on the role of innovation in African development. Since the inaugural conference in Maputo (Mozambique) in 2013, AfricaLics has held subsequent conferences in Kigali (Rwanda, 2015), Oran (Algeria, 2017), and Dar es Salaam (Tanzania, 2019), Yaounde (Cameroon, 2022) and Ilorin (Nigeria, 2024) with each event drawing average of between 150 to 200 participants. These conferences have become a vital space for showcasing cutting-edge research, mentoring early-career scholars, and catalyzing collaboration between African and international research communities.

As the network marks over a decade of sustained engagement, there is a growing need to systematically assess the academic and collaborative outcomes of its flagship research conferences. A bibliometric analysis offers a rigorous, evidence-based approach to evaluating the scholarly productivity, influence, and knowledge networks emerging from these conferences. This analysis focuses on publications produced by conference participants between 2015 and 2024, encompassing peer-reviewed journal articles and book chapters

The rationale for undertaking this study is fourfold. First, it provides a measure of the scholarly productivity associated with the AfricaLics research community, offering insights into the types and volume of outputs generated. Second, it examines patterns of collaboration, including co-authorship across regions and institutions, to understand how AfricaLics conferences have fostered intra-African and global partnerships. Third, it analyses the thematic orientation of the research, with particular attention to how it aligns with Africa's innovation and development priorities. Finally, the study evaluates the academic influence of participants' research through citation analysis, shedding light on its reach and impact in scholarly discourse.

By mapping these dimensions, the bibliometric report will contribute to strategic reflection within AfricaLics and support ongoing efforts to strengthen the network's role in shaping innovation and development scholarship across the continent.

1.1. Objectives of the Report

The primary objective of this bibliometric report is to provide a comprehensive assessment of the scholarly impact and collaborative patterns emerging from the AfricaLics research conferences between 2015 and 2024. Specifically, the report seeks:

1. To evaluate the volume and types of academic outputs produced by participants of AfricaLics conferences over the specified period.
2. To investigate the extent and nature of co-authorship and institutional collaborations between participants in the AfricaLics conferences, and the broader AfricaLics community, including partnerships among African scholars and with international researchers.
3. To identify and categorize the thematic focus of the scholarly outputs produced by participants in the AfricaLics research conferences, with an emphasis on how these themes align with Africa's innovation and development agenda.
4. To measure the visibility and impact of publications based on presentations made during AfricaLics conference through citation metrics, including citation counts, and patterns of dissemination across journals and platforms.
5. To generate evidence that can guide AfricaLics in strengthening its research capacity-building initiatives, conference design, and engagement with policy, academia, and development partners.

2. Methodology

This study adopts a bibliometric approach to systematically analyse the scholarly outputs and collaborative networks associated with the AfricaLics Research Conferences between 2015 and 2024. The methodology combines quantitative data analysis with qualitative insights to assess the volume, themes, impact, and co-authorship patterns of research linked to the AfricaLics community.

2.1. Data Sources and Collection

Data for the bibliometric analysis were compiled from multiple academic databases including Scopus, Google Scholar, Web of Science, ResearchGate, and African Journals Online (AJOL). These sources were selected to ensure broad coverage of both international and regionally published academic outputs, with particular attention to African scholarship often underrepresented in global citation indices.

A comprehensive list of conference participants from AfricaLics conferences held between 2015 and 2024, including the conferences in Kigali (2015), Oran (2017), Dar es Salaam (2019), Yaounde (2022) and Nairobi (2023) and Ilorin (2024), was obtained from the AfricaLics Secretariat. This list was used to identify and verify the authorship of scholarly publications produced by conference participants. Manual cross-checking was performed to confirm publication accuracy, affiliations, and to remove duplicate records.

The publication outputs analysed include peer-reviewed journal articles, book chapters, edited volumes, and other scholarly works directly traceable to AfricaLics conference participants. Only publications that could be reliably linked to conference participantion through authorship and affiliation were included. In all, a total of 411 articles were produced by 176 authors who were identified.

2.2. Bibliometric and Citation Analysis

Bibliometric analysis was conducted to evaluate scholarly productivity, with a focus on:

- Total and annual number of publications.
- Type of publication (e.g., journal articles, book chapters).
- Distribution by discipline, institution, and geography.

Citation analysis was performed to assess the academic influence of research affiliated with participation in AfricaLics conferences 2015-2024. Key metrics include:

- Total citation count per publication.
- Average citations per author.
- Identification of highly cited works.

Citation data were drawn primarily from Google Scholar and cross-referenced with Scopus where applicable to ensure reliability. While Google Scholar offers broader coverage, its citation metrics may be inflated due to duplicates or grey literature. Cross-validation was used to address this limitation.

2.3 Co-authorship and Collaboration Analysis

To explore patterns of scholarly collaboration, co-authorship analysis was conducted using bibliometric software such as VOSviewer. This method involved mapping co-authored publications by the conference participants to:

- Identify collaborative clusters.
- Examine intra-African and international partnerships.
- Analyse institutional and regional patterns of academic cooperation.

This analysis sheds light on AfricaLics' role in facilitating research networks, including South-South and South-North collaborations.

2.4 Thematic and Keyword Co-occurrence Analysis

To investigate the thematic orientation of scholarly outputs, keyword co-occurrence analysis was performed. This involved extracting and analysing author-assigned keywords and keywords from titles to identify:

- Frequently addressed topics and thematic clusters.
- Alignment with AfricaLics' core focus on innovation, development, STI policy, sustainability, and inclusion.

The clustering of keywords provided insights into dominant research areas, as well as emerging or under-researched themes within the AfricaLics ecosystem.

2.5 Limitations of the Study

Despite the rigour applied in data collection and analysis, the study has some limitations:

- **Incomplete publication data**: Not all conference participants may have published outputs traceable to their participation in AfricaLics conferences.
- **Attribution challenges**: Some publications may not explicitly reference AfricaLics, making attribution less straightforward.
- **Citation inconsistency**: Differences between databases such as Google Scholar and Scopus in citation tracking may result in variation in impact measures.
- **Temporal lag**: Recent conference participants may not yet have published outputs or received citations, underrepresenting their scholarly contributions.

To mitigate these limitations, the analysis was triangulated through multiple sources, including internal AfricaLics records and manual validation procedures.

3. Results and Discussions

3.1 Publication Outputs by Scholars Presenting at the AfricaLics Research Conferences

Table 1 provides a summary of the publication performance of scholars who presented papers at AfricaLics Research Conferences between 2015 and 2024. Across the five editions covered, a total of 411 articles were produced by 176 authors, yielding an overall average of 0.43 articles per author. The distribution of articles across the years shows notable variation, reflecting

differences in conference contexts, participant cohorts, and post-conference research engagement.

3.1.1. 2019 – The Peak Year for Research Output

The 2019 AfricaLics Conference, hosted by the University of Dar es Salaam in Tanzania, recorded the highest publication output among all years. A total of 47 articles were published, representing 26.71% of all articles captured in the dataset. With 82 paper presenters, the average output stood at 0.57 articles per author, which is also the highest ratio in the entire period. This peak performance may indicate that the research themes, networking opportunities, or institutional support systems in 2019 provided a particularly conducive environment for scholarly productivity.

3.1.2. Strong Publication Performance in 2015 and 2022

Two conference years, 2015 (Rwanda) and 2022 (Cameroon), also posted strong research outputs relative to their participant numbers.

- In 2015, scholars produced 34 articles, contributing 19.32% of the total. With 70 presenters, the average output was 0.49 articles per author, which is slightly above the overall mean. As the inaugural year in the dataset, this performance suggests early success in fostering post-conference research activity.
- The 2022 conference in Yaoundé generated 41 articles, representing 23.30% of total publications. With 83 presenters, the average article output was 0.49 per author, showing consistency with the network-wide average and reflecting a strong research culture during this edition.

These years demonstrate stable and sustained post-conference dissemination of research outputs across the AfricaLics community.

3.1.3. 2017 – Moderate but Significant Output

The 2017 conference in Oran, Algeria accounted for 30 articles, which represent 17.05% of the total publications. With 67 presenters, the average stood at 0.45 articles per author. Although slightly below the overall average, the 2017 edition still made a notable contribution to cumulative scholarly output, underscoring the continued relevance of AfricaLics as a platform for stimulating research dissemination.

3.1.4. 2024 – Highest Participation but Lowest Publication Output

The 2024 conference, hosted by the University of Ilorin in Nigeria, had the highest number of paper presenters (109) but produced the lowest number of articles (24), contributing only 13.64% of the overall publication output. This results in an average of 0.22 articles per author, the lowest across all editions reviewed.

While this may suggest reduced post-conference productivity, two important contextual factors must be acknowledged:

1. **Time lag in academic publishing:**
   The 2024 conference occurred recently, and the academic publishing cycle, peer review, revisions, and editorial processes, often spans many months. It is likely that additional publications from this cohort have not yet appeared.
2. **Structural barriers faced by Global South researchers:**
   Challenges such as limited research funding, high open-access fees, restricted journal access, and implicit editorial biases continue to affect scholars in Africa. These hurdles can delay or constrain publication outputs despite robust research activities.

In all, the data in Table 1 demonstrates that AfricaLics conferences have contributed meaningfully to scholarly publication across the continent. The average of 0.43 articles per author indicates that nearly half of all presenters convert conference participation into published research. However, the fluctuations across years highlight that publication outcomes are influenced by more than conference attendance alone but also type of conference presentations made. At the same time, institutional capacity, mentorship structures, funding availability, and post-conference engagement all shape research productivity.

Although participant numbers have generally increased, indicating rising visibility and relevance of the conference, the publication rate per author has shown variability. This suggests that future AfricaLics capacity-building initiatives may need to strengthen post-conference writing support, collaborative networks, and access to publication resources to improve outcomes consistently across all editions.

Overall, the AfricaLics Research Conferences continue to play an important role in fostering research dissemination in Africa, with some years demonstrating particularly strong engagement and others reflecting systemic challenges that may delay or limit publication performance.

Table 1: Publication Output by the Scholars at the AfricaLics Research Conference

Year	Host Institution	Location	Paper presenters	Articles Published	Avg Articles per author	% of Total Articles
2015	University of Rwanda	Kigali, Rwanda	70	34	0.49	19.32
2017	University of Oran II	Oran, Algeria	67	30	0.45	17.05
2019	University of Dar es Salaam	Dar es Salaam, Tanzania	82	47	0.57	26.71
2022	University of Yaoundé II	Yaounde, Cameroon	83	41	0.49	23.30
2024	University of Ilorin	Ilorin, Nigeria	109	24	0.22	13.64
Total			**411**	**176**	**0.43**	**100**

3.2 AfricaLics Conference Participation by Country Income Level

3.2.1 Strong Dominance of Lower-Middle-Income Countries (62.04%)

As shown in Table 2, the majority of contributions to AfricaLics conferences between 2015 and 2024 came from *lower-middle-income countries*, accounting for 62.04% of all submissions. Countries such as Nigeria, Kenya, Cameroon, Ghana, and Benin consistently drive participation due to their expanding research communities, active universities, and policy-focused innovation ecosystems. Their strong representation demonstrates AfricaLics' ability to mobilize scholarship from emerging African economies and strengthen regional research networks.

3.2.2 Significant Participation from Low-Income Countries (19.22%)

Low-income countries contributed 19.22% of total submissions, with notable representation from Ethiopia, Uganda, Zimbabwe, and Burkina Faso. Despite challenges such as limited research funding, infrastructure gaps, and fewer publishing opportunities, these countries continue to contribute meaningfully. Their involvement affirms AfricaLics' commitment to inclusivity and the promotion of research visibility, capacity-building, and knowledge exchange among under-resourced nations.

3.2.3 Upper-Middle-Income Countries (11.44%) as Regional Knowledge Hubs

Upper-middle-income countries accounted for 11.44% of contributions. This group, including South Africa, Algeria, Iran, and Mexico, typically benefits from stronger research capacity, institutional support, and more mature innovation systems. Their involvement provides intellectual depth to the AfricaLics community and helps bridge knowledge gaps by fostering collaboration between countries with differing levels of research infrastructure. These countries often act as anchors for regional scholarly development.

3.2.4 Strategic Engagement from High-Income Countries (7.30%)

High-income countries contributed 7.30% of submissions. Although their numbers are small relative to African contributors, countries like the United Kingdom, United States, Denmark, and Japan play an influential role. Their participation often comes through joint research, mentorship, panel discussions, and capacity-strengthening initiatives. This enhances North–South collaboration and enriches the knowledge exchange within AfricaLics.

The distribution of contributions across income levels shows that AfricaLics has successfully rooted its research engagement primarily in lower-middle-income and low-income African countries, which together account for more than 80% of submissions. At the same time, the network strategically integrates upper-middle-income and high-income countries, promoting balanced South–South and North–South collaboration. This blend reflects AfricaLics' mission to strengthen endogenous research capacity, cultivate a vibrant scholarly community, and promote knowledge exchange that supports innovation and development across Africa.

Table 2: Distribution of AfricaLics Conference Participants by Country Income Level[1]

Income Level	Total Contributions	% of Total	Example of Countries
Low-Income	79	19.22%	Ethiopia, Uganda, Zimbabwe, Burkina Faso

[1] It is important to note that Sida provided travel and general conference support to a significant number of participants from Low-Income and Lower-Middle-Income countries, which accounts for the relatively high representation from these countries.

Lower-Middle-Income	255	62.04%	Nigeria, Kenya, Cameroon, Ghana, Benin
Upper-Middle-Income	47	11.44%	South Africa, Algeria, Iran, Mexico
High-Income	30	7.30%	United Kingdom, United States, Denmark, Japan
Total	**411**	**100%**	

3.3 Gender Representation at AfricaLics Research Conferences

The gender distribution of participants at the AfricaLics Research Conferences reveals a significant imbalance, with 299 male participants compared to only 118 female participants. This translates to approximately 28% female and 72% male representation. The distribution is shown in figure 1.

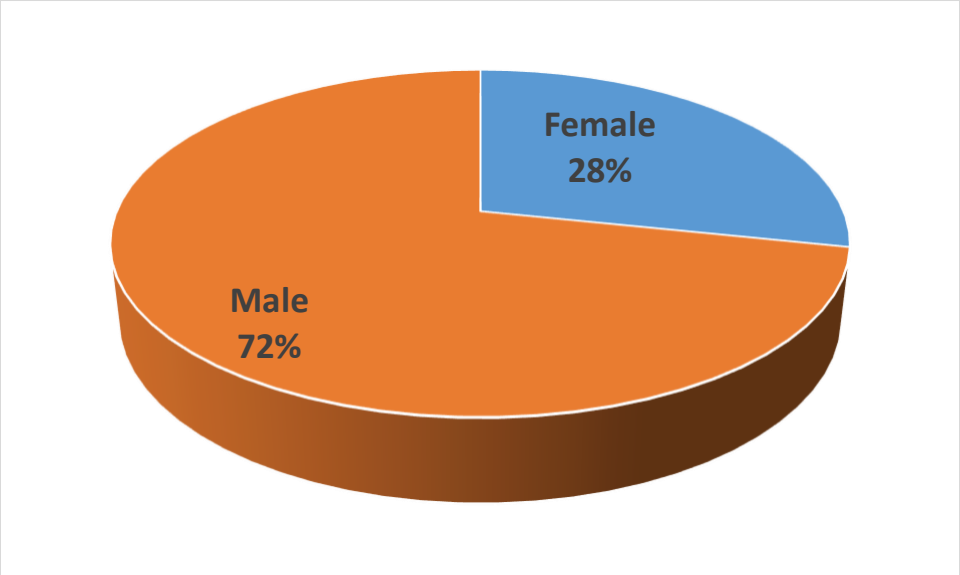
3.3.1. Male-Dominated Participation

With 71.70% male participation**,** AfricaLics research conferences have historically been male-dominated. This reflects broader gender disparities in science, technology, and innovation (STI) research, particularly within African academic and policy communities. Structural barriers such as limited access to research funding, mentorship, and institutional support continue to constrain women's full engagement in STI fields.

3.3.2. Female Representation at 28.29%: Signs of Progress, but Gaps Remain

Female participants make up 28.29% of the total paper presenters at AfricaLics conferences between 2015 and 2024, indicating some progress toward gender inclusion (see Figure 1). This gender distribution among paper presenters in AfricaLics conferences indicates the need for additional and deliberate strategies to ensure that women are equally represented, heard, and empowered in shaping the research agenda. Meanwhile, this information should also be understood within the context of underrepresentation of women in STI across many African countries and AfricaLics focus on PhD level training. In spite of this systemic issue, AfricaLics has incorporated intentional strategies such as targeted fellowships, mentorship programs, and institutional incentives to support female researchers' participation in innovation and development policy research. With these deliberate strategies in place, AfricaLics is helping build a vibrant research community focused on innovation in the Global South. More efforts in this direction would really be helpful.

Figure 1: Gender Distribution of Participants at AfricaLics Research Conferences 2015-2024.



3.4 Thematic Analysis of Keyword Clusters based on research titles of papers presented at AfricaLics Conferences 2015-2024

The AfricaLics research conferences have evolved thematically around innovation and development, inclusive growth, capacity building, sustainable industrialization, and context-driven innovation policies in Africa. The clusters identified through keyword co-occurrence suggest emerging and recurring thematic areas, possibly influenced by the Biennial focus or call for papers in each year of the conference. The 12 clusters identified represent a vibrant and evolving body of research within AfricaLics that spans individual behavior, firm strategy, agricultural innovation, climate and sustainability, and macro-development policy. However, there are lack of overlaps between the clusters suggesting that AfricaLics community produces research across diverse areas, but these areas are not yet strongly interconnected. The community may benefit from more integrated research agendas, joint projects, and cross-country comparative work. It was also noted that the markedly larger size of the red cluster could suggest a more mature and well-established research area across the conference, reflecting both its maturity and sustained scholarly attention. In contrast, the smaller clusters may represent more specialised or emerging themes that have received comparatively limited attention. The distribution of these thematic clusters based on the keyword co-occurrence analysis is shown in Figure 2.

3.4.1 Red Cluster: Behavioral Dimensions of Innovation and Entrepreneurial Intentions in Academia

Keywords: *Attitude, Empirical study, Entrepreneurship intention, Ethiopia, Perceived behavioral control, Personal trait, Policy implication, Addis Ababa University, SEM, Structural equation modelling, Subjective norm, Theory of planned behavior*

This cluster focuses on individual-level psychological and behavioral factors influencing innovation and entrepreneurship, particularly among students and young academics. The dominance of the Theory of Planned Behavior and use of Structural Equation Modelling (SEM) highlights a methodological trend toward quantitative behavioral modeling. The specific mention of Addis Ababa University and Ethiopia suggests case-based research within institutional settings, aligned with AfricaLics' interest in capacity building and entrepreneurial learning within African universities. This aligns with conference sub-themes emphasizing human capital development, entrepreneurial ecosystems, and youth innovation.

3.4.2 Green Cluster: Innovation Under Constraints in Manufacturing and Informal Sectors

Keywords: *Business performance, Competitiveness, Food service, Informal, Innovation, Innovative lean manufacturing, Lean manufacturing, Linkage, Resource constraints, Steel industries*

This cluster reflects an applied focus on innovation in industrial and informal sectors, especially in resource-constrained environments. The emphasis on lean manufacturing and linkages points to efforts to improve productivity and competitiveness, even in low-capacity or informally structured firms. The inclusion of food services and steel industries implies sectoral diversity. This resonates with AfricaLics conference discussions on industrial policy, SME upgrading, and inclusive industrialization, especially in countries where informal enterprises dominate the innovation landscape.

3.4.3 Deep blue Cluster: STI, Inequality, and Development Pathways

Keywords: *Economic growth, Economic opportunities, Human capital, Human development, Inequality, R&D intensity, Social capabilities, STI indicators*

This cluster connects STI policy with macro-level concerns such as economic inequality, human development, and social capability formation. The recurring use of R&D intensity and STI indicators suggests efforts to measure innovation impact and inform evidence-based policymaking. This aligns with AfricaLics themes around the metrics of development-oriented

innovation and the role of innovation systems in reducing structural inequality. Researchers in this cluster often adopt policy analysis, econometric modeling, and development economics perspectives.

3.4.4 Yellow Cluster: Agricultural Innovation, Epistemic Justice, and Rural Transformation

Keywords: *Agricultural development, Epistemic justice, Inclusive innovation, Responsible innovation, Rural Kenya, Smallholder farmers*

This cluster blends themes of rural innovation, justice in knowledge production, and inclusive agricultural development. The term epistemic justice signals critical attention to whose knowledge counts, reflecting AfricaLics' broader efforts to decolonize innovation systems thinking. With Rural Kenya and smallholder farmers in focus, this cluster illustrates how researchers examine localized innovation processes in agriculture, particularly those that empower marginal groups. The conceptual overlap with inclusive and responsible innovation also suggests normative engagement with ethics, equity, and sustainability in innovation policy.

3.4.5 Purple Cluster: Regional Innovation Planning and Societal Impact Assessment

Keywords: *Africa, Annual variations, Planning, Regional effects, Risk assessment, Societal impacts*

Here, the emphasis is on regional-level innovation dynamics, including variability in outcomes and risks. The focus on planning and societal impacts suggests a concern with public policy and spatial development strategies. Scholars in this cluster may employ geospatial analysis, time-series modeling, or regional development frameworks to understand how innovation policies play out differently across Africa's subregions. This aligns with AfricaLics themes on regional innovation systems, territorial development, and governance of innovation.

3.4.6 Teal (blue-green) Cluster 6: Economic Impacts of Climate and Agricultural Systems

Keywords: *Aquaculture, ARDL-error correction model, Beef, Greenhouse gas, GDP, South Africa*

This is a quantitative cluster focused on the climate-economy interface in agri-food systems, particularly in South Africa. Researchers use autoregressive distributed lag (ARDL) models to explore causal relationships between variables like greenhouse gas emissions, livestock production, and economic growth. The analytical emphasis here supports AfricaLics' growing

engagement with climate-resilient innovation, agro-industrial development, and the econometrics of sustainability transitions.

3.4.7 Deep Orange Cluster: Innovation in Livestock and Pastoralist Systems

Keywords: *Assisted reproductive technologies, Breeding program, Economic viability, Husbandry practices, Pastoral systems, Sahiwal*

This cluster looks at agricultural biotechnology and breeding innovation, particularly within pastoralist communities. The mention of Sahiwal (a cattle breed) and assisted reproductive technologies indicates technical and economic analysis of livestock improvement. These themes resonate with AfricaLics interest in innovation for marginalized systems, especially where traditional knowledge intersects with modern science to improve livelihood resilience and food security.

3.4.8 Brown Cluster: Capabilities and Innovation in Manufacturing Firms

Keywords: *Business model innovation, Digital capability, Dynamic capability, Innovation capability, Manufacturing firms, PLS-SEM*

This firm-centered cluster emphasizes how digital and dynamic capabilities drive innovation performance in African manufacturing firms. The use of PLS-SEM (Partial Least Squares Structural Equation Modeling) shows a preference for predictive analytics and capability-based theories of the firm. Researchers in this cluster contribute to AfricaLics debates on firm learning, technological capability building, and competitiveness under digital transformation.

3.4.9 Pink Cluster: Returnee Entrepreneurship and Enabling Policy Environments

Keywords: *Entrepreneurial success, Ethiopia, Government policies, Institutional support, Returnee migrants, Success factors*

This cluster investigates the experiences of returnee migrants as entrepreneurs in Ethiopia, focusing on the institutional and policy enablers of their success. Topics such as diaspora engagement, knowledge repatriation, and policy coherence are key. The cluster aligns with AfricaLics themes on brain circulation, entrepreneurial ecosystems, and diaspora-driven innovation as pathways to development.

3.4.10 Light orange Cluster: Structural Transformation in Emerging African Economies

Keywords: *Africa's emerging economies, Employment, Infrastructure, Manufacturing value added, Pooled group estimation*

This macroeconomic cluster is concerned with employment creation, infrastructure investment, and industrial value addition in Africa's emerging economies. The use of pooled estimation methods suggests panel data econometrics and cross-country comparisons. It aligns with AfricaLics conference themes around industrial development, inclusive growth, and regional integration through STI.

3.4.11 Light green Cluster: Innovation for Multidimensional Wellbeing in the Fisheries Sector

Keywords: *Average treatment effects, Fish hub, Gross national wellness index, Multidimensional wellbeing, Vertical integration*

This cluster applies impact evaluation tools (like Average Treatment Effects -ATE-) to assess innovation outcomes in fisheries, focusing on wellbeing rather than just economic productivity. It introduces concepts such as the Gross National Wellness Index, suggesting a broader conceptualization of innovation success. This reflects AfricaLics' shift toward holistic innovation metrics and community-level impacts.

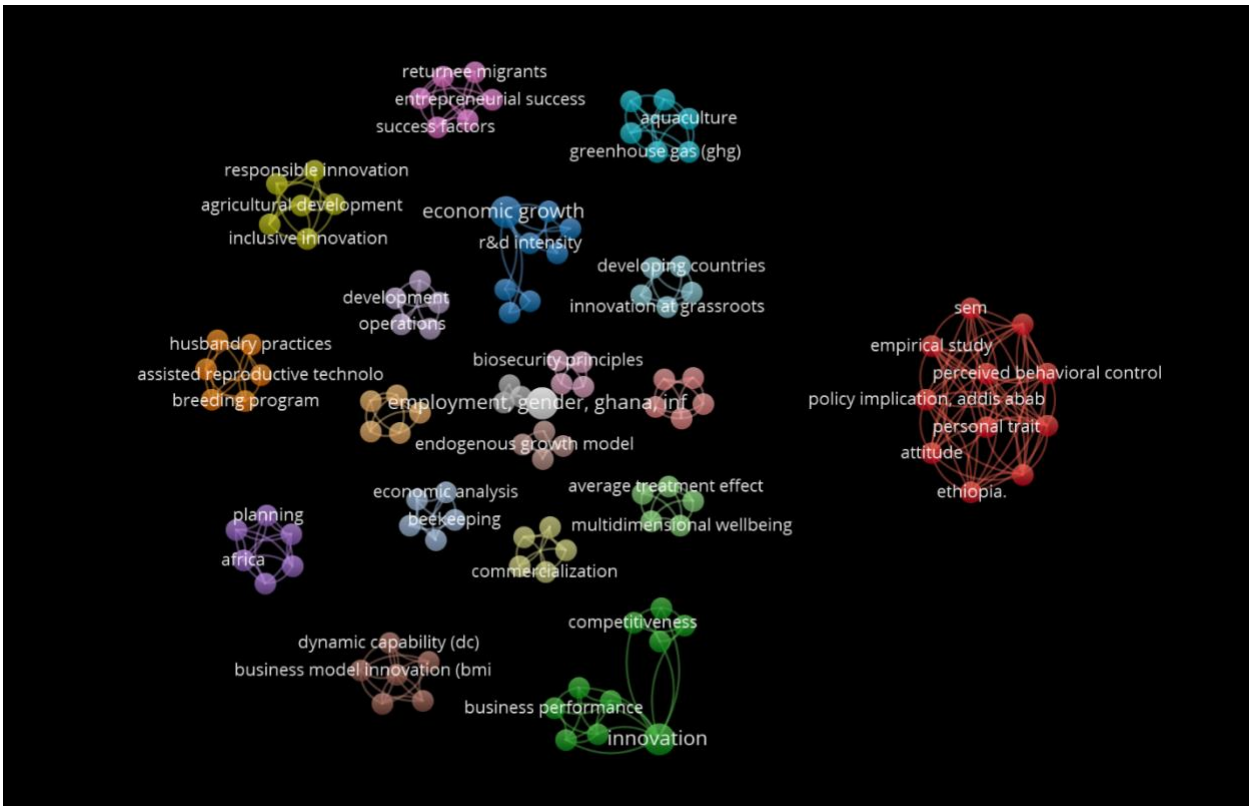
3.4.12 Gray Cluster: Local Innovation and Economic Empowerment through Beekeeping

Keywords: *Beekeeping, Economic analysis, Extraction technologies, Smallholder honey production, Southwestern Nigeria*

This highly localized cluster explores grassroots innovation, especially in apiculture. The focus on smallholder producers, technological adaptation, and economic analysis shows how traditional sectors like honey production can be drivers of rural innovation and income diversification. This cluster exemplifies AfricaLics' support for bottom-up innovation and inclusive livelihoods.

The thematic diversity of the 12 clusters suggests that AfricaLics has successfully created a platform for interdisciplinary and multi-scalar research, while remaining attentive to African contexts, priorities, and development challenges. The annual conference themes likely influenced the direction and clustering of research over the years, fostering both theoretical innovation and policy relevance. It is evident from this information that AfricaLics has made notable progress in strengthening research across several thematic areas; however, gaps remain. For instance, contributions to financial innovation is a critical yet underexplored domain.

Figure 2: Co-Occurrence Analysis of Publications related to participation in AfricaLics Conferences



3.5 Collaborative Research Networks within AfricaLics: Insights from Co-authorship Clusters

This co-authorship analysis reveals the collaborative structures among researchers who *participated in AfricaLics conferences*. Each cluster represents a set of authors who have co-published one or more research articles, suggesting thematic convergence, institutional affiliations, regional proximity, or sustained collaboration. The clusters reflect how scholarly networks have evolved between AfricaLics conference participants across key innovation and development research themes. The distribution of the clusters is shown in Figure 3. Clusters below are presented in order of size.

3.5.1 Cluster 1: Empirical Investigations in Agricultural Economics and Financial Performance

This cluster features authors such as Makori, Daniel Mogaka and Abdoulaye, T. et al., whose works focus on working capital management in manufacturing and construction as well as gender-sensitive agricultural economic analyses. While the themes may appear divergent, the

grouping suggests shared methodological preferences (empirical studies), or conference interactions that bridge finance and agricultural productivity, two key pillars in development economics within the AfricaLics framework.

3.5.2 Cluster 2: Inclusive Innovation and Framing in Agricultural Systems

This cluster includes Felix Ouko Opola, Laurens Klerkx, Cees Leeuwis, and Catherine Kilelu, who have collaborated extensively on inclusive innovation in agriculture. Their work critically examines innovation legitimacy from smallholder farmer perspectives, blending social justice concerns with system innovation frameworks. Their recurring authorship across multiple publications indicates a well-established research collaboration with strong relevance to AfricaLics' agenda on inclusive and responsible innovation.

3.5.3 Cluster 3: Conceptual Perspectives in Agribusiness Biosecurity

Led by Fredrick Aila and colleagues, this cluster offers a conceptual take on biosecurity in poultry agribusinesses. The cluster likely reflects a niche topic area or a relatively isolated research team. Nonetheless, biosecurity intersects with AfricaLics themes of sustainable agricultural systems, though it remains under-explored in the broader community.

3.5.4 Cluster 4: SMEs and Macroeconomic Development in Nigeria

This cluster includes Oluyemi Theophilus Adeosun and Ayodele Ibrahim Shittu, whose work investigates the relationship between SME formation and Nigeria's economic growth. The paper's high citation count suggests that the topic resonates with AfricaLics' interest in private-sector-led development, with particular attention to the enabling role of small enterprises in national innovation systems.

3.5.5 Cluster 5: Sustainable Development through SMEs and Creative Industries

This cluster brings together Oluwayemisi Abisuga-Oyekunle, Swapan Kumar Patra, Mammo Muchie, and Mziwoxolo Sirayi. Their work spans poverty reduction via SMEs and the role of creative industries in sustainability, aligning well with AfricaLics' focus on innovation for social inclusion. The collaboration reflects a South–South and South–North academic exchange, with authors affiliated with both African and global institutions.

3.5.6 Cluster 6: Innovation Capabilities in Nigerian Manufacturing

This vibrant cluster comprises Omolayo Oluwatope, Abiodun Egbetokun, Maruf Sanni, and Willie Siyanbola, among others. Their work examines knowledge sources, eco-innovation, and performance in Nigerian manufacturing firms, closely reflecting AfricaLics' core focus on learning, capability building, and industrial development. The number of authors and publications

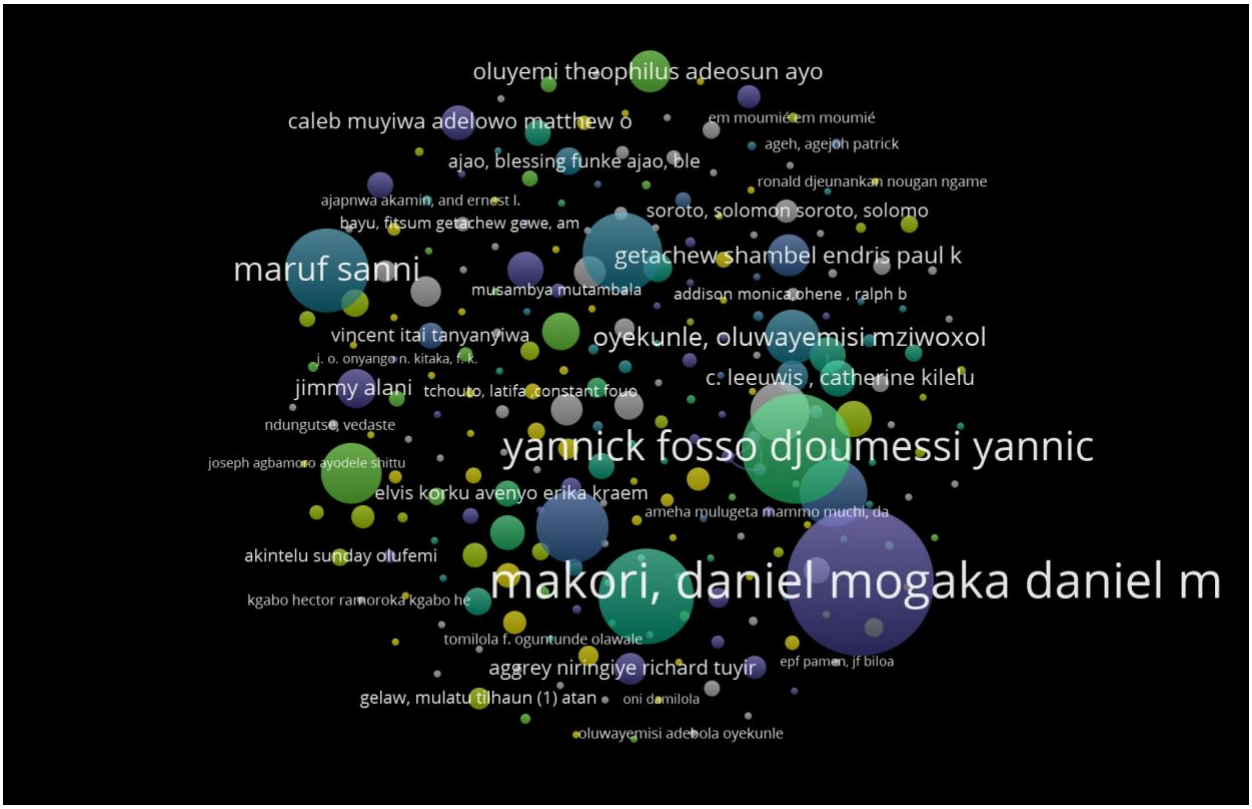
suggests a mature, productive network with sustained engagement across multiple AfricaLics events.

3.5.7 Cluster 7: Technological Learning and Incubation Systems in Nigeria

This cluster involves Caleb Adelowo, Matthew Ilori, Willie Siyanbola, and Billy Oluwale, focusing on technological learning and capability building in incubator settings. Their studies offer insights into institutional mechanisms of innovation support, a key AfricaLics research theme. The continuation of this collaboration across years reflects a long-standing research partnership, often seen among PhD supervisors, research teams, and institutional clusters.

All the 8 clusters not only reflect shared research interests but also signal the formation of epistemic communities and research ecosystems across Africa, particularly within East and West African contexts. The analysis also reveals varying degrees of collaboration, with some researchers operating in tightly-knit groups and others contributing through independent or less-networked pathways. This diversity is crucial for a vibrant AfricaLics community and underscores the importance of strengthening inter-cluster engagement to foster cross-regional and interdisciplinary innovation research.

Figure 3: Co-authorship Clusters of AfricaLics Research Conference Participants



3.6 Scholarly Publication Patterns of AfricaLics Conference Attendees

Table 3 and Figure 4 provide a snapshot of the publication destinations selected by participants following their presentations at the AfricaLics Research Conferences. The analysis in Table 3 integrates key indicators such as publication frequency, thematic relevance, estimated impact factors, open access status, and the extent of African research focus to shed light on the academic publishing behavior within the AfricaLics community. In addition to highlighting the journals preferred by conference participants, Figure 4 also illustrates the citation patterns associated with these journals, offering insights into their scholarly influence and reach.

3.6.1 Strong Preference for Thematically Aligned Journals with a Regional Focus

The *African Journal of Science, Technology, Innovation and Development* (AJSTID) is by far the most common outlet, with 23 articles published in this journal. This preference is unsurprising, as AJSTID is directly aligned with the AfricaLics mandate, focusing on innovation systems, STI policy, and inclusive development in Africa. Its hybrid open access model and regional focus make it accessible and relevant to African scholars, particularly early-career researchers and those aiming for policy impact. Approximately 30% of its content is Africa-focused, making it a natural choice for AfricaLics participants.

Similarly, *Innovation and Development*, though with a smaller number of publications by AfricaLics conference paper presenters (6 publications), holds a very high thematic alignment with the AfricaLics research agenda and the objectives of the AfricaLics RCB programme supported by Sida. It is a hybrid open access journal with global recognition for publishing high-quality work on innovation in developing countries. Its growing reputation in the Global South and 40% Africa-related content makes it a strong outlet for system-level innovation scholarship.

3.6.2 Selective Publication in High-Impact International Journals

A smaller number of participants managed to publish in top-tier journals like *Technological Forecasting and Social Change* (TFSC) and *Technovation*, which are both Q1-ranked with impact factors above 8.0 and 10.0, respectively. These journals are not open access and are highly competitive, which may explain their lower frequency (2 and 2 articles respectively). However, their inclusion shows that some AfricaLics researchers are producing work of globally

competitive quality, particularly in areas like technology forecasting, commercialization, and policy impact.

The challenge, however, remains that these journals have relatively low Africa-related content and their paywalls may limit access to African institutions, particularly those with limited subscriptions.

3.6.3 Modest Engagement with Entrepreneurship and Management-Focused Journals

Journals like the *Journal of Small Business and Enterprise Development* and the *African Journal of Economic and Management Studies* show moderate frequencies (3 and 5 publications). These journals focus more on entrepreneurship, SME development, and management practices, which align with themes like informal innovation, inclusive industrialization, and local development models, key sub-themes in AfricaLics research. Despite their moderate thematic alignment, their use by AfricaLics participants suggests an effort to broaden the conversation around innovation to include organizational and economic perspectives, even if these journals aren't strictly innovation-system-focused.

3.6.4. Expanding Presence in Open Access and Emerging Platforms

Emerging platforms like *Discover Journals, MDPI Journals*, and the *Journal of Innovation and Entrepreneurship* are also visible. These are fully open access and tend to have broader scopes. While they are not always well-indexed or consistently ranked, they offer fast publication timelines and accessibility, which is important for early-career researchers and Global South scholars who may face barriers in traditional publishing. These platforms also represent a strategic choice for researchers interested in greater visibility, broader dissemination, and policy engagement, even if the perceived prestige is lower.

Table 3: Post-Conference Publication Pathways of AfricaLics Research Conference Participants

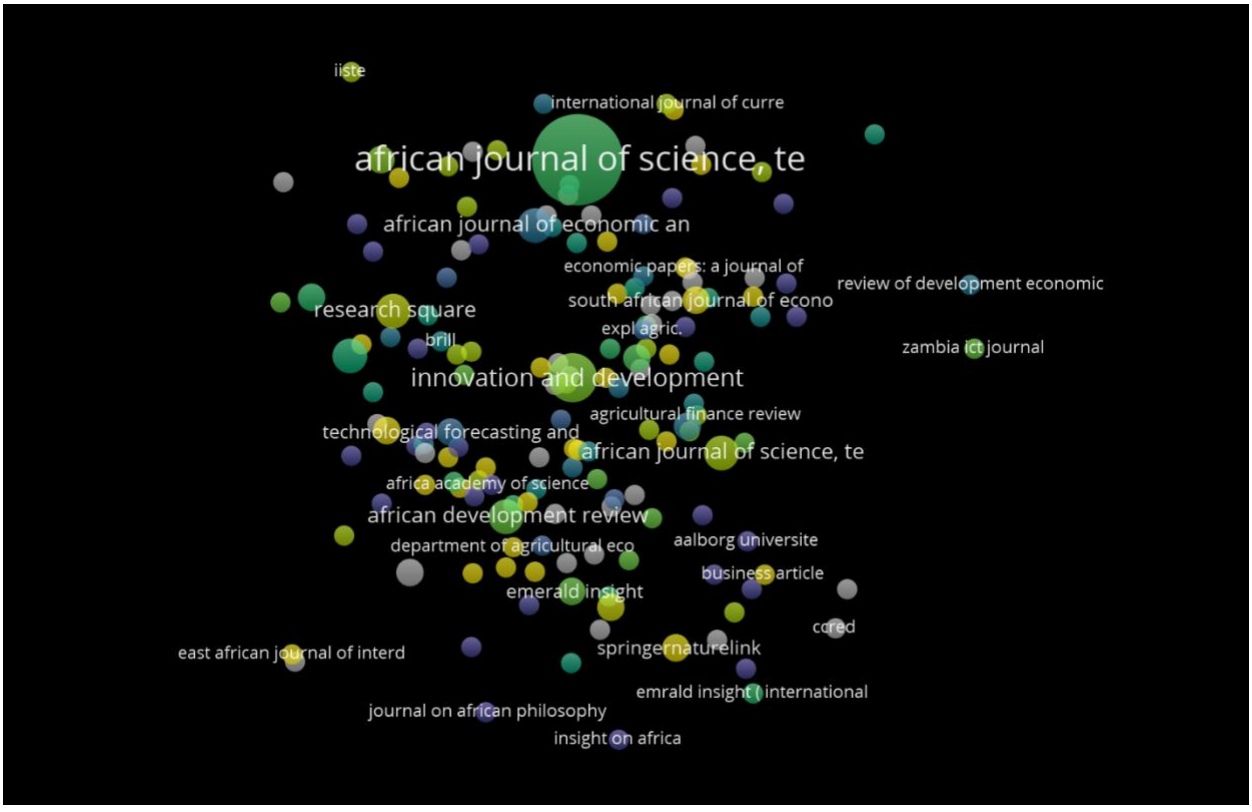
Journal Name	No. of articles per outlet	Impact Factor (Est.)	Theme Alignment with Innovation & Development Studies	Open Access (Yes/No)	% of Papers Published
African Journal of Science, Technology,	23	1.5 - 2.0	**High** (Focus on STI in Africa)	**Yes** (Hybrid)	~30% Africa-focused

Innovation and Development					
Innovation and Development	6	2.2	**Very High** (Global South innovation systems)	**Yes** (Hybrid)	~40% Africa-related
African Journal of Economic and Management Studies	5	1.2	**Moderate-High** (Economics + innovation linkages)	**No** (Subscription)	~25% Africa-focused
Technological Forecasting and Social Change	2	8.3 (Q1)	**High** (Tech innovation, societal impact)	**No** (Paywalled)	~15% Global South
Journal of Small Business and Enterprise Development	3	2.0	**Moderate** (Entrepreneurship in dev. contexts)	**Yes** (Hybrid)	~20% Africa-related
African Development Review	3	1.8	**High** (Policy, innovation, and growth)	**Yes** (Hybrid)	~35% Africa-focused
Technovation	2	10.5 (Q1)	**Very High** (Tech innovation, commercialization)	**No** (Paywalled)	~10% Africa-related
Creative Industries Journal	2	1.5	**Moderate** (Cultural innovation)	**Yes** (Hybrid)	~15% Global South
International Journal of Business Innovation and Research	2	1.0	**Moderate** (Business innovation models)	**No** (Subscription)	~10% Africa-related
Discover Journals	2	N/A (New/OA platform)	**Variable** (Broad scope)	**Yes** (Full OA)	<5% Africa-focused
MDPI Journals	2	Varies (1.5 - 5.0)	**Variable** (Sustainability, tech)	**Yes** (Full OA)	~10% Africa-related
Journal of Innovation and Entrepreneurship	2	2.7	**High** (Startups, innovation ecosystems)	**Yes** (Full OA)	~20% Africa-related

Archives of Business Research	2	Not indexed	Medium	Yes	Low (≈15–20%)
Review of Development Economics	2	~3	High	Hybrid	Medium (≈30–40%)
Review of Economics and Political Science	2	~1–2	Medium–High	Hybrid	Medium (≈30%)
Nile Journal of Business and Economics	2	Not indexed	Medium	Yes	High (≈60–70%)
Information Development	2	~2	Medium–High	Hybrid	Medium (≈30%)
International Journal of Gender and Entrepreneurship	2	~2–3	High	Hybrid	Medium (≈30–40%)
South African Journal of Economics	2	~1	High	Hybrid	High (≈70–80%)
International Journal of Innovation Management	2	~2	High	Hybrid	Low–Medium (≈20–30%)
Review of Agricultural and Applied Economics	1	~1	Medium	Hybrid	Low–Medium
Experimental Agriculture	1	~2	Medium	Hybrid	Medium
Journal of Science, Technology and Society	1	~2	Very High	Hybrid	Medium
Journal of Innovation and Knowledge	1	~5	High	Hybrid	Low–Medium

Journal of Responsible Innovation	1	~4	Very High	Hybrid	Low–Medium
Technology in Society	1	~4	High	Hybrid	Medium
Others	100 (Multiple 1 each)				

Figure 4: Post-Conference Publication Outcomes of AfricaLics Research Conference Participants



3.7 Scholarly Output and Impact of AfricaLics Research Conferences

Table 4 presents a longitudinal overview of key scholarly metrics associated with the AfricaLics Research Conferences from 2015 to 2024. These metrics include the number of participants, peer-reviewed articles published after the conferences, total citations received, and average citations per publication. The data provides a lens through which to assess the academic productivity, dissemination, and scholarly influence of AfricaLics conference participants over time.

3.7.1 Growth in Participation, Decline in Research Output per Capita

Over the decade, participation in AfricaLics conferences has generally increased, from 70 paper presenters in 2015 to 109 in 2024. However, this growth in participation has not translated into a proportional increase in published outputs or citations. In fact, the number of articles published per participant has declined, particularly in 2022 and 2024. This is shown in Table 4. While some of the decline in the number of articles published per participant may have to do with delays in publishing processes (many journals have high number of submissions compared to number of issues they produce per year, creating delays in publishing even if a paper is accepted). The decline may also have to do with other factors such as e.g. a limited pipeline of research on I&D issues as well as limitations in post-conference mentorship and publishing support and a fairly high number of poster presenters admitted for participation in the conference in Ilorin in 2024.

3.7.2 Peak Performance: Oran 2017 and Dar es Salaam 2019

The 2017 conference in Oran, Algeria, stands out with the highest average citation per publication (32.00) and the third-highest number of articles (30), despite having fewer paper presenters (67). This suggests that papers presented during this edition had substantial scholarly quality, originality, or better alignment with journals of higher visibility. Similarly, Dar es Salaam 2019 produced the highest number of articles (47) and total publications, although the average citation (20.00) was lower than Oran's. These two conferences can be considered high-impact years, likely driven by a well-curated conference theme (call), stronger research capacity among participants, and more effective follow-up publication efforts by individual scholars and publishers such as AJSTID and I&D. In the case of Oran, the fact that the local organisers made a big effort to ensure the possibility of publishing in conference proceedings is also likely to have played a role for the high numbers of papers published, even if publishing in the conference proceedings was voluntary.

3.7.3 Post-COVID Challenges: Yaoundé 2022 and Ilorin 2024

The 2022 and 2024 conferences mark a decline in average citations per article and in total citations. Particularly:

- 2022 (Yaoundé): Although the number of presenters (83) remained high, only 41 articles were published, and the average citation per publication dropped sharply to 9.24.
- 2024 (Ilorin): With 102 participants, the highest recorded, only 24 articles were published with a very low average citation of 5.29.

This pattern may reflect residual effects of the COVID-19 pandemic, including disrupted research timelines, limited access to fieldwork or labs, delayed peer review processes, and greater difficulty in publishing in high-impact journals. Additionally, the Ilorin 2024 conference included more poster presentations than previous conferences and finally, the Ilorin 2024 conference occurred less than a year ago, and since citation metrics often take time to accumulate, especially for early-career researchers in the Global South, this could also influence the results. Publishing challenges such as high article processing charges, limited mentorship, or low journal acceptance rates may also play a role.

The overall numbers, 176 articles from 411 paper presenters across 5 conferences, suggest that approximately 1 in 2 participants eventually publish a peer-reviewed article following participation in an AfricaLics conference. This is highly commendable, especially given Africa's broader structural challenges in academic publishing. For instance, Confraria and Godinho (2015) reported that Africa accounted for only 2.6% of global research articles indexed in the Web of Science as of 2013. Similarly, evidence from Scopus indicates that Sub-Saharan Africa contributed just 3.0% of global COVID-19–related research publications, underscoring the region's limited representation in the international research output (Asubiaro & Shaik, 2021). At the same time, the total citation counts of 3,175 over 10 years (averaging about 18.04 citations per publication) reflects the growing scholarly influence of AfricaLics conference participants. However, the declining citation trends in recent years underscore the need for greater visibility and strategic dissemination of AfricaLics research, including better use of social media, open access repositories, and policy briefs to enhance impact and uptake.

Table 4: Scholarly Output and Citation Trends from AfricaLics Research Conferences

Year	Host Institution	Location	Paper presenters	Articles Published	Total Citations	Average Citations per Publication
2015	University of Rwanda	Kigali, Rwanda	70	34	769	22.62
2017	University of Oran II	Oran, Algeria	67	30	960	32.00

2019	University of Dar es Salaam	Dar es Salaam, Tanzania	82	47	940	20.00
2022	University of Yaoundé II	Yaounde, Cameroon	83	41	379	9.24
2024	University of Ilorin	Ilorin, Nigeria	109	24	127	5.29
Total			**411**	**176**	3175	18.04

4. Conclusion and Policy Recommendations

4.1 Conclusion

For the last decade, AfricaLics Research Conferences have played a pivotal role in nurturing scholarly engagement on innovation and development in Africa. With 411 paper presenters producing 176 peer-reviewed articles, the initiative has demonstrated its capacity to stimulate post-conference research dissemination. The data reveals that while participation in AfricaLics conferences has grown steadily, the translation of participation into high-quality research outputs has been uneven across the years.

The 2019 and 2017 editions stand out as high-performance years in terms of both publication volume and citation impact, suggesting that well-curated themes, institutional support, and post-conference mentorship may have significantly enhanced research productivity. Conversely, the lower output from the 2024 conference, may cause some concern, although the reasons for the lower output are not crystal clear. The time-sensitive nature of academic publishing and the structural barriers faced by researchers in the Global South, including access to journals, publication costs, and editorial biases may provide for some of the difference in performance, but other reasons (e.g. more limited post-conference support to participants, a higher-than-normal percentage of poster presenters etc.) may also play a role.

The thematic analysis of research keywords reveals a rich, diverse and dynamic innovation research in Africa, spanning behavioural studies, agriculture, climate change, manufacturing, inequality, and grassroots innovations. The co-authorship network analysis further illustrates the emergence of collaborative ecosystems, though disparities remain in collaborative intensity and inter-cluster connections.

While the concentration of participants from lower-middle-income countries speaks to the conference's inclusiveness and accessibility, the underrepresentation of women (28.29% of participants) indicates that significant gender disparities persist and require strategic redress.

Finally, the post-conference publication pathways highlight a dual strategy: publication in regionally focused journals such as *AJSTID* and in globally recognized journals like *Innovation and*

Development, Technovation, and *Technological Forecasting and Social Change*, albeit at lower frequencies. This suggests that AfricaLics scholars are seeking both regional relevance and international visibility, but face access barriers to the latter.

In all, while AfricaLics has made commendable strides in research capacity building, scholarly visibility, and innovation research ecosystem development in Africa, a deliberate recalibration is required to sustain and scale these achievements. Strategic investments in mentorship, institutional partnerships, gender inclusion, and open access publishing will be essential to deepen the impact of the AfricaLics initiative in the coming decade.

4.2 Policy Recommendations

4.2.1 Strengthen Post-Conference Mentorship and Publication Support

To address the observed fluctuations in publication productivity, AfricaLics should consider establishing a structured post-conference mentorship programme. This could be done through the national LICS chapters, spokes, research coordinating areas, and other relevant initiatives. This could include writing workshops, peer-review support groups, and publication coaching tailored for early-career researchers. Additionally, continued efforts to ensure partnerships with journal editors and special issue arrangements in connection with AfricaLics conferences can help ensure higher post-conference publication results. At the same time, voluntary, locally led conference proceedings have proven effective in increasing the conversion rate of manuscripts presented at conferences into journal publications, as demonstrated by the AfricaLics Conference in Algeria.

4.2.2 Promote Gender Equity in Participation and Research Leadership

AfricaLics should continue to strengthen gender-responsive strategies to close the gender gap in conference participation and scholarly outputs. In addition to the gender-responsive affirmative action that has been implemented in the past, more efforts should be made to ensure more targeted fellowships and travel grants for women researchers, mentorship networks pairing senior female scholars with junior researchers, dedicated panels and sessions on gender and innovation policy.

4.2.3 Facilitate Access to High-Impact Journals and Open Access Platforms

Given the structural disadvantages faced by African researchers in publishing, AfricaLics should advocate for and invest in institutional partnerships with journals to waive or reduce Article

Processing Charges (APCs), open-access publishing platforms that support Global South research, a centralized AfricaLics digital repository for preprints, working papers, and policy briefs to increase visibility and citations or partner with established preprint repositories.

4.2.4 Expand South–South and South–North Research Collaboration

The co-authorship analysis points to promising networks within and across countries. To strengthen these, AfricaLics should strengthen thematic Research Coordination Areas (RCAs) that encourage interdisciplinary and cross-regional collaboration, encourage joint grant applications involving multiple African institutions and international partners with focus on early career researchers, facilitate exchange programs, visiting fellowships, and cross-border supervisory arrangements.

4.2.4 Enhance Institutional Capacity of Research Ecosystems

Given the strong contributions from lower-middle-income countries, AfricaLics should support capacity-building initiatives that enhance institutional environments for innovation research. This could include training in research methods, impact assessment, and science communication, working within policy space to embed innovation metrics in national development planning. Additional fundraising will be required if such steps are to be successful, however.

4.2.5 Establish a Long-Term Impact Evaluation Framework

To better assess its influence, AfricaLics should track the career progression of past participants (especially early career scholars), monitor the citation and policy use of conference papers over time, evaluate the effectiveness of its interventions through independent impact assessments. The current study and efforts by the outgoing AfricaLics Secretariat to update information available in the AfricaLics membership database represent valuable steps in this direction.

By implementing these policy recommendations, AfricaLics can consolidate its position as a cornerstone of innovation and development scholarship in Africa. More importantly, it can foster an inclusive, collaborative, and impactful research ecosystem that not only generates knowledge but helps translate it into sustainable development outcomes for the continent.

5. References

Confraria, H., & Godinho, M. M. (2015). The impact of African science: A bibliometric analysis. Scientometrics, 102(2), 1241–1268.

Asubiaro, T. V., & Shaik, H. (2021). Sub-Saharan African countries' COVID-19 research: An analysis of the external and internal contributions, collaboration patterns and funding sources. Open Information Science, 5, 263–277. https://doi.org/10.1515/opis-2020-0125