ReFinD
Retail Finance Distribution

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ICED
The International Centre for Evaluation and Development

Advancing Agent Networks and Merchant Payments for Financial Inclusion in Low- and Middle-Income Countries (LMICs)

A NETWORK ANALYSIS

by International Center for Evaluation and Development

ABOUT THE ORGANIZATION

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Summary

TThis network analysis builds on the evidence and gap map (EGM) on Advancing Agent Networks and Merchant Payments for Financial Inclusion in Low- and Middle-Income Countries (LMICs). The analysis systematically identified, categorized, and visualized existing evidence on agent network and merchant payment interventions against key outcomes, including access and reach, usage and uptake, service quality, sustainability, and ecosystem development. It captures evidence on supply-side factors such as network organization, agent and merchant incentives, liquidity management, infrastructure, interoperability, business viability, and expansion strategies.

The network comprises 272 studies, including 35 experimental, 71 qualitative, 6 review, and 106 non-experimental. These publications, produced between 2000 and 2024, involve a total of 640 authors. While the studies primarily focus on retail finance distribution (ReFinD) initiatives in low- and middle-income countries (LMICs), the analysis reveals that the contributing authors are affiliated with institutions across both the Global South and the Global North. This highlights the growing international interest in this field of research. At the same time, it provides valuable insight into the geographical distribution of research expertise, revealing where knowledge of production, collaboration, and scholarly leadership is most strongly concentrated.

The co-authorship network reveals a small group of highly productive and well-connected authors. Michael Kodom (University of Ghana) led with 10 publications and the highest total link strength (52), followed by Peter Quartey with 8 publications and a comparable link strength of 48. Francis Annan, despite 9 publications, recorded a substantially lower link strength of 18, suggesting that publication volume does not necessarily translate into stronger network connectivity. Moreso, Agyapomaa Gyeke-Dako recorded 47 links from 7 publications, emerging as the highest-ranked female author among the leading contributors. Followed by Andrew Agyei-Holmes, Cynthia Akwei, and Simon Bawakyillenuo, each recording 37 links from 5 publications. This highlights strong collaborative engagement across the network. Overall, the findings indicate considerable variation in the authors' collaborative influence beyond publication productivity alone.

Of the 7 authors with 4 publications each, Innocent Agbelie, Richmond Ankomah, and Mawuenyega M. Butu recorded relatively high total link strengths of 32, compared with Daniel Osarfo (8), Liu Zhe (10), Apoorv Gupta (13), and Kwami Ahiabenu (10). Despite their moderate publication output, the 3 authors demonstrate strong collaborative connectivity, suggesting a potential bridging role across different research clusters. This pattern reinforces that research influence is not determined solely by publication volume. Authors with fewer publications can exert substantial network influence through strong collaborative ties, facilitating knowledge exchange and connecting otherwise distinct groups of researchers. Such researchers, therefore, contribute significantly to knowledge integration and cross-network collaboration.

Overall, the findings show that although ReFinD research is geographically diverse, collaboration is concentrated around a relatively small group of highly connected researchers. Expanding these collaborative networks, particularly by strengthening partnerships led by researchers and institutions in Sub-Saharan Africa, could enhance knowledge sharing, reduce fragmentation within the research community, and support the generation of more locally relevant evidence to inform the development and implementation of ReFinD initiatives.

1. Background

The International Centre for Evaluation and Development (ICED) has developed an evidence and gap map (EGM) on Advancing Agent Networks and Merchant Payments for Financial Inclusion in Low- and Middle-Income Countries (LMICs), with support from the team leading the Institute of Statistical, Social and Economic Research's (ISSER) Retail Finance and Distribution (ReFinD) initiative, which is funded by Gates Foundation.

The evidence and gap map (EGM) is built on a published protocol and systematically identifies, categorises, and visualises existing evidence on agent network and merchant payment interventions. The evidence is mapped against key outcome domains, including access and outreach, adoption and usage, service quality,

sustainability, and ecosystem development. The EGM draws on studies identified through comprehensive searches of academic bibliographic databases as well as relevant organisational and institutional websites. It incorporates both completed and ongoing research that satisfied predefined eligibility criteria, providing a comprehensive overview of the available evidence and highlighting areas where further research is needed.

The study selection process was guided by a clearly defined PICOS (population, interventions, comparators, outcomes, and study design) framework, which informed the eligibility criteria for inclusion. Studies were identified and screened using the EPPI-Reviewer software, with independent screening conducted at the title, abstract, and full-text stages to ensure methodological rigour, consistency, and transparency. The EGM incorporates a broad range of quantitative, qualitative, and mixed-methods studies, as well as systematic and other evidence reviews. This comprehensive approach captures the diversity of methodologies employed to evaluate agent network and merchant payment interventions, providing a robust evidence base across the mapped outcome domains.

The evidence and gap map (EGM) categorised retail financial distribution initiatives across several intervention domains, including agent and merchant network development, capacity building, digital financial infrastructure and innovation, and policy and regulatory enablers. The interventions were mapped against a range of outcome areas, including service point availability and accessibility, user adoption and transaction frequency, customer experience and satisfaction, transaction security and fraud prevention, and broader ecosystem performance. The mapping results indicate that the existing evidence is heavily concentrated on digital financial infrastructure and innovation interventions, while comparatively fewer studies examine agent and merchant network development.

In terms of study design and evaluation type, the evidence base is dominated by non-experimental and quasi-experimental studies, alongside qualitative research and reviews—mainly systematic reviews and scoping reviews.

In addition to developing the EGM, ICED conducted a network analysis of authors, their institutional affiliations, and the countries in which these institutions are based. Network analysis provides insights into the structure of the research and collaboration landscape within the financial inclusion field. Specifically, it sheds light on patterns of collaboration among researchers producing evidence on agent network and merchant payment interventions and highlights how knowledge production is distributed across institutions and regions.

The network analysis identifies key authors and institutions that have contributed substantially to the retail finance distribution evidence base. By examining publication and authorship patterns, the analysis helps to identify influential researchers, leading institutions, and collaboration clusters within the field. It also highlights the geographic distribution of authors' institutions, enabling comparisons between the countries where agent network and merchant payment interventions are implemented and the countries where the research is led.

The central question guiding this analysis is: Where are the lead authors of retail finance and distribution studies based - within the low- and middle-income countries (LMICs)? Addressing this question provides important insights into global research equity, ownership of knowledge production, and the extent to which local researchers and institutions are leading research on advancing agent networks and merchant payments for financial inclusion. The findings are intended to inform discussions on research partnerships, capacity strengthening, and funding strategies, with the broader aim of supporting more equitable, locally led ReFinD research and evidence generation.

2. Method

2.1 Data

The network analysis was conducted using metadata extracted from the 151 studies included in the evidence and gap map (EGM). Using EPPI-Reviewer, the research team systematically extracted and coded authorship information, including the names of lead and co-authors, the institutional affiliations of lead authors, and the countries where these institutions are based.

In addition to authorship data, bibliographic information such as the study title, publication or reporting year, journal name, volume, page numbers, and Digital Object Identifier (DOI), where available, was collected. These data provided the basis for descriptive analyses and the mapping of co-authorship and institutional collaboration networks.

The metadata was exported from EPPI-Reviewer into Microsoft Excel, in CSV format, and subsequently imported into VOSviewer for network analysis. Prior to analysis, the dataset was carefully cleaned and standardised to harmonise author names, institutional affiliations, and country identifiers. This quality assurance process eliminated duplicate entries, corrected spelling inconsistencies, and ensured the accurate mapping of collaboration patterns among authors, institutions, and countries. Standardising names in VOSviewer results in a reversal of the authors' name order, i.e. last name is mentioned first, followed by the first names and middle initials, where applicable.

2.2 Framework development and scope

Network analysis was conducted using VOSviewer, a software tool widely used for bibliometric and co-authorship analysis. As a preliminary step, descriptive statistics were generated to summarize the distribution of publications across authors. This was followed by network analyses focusing on (i) co-authorship relationships among authors and (ii) institutional and country-level collaboration patterns based on lead authors' affiliations.

For the co-authorship analysis, VOSviewer calculated the total link strength for each author, reflecting the extent of their collaborative relationships with other authors in the dataset. Authors with the highest total link strength were included in the co-authorship network visualization.

The resulting co-authorship map highlights the giant components of the network, clusters of authors who have collaborated extensively with one another. To enhance interpretability, authors with only a single publication or minimal collaboration links were excluded from the visualization. The co-authorship network consists of nodes and edges, where each node represents an individual author with at least two publications, and each edge represents a co-authored publication between two authors.

The size of each node is determined by the author's betweenness centrality, a measure indicating how frequently an author acts as a bridge or connector between other authors in the network. Authors with high betweenness centrality play a critical role in linking otherwise separate groups of researchers. For example, an author who co-authors multiple papers with different sets of collaborators will exhibit higher betweenness centrality than an author who repeatedly publishes with the same group. Such authors occupy strategically important positions in the knowledge network, facilitating information flow and collaboration across the research community.

3. Results and discussion

Figure 1 presents a descriptive analysis of the distribution of publications among authors included in the co-authorship network analysis. A total of 639 authors were identified across the included studies. Of these, 559 authors contributed to only one publication, highlighting a highly fragmented authorship landscape within this research area.

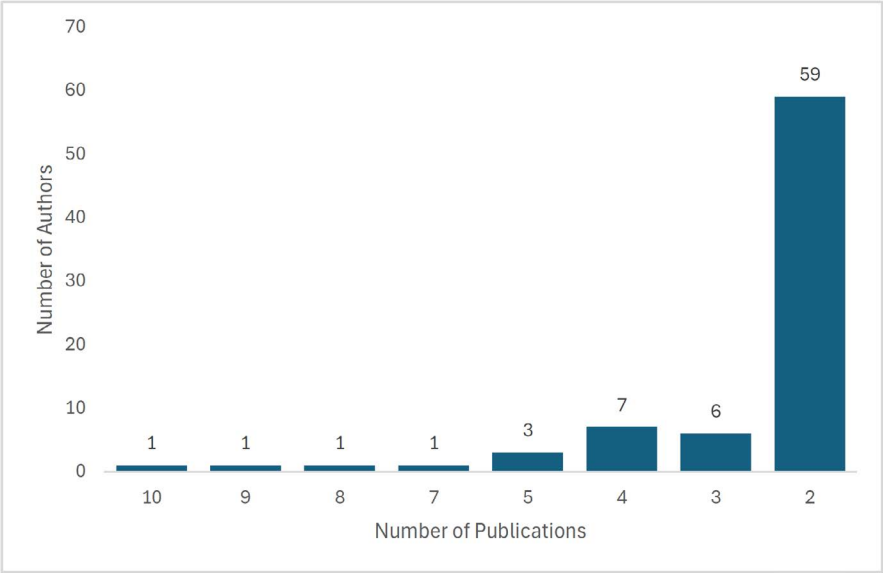
Among the most prolific authors in the dataset, one author contributed to 10 publications, representing the highest number of publications, followed by two authors with nine and eight publications each. Three authors also contributed to five publications each, and eight authors contributed four publications each. Additionally, seven authors had three publications each, while 59 authors authored two publications each.

Notably, several authors with relatively few publications demonstrated stronger collaborative networks than some prolific authors, as reflected by their higher total link strengths. This finding suggests that publication volume does not necessarily correspond to the extent of research collaboration. This has been discussed further in the subsequent chapters.

Overall, the findings indicate that the ReFinD initiative literature is dominated by authors who have contributed only a single publication. Consequently, the co-authorship network is relatively sparse, with a limited number

of recurring contributors driving collaboration within the field. Authors with at least two publications, who constitute the basis of the co-authorship network analysis, are presented in Appendix Table 1.

Figure 1: Number of publications among authors



Source: Data from EPPI-Reviewer analyzed in Excel

3.1 Network analysis among authors of the included studies

The co-authorship map illustrates patterns of collaboration among authors involved in academic and research publications. It examines relationships between authors based on shared authorship of studies, thereby revealing the structure of co-authorship networks within the evidence base.

In this analysis, a total of 639 authors were included, as identified using VOSviewer. The lead authors among these contributors are affiliated with 186 organizations across 51 countries, highlighting the recommendable institutional and geographical spread of research related to this evidence base.

3.2 Collaboration among authors

Figure 2 presents the co-authorship network of authors included in the ReFinD evidence and gap map (EGM), generated using VOSviewer. In this network, each node represents an individual author, with the size of the node reflecting the author's publication output. The links (edges) between nodes represent co-authorship relationships, while the total link strength indicates the overall intensity of an author's collaboration with other researchers in the network.

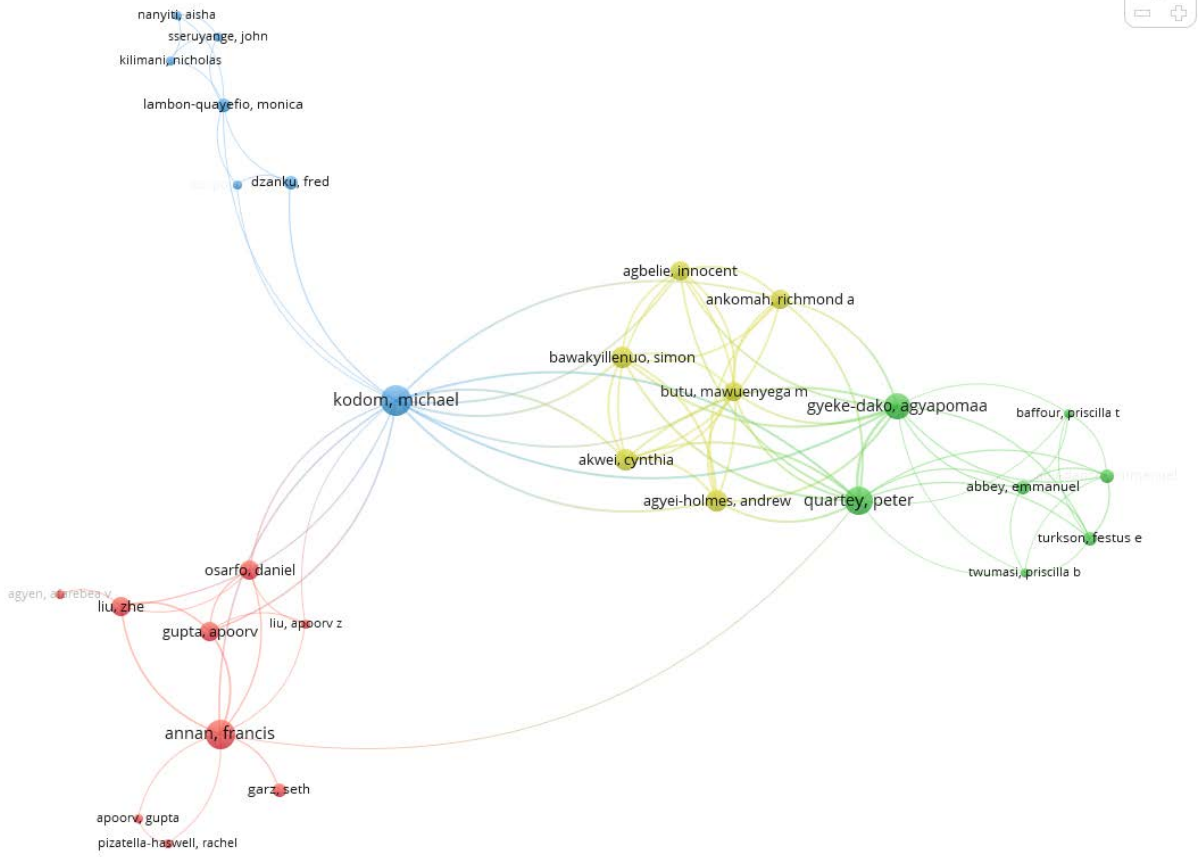
The visualization reveals several distinct collaboration clusters, indicating recurring partnerships among groups of researchers. These clusters suggest that collaboration within the ReFinD research landscape is well established, with authors forming interconnected networks that contribute to the development and dissemination of knowledge in the field.

Overall, the network comprises 30 collaborating authors. Among the most influential contributors, **Michael Kodom** emerged as the most prolific and collaborative author, with 10 publications and the highest total link strength of 52, indicating the strongest collaborative connections within the network. **Francis Annan** and **Peter Quartey** follow closely, contributing to 9 and 8 publications, respectively. **Agyapomaa Gyeke-Dako** was the leading female contributor, with 7 publications and a relatively high total link strength of 47, suggesting a strong level of collaboration within the network. Comparably, though **Peter Quartey** had 8 publications, he had a recorded total link strength of 48, whereas Francis Annan had 18 total link strength for his 9 publications. This finding demonstrates that higher publication output does not necessarily translate into stronger collaboration, as measured by total link strength.

Three additional authors—Andrew Agyei-Holmes, Cynthia Akwei, and Simon Bawakyillenuo—each contributed five publications with an identical total link strength of 37. Their strong collaborative connections

indicate that they contribute not only through research productivity but also by facilitating collaboration across multiple research groups.

Figure 2: Co-authorship map among authors



Source: Data on authors of the included studies from EPPI-Reviewer analyzed using VOSviewer

Meanwhile, from Table 1 in the appendix, among the eight authors with four publications each, four had relatively low total link strengths, ranging from 8 to 13. Whereas the remaining four authors had the same total link strength of 32, indicating a high level of collaboration despite their moderate publication output. These authors were Agyapomaa Gyeke-Dako, Richmond A. Ankomah, Innocent Agbelie, Mawuenyega M. Butu, and Kwami Ahiabenu. Their strong collaborative ties suggest that they play an important bridging role, connecting different groups of researchers within the network.

These findings suggest that research influence within the ReFinD landscape is not determined solely by publication output. For example, Agyapomaa Gyeke-Dako, despite having only three publications, recorded a notable total link strength of 15—higher than that of several authors with four publications. This demonstrates that an author's position within the collaboration network is shaped not only by the number of publications but also by the extent and depth of their collaborative relationships.

Consequently, authors with relatively fewer publications can still make significant contributions by connecting research groups, facilitating knowledge exchange, and strengthening collaboration across the network. Such highly connected researchers play an important role in promoting knowledge integration and fostering cross-cluster collaboration within the ReFinD research landscape.

Overall, the co-authorship map highlights a concentrated collaboration structure in which a relatively small group of highly connected authors anchors the research network. These authors contribute not only through sustained research productivity but also by strengthening collaborative ties across research teams, thereby facilitating knowledge exchange and shaping the evidence base within the Retail Finance Distribution initiative EGM. The presence of several tightly connected clusters further suggests that the field is driven by established collaborative partnerships, which may enhance research quality, promote interdisciplinary knowledge sharing, and support the development of a cohesive body of evidence.

3.3 Geographical distribution of included studies

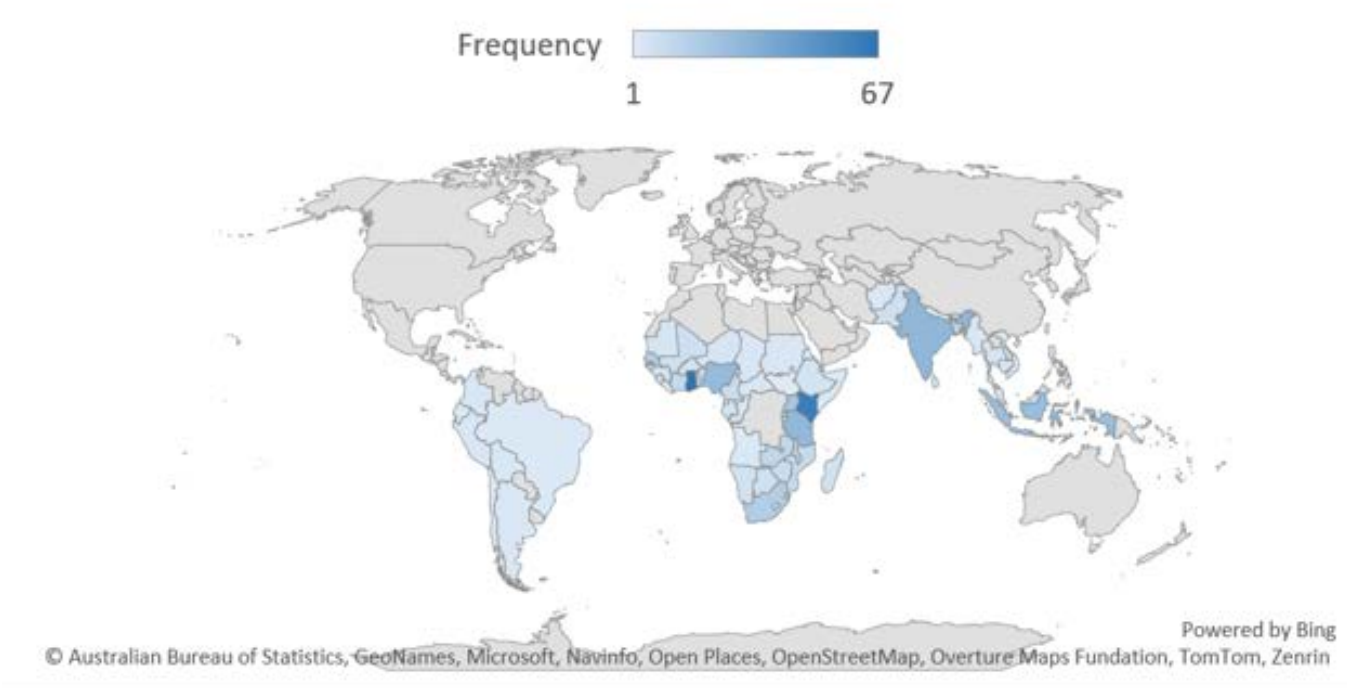
Geographical Distribution of Studies by Continent and African Sub-region

The geographical distribution of the evidence demonstrates considerable international coverage, but with a strong concentration in Africa. Across the 69 countries represented in the dataset, Africa accounts for 77.5% across 47 countries, followed by Asia with 19.4% across 15 countries and the Americas across seven countries (3.1%). No observations were recorded from Europe or Oceania. The dominance of Africa indicates that the evidence base is primarily informed by African contexts, while the relatively smaller contribution from Asia and the Americas suggests more limited representation of non-African settings.

Within Africa, the distribution of evidence is uneven across sub-regions. West Africa contributes the largest share, with 16 countries, followed by East Africa across 10 countries. Southern Africa accounts for 14 countries, while Central Africa contributes across seven countries.

The concentration is particularly pronounced within West Africa. Ghana contributes the most studies in the entire dataset, with 67, followed by Nigeria (28) and Senegal (17). Ghana alone accounts for 38.5% of the West African evidence, while Ghana and Nigeria together account for 54.6%. Other West African countries have substantially lower levels of representation, including Côte d'Ivoire (10), Benin (9), Sierra Leone (8),

Figure 3: Geographical distribution of studies sites



Source: Data on studies included in the EGM in EPPI-Reviewer

Mali (7), and Burkina Faso, Guinea, and Togo (5 each). Several countries, including Cabo Verde, The Gambia, and Liberia, have only one observation. This indicates that the relatively strong representation of West Africa is driven largely by a small number of countries rather than being evenly distributed across the sub-region.

East Africa shows a similarly concentrated pattern. Kenya contributes 62 studies, followed by Tanzania (29) and Uganda (22). These three countries collectively account for 113 studies. Kenya alone represents 46.3% of the sub-region's evidence. Other East African countries, including Rwanda (7), Ethiopia (5), Burundi (2), Somalia (2), Eritrea (1), and South Sudan (1), have considerably less representation. The pattern suggests that the substantial East African evidence base is largely shaped by research conducted in a small number of relatively prominent digital financial services markets.

Southern Africa's contribution spans 14 countries, demonstrating somewhat broader geographical representation. South Africa records the highest number of studies (17), followed by Zambia (12), Mozambique

(10), Zimbabwe (9), and Malawi (8). Botswana and Namibia contribute six observations each, while Angola (2), Eswatini (3), Lesotho (3), Mauritius (5), Madagascar (6), Seychelles (2), and Comoros (1) are less represented. The evidence is more dispersed across countries in Southern Africa than in West and East Africa.

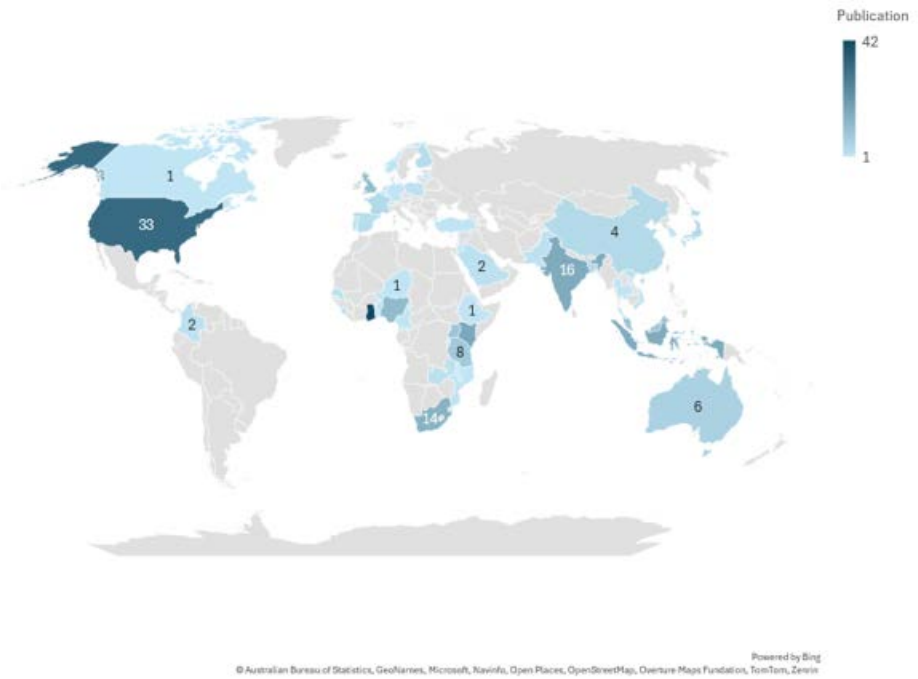
Central Africa is the least-represented African sub-region across seven countries. Cameroon and the Democratic Republic of Congo contribute nine observations each, followed by Gabon (5). The Central African Republic, Chad, and the Republic of Congo contribute three observations each, while Equatorial Guinea has only one observation. The limited evidence from Central Africa represents a notable geographical gap, particularly when compared with the much larger evidence bases in West and East Africa.

The Asian evidence base, although considerably smaller than that of Africa, is also concentrated geographically. India contributes 30 studies and Indonesia follows with 26, together accounting for 51.9% of all Asian observations. Bangladesh follows with 12 observations, while Pakistan and Malaysia contribute seven and six respectively. The remaining Asian countries contribute between one and four observations. Similarly, the Americas contribute only 17 observations across seven countries, with Argentina, Bolivia, Colombia, and Peru each contributing three observations, Brazil and Ecuador two each, and Chile one.

Overall, the findings reveal a pattern of **broad geographical reach but uneven evidence depth**. Although the evidence spans 69 countries across three continents, more than three-quarters of all observations are from Africa. Within Africa, evidence is further concentrated in West and East Africa, while Central Africa remains substantially underrepresented.

These findings have important implications for interpreting the applicability of the evidence. Geographical representation should not be equated with geographical depth, as several countries are represented by only one or a few observations. Future research should, therefore, focus not only on expanding coverage to additional countries but also on strengthening the depth of evidence in underrepresented settings. The findings highlight the need for greater research attention to Central Africa and to countries with limited representation across West, East and Southern Africa. A more balanced geographical evidence base would provide stronger comparative insights into how digital financial interventions operate across different geographic and regulatory contexts and would enhance the applicabiltiy of evidence for policy and programme decision-making.

Figure 4: Geographic distribution of countries of lead authors' institutions



Source: Data from EPPI-Reviewer analyzed using Microsoft Excel

3.4 Distribution of lead authors' countries

Figure 4 presents the geographical distribution of lead authors' institutional affiliations for the studies included in the EGM. Overall, lead authors were affiliated with institutions in 51 countries, demonstrating the global reach of research on ReFinD interventions in low- and middle-income countries (LMICs).

Among the countries represented, Ghana contributed the highest number of studies with 42 studies. This makes Ghana the leading contributor within Africa and reflects the country's strong research capacity and sustained scholarly engagement in ReFinD interventions. The USA ranked second with 33 studies, underscoring its continued prominence in the global research landscape.

Other notable contributors included Kenya (17 studies), India (16), Indonesia (16), and South Africa (14).

Nigeria and the United Kingdom each contributed 12 studies, while China, France, and Japan each accounted for four studies. The distribution of the top ten countries by lead author affiliation is presented in Table 2 in the Appendix.

The remaining countries contributed one or two studies each, indicating broader but less intensive participation in the evidence base. Although these contributions were relatively modest, they demonstrate the wide geographical spread of research activity and the growing international interest in ReFinD interventions. These geographical patterns are further illustrated in the density visualization presented in Figure 6 of the Appendix, which shows concentrations of research activity in Western and Eastern Africa, alongside selected countries in Europe and North America.

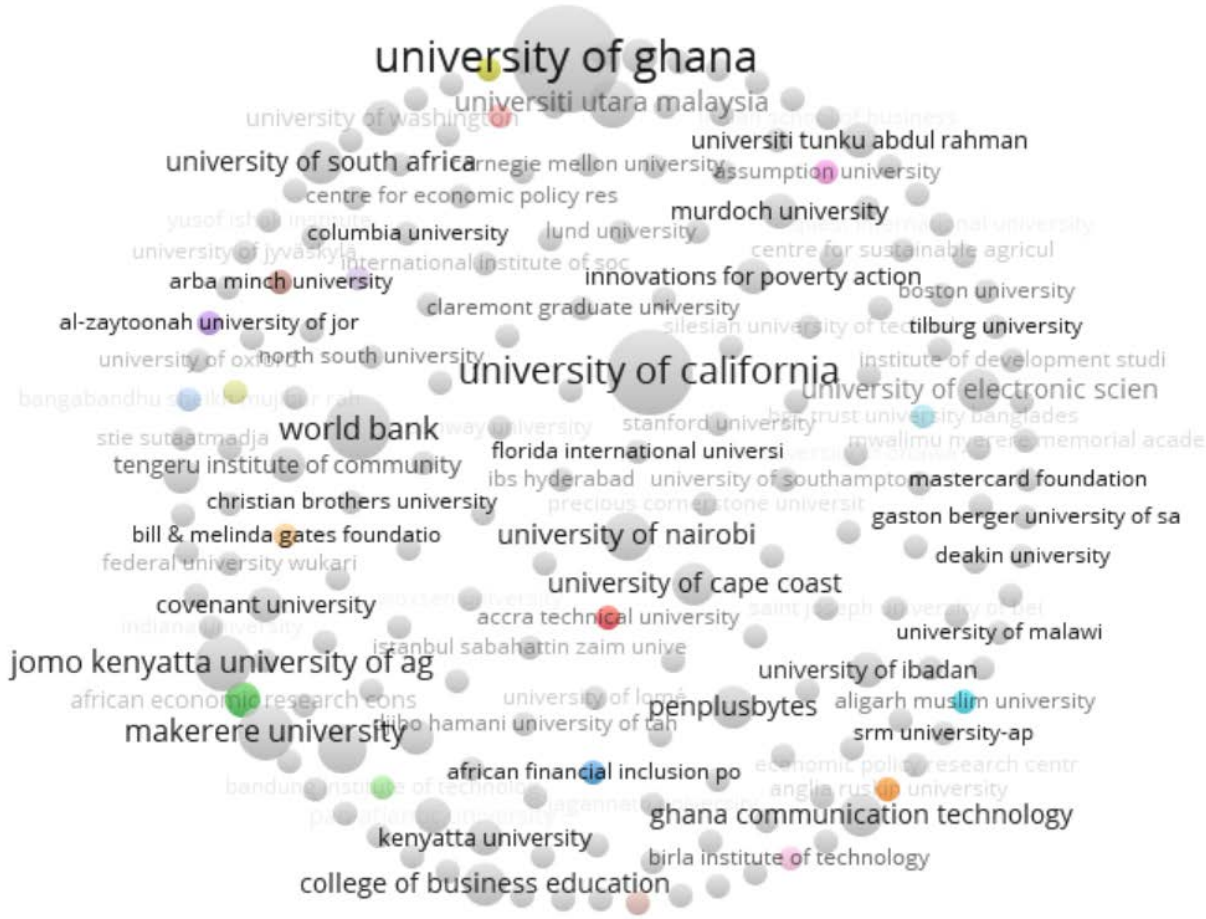
Overall, the findings highlight the emergence of Africa, particularly Ghana as an important centre of research leadership, while also reflecting the continued influence of institutions in the Global North through their substantial contribution to the evidence base.

3.5 Distribution of lead author's institutions affiliations

Figure 5 presents the distribution of lead authors' institutional affiliations using a bubble visualization. In this figure, the size of each bubble is proportional to the number of publications associated with an institution, with larger bubbles representing higher publication output and smaller bubbles indicating fewer publications.

The analysis identifies the University of Ghana (UG) as the leading institution, contributing 19 studies through lead author affiliations. This highlights the university's strong research capacity and leadership in generating evidence on ReFinD interventions and related development outcomes. The University of California ranked second with 12 publications, reflecting the broader contribution of United States-based institutions to the evidence base.

Figure 5: Authors' institutions map



Source: Data from EPPI-Reviewer analyzed using VOSviewer

Other institutions with notable publication output included the World Bank (7 studies), Jomo Kenyatta University of Agriculture and Technology (5 studies), and Makerere University (5 studies). Kwame Nkrumah University of Science and Technology, Universiti Utara Malaysia, and the University of Nairobi each contributed four studies, demonstrating the active involvement of leading universities across Africa and Asia.

Beyond these prominent institutions, a wide range of universities, research institutes, non-governmental organizations, and international organizations each contributed between one and three studies. This distribution reflects a broad and geographically diverse institutional base supporting ReFinD research. However, the concentration of publications among a relatively small number of institutions suggests that research leadership and evidence generation remain centred within a limited group of highly productive organizations, while many others contribute less frequently to the field.

4. Implications for stakeholders

The findings have important implications for a range of stakeholders. Grant managers can use the analysis to inform strategic funding decisions by identifying highly productive authors and institutions with strong collaborative networks, enabling investments to be directed toward research teams with demonstrated capacity and influence.

For policymakers, the findings provide evidence to guide research funding priorities and strengthen both regional and international research collaborations. They also highlight opportunities for targeted policy interventions to address collaboration gaps, foster more balanced research partnerships, and build research capacity in underrepresented regions.

Practitioners can use the findings to keep abreast of emerging research trends and identify leading contributors in the field, thereby supporting evidence-informed decision-making and the adoption of effective practices.

Researchers can benefit by identifying influential authors, institutions, and collaboration networks for potential partnerships. Such insights can facilitate knowledge exchange, expand professional networks, and strengthen the quality, visibility, and impact of future research.

5. Conclusion

The network analysis reveals that research production and collaboration within the ReFinD evidence base are concentrated among a relatively small number of highly connected authors and institutions, many of which are located in a limited number of countries. While this concentration reflects the strong research capacity and collaborative leadership of these institutions, it also highlights persistent disparities in research leadership, funding opportunities, and publication influence between the Global North and the Global South. Nevertheless, the strong representation of several African researchers and institutions—particularly from Ghana, Kenya, South Africa, and Uganda—demonstrates the growing contribution of locally based expertise and the potential to further strengthen Global South-led research and regional collaboration.

Taken together, these findings identify several priorities for future investment. Expanding research in underrepresented intervention areas and geographical contexts, fostering more diverse and inclusive research partnerships, and strengthening knowledge translation through evidence synthesis and dissemination will be essential for advancing the ReFinD agenda. For funders and policymakers, the findings provide a strategic evidence base for prioritizing investments, identifying research gaps, and directing capacity-building efforts where they are most needed. For researchers and practitioners, the analysis offers a structured overview of the existing evidence landscape, highlights potential collaborators, and supports knowledge sharing and future research planning.

Overall, the study demonstrates the value of integrating evidence and gap mapping with bibliometric network analysis to understand not only what evidence exists, but also who produces it, how researchers collaborate, and where research leadership is concentrated. These insights can inform more strategic investments, strengthen

collaborative research ecosystems, and support the generation and use of high-quality evidence to advance ReFinD initiatives in low- and middle-income countries.

6. Recommendations

Research in Identified Evidence Gap Areas

The findings indicate that the evidence base is heavily concentrated on digital financial infrastructure and innovation, with comparatively fewer studies examining agent and merchant network development interventions. This imbalance highlights important evidence gaps and points to the need for further research in underexplored areas, particularly liquidity support and security and surveillance. Expanding the evidence in these domains would provide a more comprehensive understanding of ReFinD interventions and support more balanced, evidence-informed policymaking and programme implementation.

Strengthening Collaboration Networks

The co-authorship network shows that a large proportion of authors contributed to only a single publication, suggesting limited or short-term collaboration across the research landscape. Future research initiatives should promote sustained collaboration through multi-institutional, multidisciplinary, and multi-country partnerships. Such collaborations would strengthen knowledge exchange, improve research continuity, and reduce fragmentation within the evidence base.

Supporting Emerging and Less-Connected Researchers and Institutions

The network analysis further reveals that research collaboration is concentrated around a relatively small group of highly connected authors and institutions, while many researchers and organisations remain on the periphery of the collaboration network. Funding agencies, research institutions, and development partners should invest in targeted mentorship, networking, and capacity-building initiatives that integrate early-career researchers and less-connected institutions into established research collaborations. Such efforts would enhance inclusivity, broaden participation, and strengthen long-term research capacity.

Promoting South–South and Regional Collaboration

Although many ReFinD studies are conducted in Sub-Saharan Africa, research leadership remains concentrated within a limited number of countries and institutions. Strengthening South–South and regional collaboration should, therefore, be a strategic priority. Funders, research managers, and policymakers should encourage collaborative projects led by institutions in countries where interventions are implemented, thereby enhancing local research leadership, promoting equitable partnerships, and reducing reliance on a small number of highly connected institutions.

APPENDIX 1

Table 1: Authors with at least three (3) studies and their corresponding total link strength in the EGM

Author	Number Of Publications	Total Link Strength	Author	Number Of Publications	Total Link Strength
Kodom, Michael	10	52	Butu, Mawuenyega M.	4	32
Annan, Francis	9	18	Ankomah, Richmond A.	4	32
Quartey, Peter	8	48	Ahiabenu, Kwami	4	10
Gyeke-Dako, Agyapomaa	7	47	Agbelie, Innocent	4	32
Bawakyillenuo, Simon	5	37	Riley, Emma	3	5
Akwei, Cynthia	5	37	Heitmann, Soren	3	12
Agyei-Holmes, Andrew	5	37	Gupta, Sanal	3	2
Osarfo, Daniel	4	8	Coffie, Cephas P. K.	3	9
Liu, Zhe	4	10	Chiplunkar, Gaurav	3	8
Gupta, Apoorv	4	13	Bongomin, George O.C.	3	6

Table 2: Country of lead authors' institutions (Top ten countries)

Countries of Authors' Institution	Number of Studies
Ghana	42
Usa	33
Kenya	17
India	16
Indonesia	16
South Africa	14
Nigeria	12
UK	12
Malaysia	10
Uganda	9

Table 3: Lead authors' institutions (Top ten institutions)

Organization/Institution	Number of Studies
University Of Ghana	19
University Of California	12
World Bank	7
Jomo Kenyatta University of Agriculture and Technology	5
Makerere University	5
Kwame Nkrumah University of Science and Technology	4
Universiti Utara Malaysia	4
University Of Nairobi	4
College Of Business Education	3
Ghana Communication Technology University	3

APPENDIX 2

Lead authors' countries