Methodology

Digital financial Inclusion – framework

Add ‘gig’ work in type of entreP + Uber + transportation

Buzzwords change to sub themes – add informal economy

‘Main Topic’ – might need to be changed to

Informal Economy – Add as a key word

Digital Labor & Gig Economy - Might go under Entrepreneurship Tag

Key jargon instead of Key words ….

Paper Framework

1. Entrepreneurship +Mobile Technology (or mobile finance)
   1. Why am I interested assumtions:
      1. Access to international markets
      2. Enables independence
      3. Opportunities
2. Studies in development economics, digital finance and technology adoption, entreprenuship scholars, economic geographies and political scholars, gender and informal economy (might be another word to highlight)

Africa has the highest growing rate of women entrepreneurs globally, contributing to around 13% of the continent's gross domestic product (Harvard University, Women and the Changing Face of Entrepreneurship in Africa Conference, 2020). In 2007, Safaricom, one of Kenya’s leading telecommunications companies, launched M-Pesa, a mobile money service that quickly became a monumental success and a major influence in the mobile money arena. With M, signifying mobile and Pesa translating to money in Swahili, M-Pesa became widely used throughout Kenya, becoming the first mobile money operator to reach widespread adoption (Lepoutre & Oguntoye, 2018; Hughes & Lonie, 2007).

\*it is commonly reported in Kenyan news that M-PESA and mobile money services are transforming the livelihoods of women entrepreneurs.\* (cite news sources)

It is particularly interesting that within the region there are high levels of informal entrepreneurship, which might not be captured in the wider in every academic discipline/tech bros/\_\_\_\_\_\_\_\_\_\_ (cite)

There has been a lot of academic research to support this. But there are lots of different lenses. Industry tends to look at it through a tech lens, whilst development papers… bla bla bla

One key study area is Digital financial Inclusion, \_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. This means a focus on the individual entrepreneurs rather than large policy frameworks.

With studies suggesting that mobile technology, e-commerce platforms, and social media have enabled women to reach broader markets, connect with customers, and streamline business operations (Ukpere et al., 2014). Other papers have presented as \_\_\_\_\_\_\_\_\_\_, but its unclear where the gaps are.

In this study we are capturing entrepreneurship both from a formal and informal stream of income.

Ppl have studies this from loads of different frameworks such as ….

What are the frameworks/lenses ppl normally study this through (very broad)

This topic academically, has been studied through many different lenses. Theres a group of papers which focus on qualitative gender empowerer another focusing on gender access. A third group of papers focus on if financial inclusion a means to inclusive development.

Broader policy frameworks rather than sustainable outcomes. (put this n chatGPt and ask what im I trying to say here)

[paragraph about why can’t we just do a systematic review] – Leave till last, helen can help you with this.

Aim of the study it to do a bibliographic mapping \*\* *efficiently identify trends, gaps, and underexplored areas in flash flood research, informing policy and supporting further study.\*\**.

[From Helen’s paper: One of the overall aims of this research was to assess whether human expertise could be used within Quantitative Content Analysis to provide a ‘middle ground’ between deeply reading each paper vs letting a machine do all the work. We also wanted to assess whether there were emerging research trends in research on flash floods.

This study was originally motivated by a practical question posed during the NASA GeoFlood project: What do academic studies already tell us about flash flood risk, events, and response? Specifically, we aimed to understand which floods have been studied, where, by whom, and using what methods. We also sought to examine whether certain regions, communities, or research perspectives had been overlooked, and whether existing studies had influenced decision-making in flash flood response.   To achieve this, we systematically mapped the literature on flash floods from 2000–2025 by integrating three complementary methods: PRISMA systematic review, bibliometric mapping, and expert-led quantitative content analysis (QCA) (Figure 2)]

With the rise of mobile money, many countries have experienced a significant shift in their financial ecosystem, shifting from traditional banking methods in favor of more accessible and mobile-oriented solutions. Which is especially the case for East-Africa, as reported in Somalia (Musse et al., 2019), and Uganda and Tanzania Lorenz & Pommet (2021).

Methods

**3.1 Overview of approach**

This study was originally motivated by a practical question posed during the NASA GeoFlood project: What do academic studies already tell us about flash flood risk, events, and response? Specifically, we aimed to understand which floods have been studied, where, by whom, and using what methods. We also sought to examine whether certain regions, communities, or research perspectives had been overlooked, and whether existing studies had influenced decision-making in flash flood response.   To achieve this, we systematically mapped the literature on flash floods from 2000–2025 by integrating three complementary methods: PRISMA systematic review, bibliometric mapping, and expert-led quantitative content analysis (QCA) (Figure 2):

* STAGE 1-GATHER DATA (Section 3.2) We first used the PRISMA systematic review framework to gather and quality control as many academic papers as possible on the topic of flash floods.

We then applied a two tier expert-led quantitative content analysis (QCA) of the papers in our sample, using a custom R-Shiny Applet (Section 3.3)

* STAGE 2- INITIAL SCREEN (Section 3.4) We then identified common sub-families of literature on flash floods, allowing us to extract papers which were written on the topic of flash floods as a human hazard (rather than on say the convective storms which might cause them)
* STAGE 3 - DETAILED-SCREEN (Section 3.5)  Finally we applied an in-depth coding approach to bibliometrically map our sub-sample according to the criteria identified in Figure 1.

The output from each stage was saved as a bibliometric record (See Data Records and Figure 2).

3.1 – Overview of approach

3.2 – Gather data

3.3 – Initial Screen

3.4 – Detailed screen

Leading the second screening to identify the five following key words as primary themes: *Mobile Money*, *Gender, Financial Inclusion*, *Entrepreneurship* and *Technology.*

These words were selected based off the \_\_\_\_\_\_\_\_- of this framework [cite, cite, cite]

[The custom R shiny also allowed iterative/dynamic tagging. Where if a research theme became evident during the screen it could be added (and earlier papers rescreened just for that tag). This was essential given that one of the motivations of the study is that we don’t KNOW all the relevant research areas in this highly intersectional topic] – reword and make sound papery.

Primary Topics/DFI Themes

"Mobile Money" = 1,

"Gender" = 2,

"Financial Inclusion" = 3,

"EntreP" = 4,

"Technology" = 5),

Subthemes

* What do I want to tell ppl about the 300paper. i.g 20 papers study…. While 7 paper study….

-

"Gender Imbalance" = 1, Does this paper mention a gender imbalance i.e “when can’t use technology?” , uneven education,

"Development" = 2,

"Mass Communication" = 3, - Advertising??

"International Markets" = 4), - does the technology/business reach international markets/ have the potential too?

Research framework

-

"Policy" = 1,

"Economic" = 2,

"Climate" = 3,

"Culture" = 4,

"Sustainable Devel" = 5,

"Inclusive Devel"= 6,

"Rural" = 7,

"Urban" = 8,

“DFI” = 9,

"Other [leave a note]" = 10

Methods

"Literature Review" = 1,

"Interviews/surveys"= 2,

"Social media or crowd sourcing" = 3,

"Machine learning" = 4,

"Mapping & GIS" = 5,

"Simulations or scenarios" = 6,

"Community guidance & tools" = 7

Geography

"None" = 0,

"East-Africa" = 1,

"Rest of Africa" = 2,

"Not Africa 'Global South'" = 3

Technology

"Not specified" = 1,

"Digital Platforms" = 2,

"Phone" = 3,

"Computer" = 4

Entrepreneurship Type

"Not specified" = 0,

"Ag" = 1,

"Hair" = 2,

"Film/Creative" = 3,

"Ebay Seller" = 4

“formal” = 5

“informal” = 6

Mobile Money Type

"Not specified" = 1,

"MPessa" = 2,

"Borrow" = 3,

"Remittance" = 4,

"Credit" = 5

Reasons include:

Flash flood research requires insights from many disciplines—spanning hydrology, meteorology, remote sensing, urban planning, disaster risk reduction, and the social sciences—but these fields rarely interact in a meaningful way. The structure of academic publishing reinforces this siloed approach and individual studies by necessity must focus on narrow, specialized research questions with no space to situate them within an interdisciplinary context.  This also limits the effectiveness of many existing systematic review tools such as PRISMA and XXX, which came out of medical research and are designed to answer a narrow research question. There is rarely a focus on the needs of operational users in choosing which papers to study.

* The boundary between flash floods and other flood events is often blurry, particularly in multi-flood events. As a result, research on flash floods is often subsumed within broader flood studies, making it difficult to isolate work that directly addresses their rapid onset, extreme velocity, and localized impacts.

Flash floods are studied under a variety of terminologies, such as pluvial-flooding, urban-floods, rainfall-inundation, storm-runoff events, or debris flows, with terminology often reflecting disciplinary or geographical context, rather than consistent scientific classification.

As a result, it is difficult for any single researcher or practitioner to feasibly track all developments in flash flood science (especially with over 8000 papers published and TKXXX thousand added yearly). The fragmentation of flash flood research across disciplines also prevents effective knowledge integration for practitioners who are further constrained by publishing paywalls. Without a structured way to connect findings, track thematic trends, and bridge research silos, both scientific progress and real-world flood preparedness suffer

**Page explaining my research and why I am doing a systematic mapping:**

Africa has the highest growing rate of women entrepreneurs globally, contributing to around 13% of the continent's gross domestic product (Harvard University, Women and the Changing Face of Entrepreneurship in Africa Conference, 2020). In 2007, Safaricom, one of Kenya’s leading telecommunications companies, launched M-Pesa, a mobile money service that quickly became a monumental success and a major influence in the mobile money arena. With M, signifying mobile and Pesa translating to money in Swahili, M-Pesa became widely used throughout Kenya, becoming the first mobile money operator to reach widespread adoption (Lepoutre & Oguntoye, 2018; Hughes & Lonie, 2007).

It is commonly reported that M-PESA and mobile money services are transforming the livelihoods of women entrepreneurs. (<https://www.vodafone.com/news/empowering-people/mobile-financial-services-female-entrepreneurs-kenya>, Pessa, J. C. (2018)., can find more citations)

There has been a lot of academic research to support this. But there are lots of different lenses. Within academia, scholars look at this topic from the disciplines of international development studies, economics, political economy and critical development, gender studies and feminist economies, just to name a few. Within these disciplines, the questions and focuses range from \_\_\_\_\_\_\_\_\_\_\_\_ in (name a discipline and cite a few examples), to \_\_\_\_\_\_\_\_\_\_\_\_\_ in (name a discipline and cite a few examples). On the other hand, the practitioner and policy communities—NGOs, donors, think-tanks, and international development organizations—[talk about how they talk about this subject] (https://www.weforum.org/stories/2016/12/the-evidence-is-in-mobile-money-can-help-close-the-gender-gap/, cite, cite)

1. Political economy and critical development studies – focuses on power relations and governance in mobile money ecosystems. who benefits from digital financial inclusion? Critiques top of top-down and corporate driven financial inclusion systems. (cite, cite, cite, cite)
2. Gender studies and feminist economies – focuses on women’s empowerment and agency through mobile money, barriers for women accesses financial technologies, gendered implimications of digital inclusion and financialization, intersectional gender focus analysis of financial services and technology (cite, cite, cite)
3. Economics and development economics – focuses on: Financial inclusion, poverty reduction, microfinance, economic empowerment. Impacts of mobile money on household income, consumption smoothing, remittances, and economic growth. Rigorous impact evaluations, often using RCTs or econometrics. Gendered analysis of financial inclusion (sometimes!).
4. Development/international development studies – focuses on: Financial inclusion as a development goal (e.g., SDGs). Empowerment narratives, especially around women and vulnerable groups. Social and community development, and inclusion from a rights-based perspective. Often uses qualitative methods, case studies, and mixed methods.
5. Information Systems/ Information and Communication technologies for development – focuses on: Adoption of technology (Technology Acceptance Model, Diffusion of Innovation). ICT4D projects aimed at promoting financial inclusion. Mobile technologies as platforms for service delivery (health, education, finance). Barriers to adoption (digital divide, literacy, infrastructure). Community engagement and participatory approaches.
6. Business & Management (including entrepreneurship studies) – focuses on: Mobile money as an innovation and business model. Entrepreneurship ecosystems and digital innovation. Resource-Based View (RBV), dynamic capabilities, and competitive advantage frameworks. Business strategy and market entry for mobile money providers. Women-led enterprises and their use of fintech.

(Ahmad, A. H., et all . (2020).)

With studies suggesting that mobile technology, e-commerce platforms, and social media have enabled women to reach broader markets, connect with customers, and streamline business operations (Ukpere et al., 2014). Other papers have presented as \_\_\_\_\_\_\_\_\_\_, but its unclear where the gaps are.

One key study area is Digital financial Inclusion, \_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. This means a focus on the individual entrepreneurs rather than large policy frameworks.

In this study we are capturing entrepreneurship both from a formal and informal stream of income.

[paragraph about why can’t we just do a systematic review] – Leave till last, helen can help you with this.

Because its too broad and interdisciplinary !!!

3.1 – Overview of Approach

Motivation: Technology is advancing and I can see that mobile money has had an impact in the way that people get and spend money - and its changed massively esp in places like East Africa.  So I want to see /know - what is its impact on women entrepreneurs  - is it helping them?  Not helping them?  What areas are there for growth? What tools are out there and how can they be leveraged to create opportunities for women

3.2 – Gather data

Because I am interested in discovering what has been done surrounding the topics, using Web-of-Science I broke the search families into 4 sections: Mobile Money (MM), Place/Population, Entrepreneurship and Gender. The final quarey looked like this:

TS=((("Mobile Money" OR "Mobile-Money" OR "MPESA" OR "M PESA" OR "Digital" OR "Technology" OR "phone\*") AND ("Africa\*" OR "Kenya" OR "Somalia" OR "Uganda" OR "Rwanda" OR "Ethiopia" OR "Sudan" OR "Horn of Africa" OR "Tanzania" OR "Global poor" OR "Global South" OR "Global-poor" OR "Global-South" OR "unbanked") AND ("Entrepreneur\*" OR "Business" OR "growth" OR "Economic" OR "Finance" OR "Banking" OR "microfinance") AND ("Women" OR "gender" OR "Female")))

This query led to 1042 papers and from there I started the initial screening.

3.3 – Initial screening

In the initial screening, I wanted to filter out the papers that were the core of what I was searching for. The R-shiny tool is programmed to show me the paper title and paper abstract. Using the [theory, cite, cite, cite] I formulated a list of key words to highlight in both the title and abstract. [as shown in figure XX]. This list was iterative, as some words were added once I noticed new words/jargon some fields used, to help potentially identify these words in other papers.

In the R-Shiny tool I had five sections I used to categorize the papers. The first one being ‘Key Paper. This section had two toggles, the first toggle titles ‘Key paper! Must include’. This toggle was selected if the paper directly studied mobile money, entrepreneurship and women in East-Africa. The second toggle titles ‘Vaguely Interesting’. This toggle was selected if the paper studied one of the key themes, but was not completely associated; adjacently related. The second section is titles ‘Discard Paper’. In this section there is one toggle titled ‘Remove: Not focused on Entrepreneurship, Ex: health and agriculture.’ This toggle was used if the paper did not align with the search families. Often papers were about female agricultures or health, and these papers were discarded from the search. The third section was titled ‘Paper Characteristics’. This section had two toggles being ‘Women Can’t Use Tech’ and ‘Tech empowers women’ . These toggles were used if a papers ethos echoed these messages or if the paper directly mentioned it. The next section was titled ‘Issues/Next’ and the toggle for this was ‘Issue: Abstract Missing’. This was used when an abstract was missing. The final section was Notes section, allowing me to enter notes for each paper (which was not mandatory but just in case I wanted to note something down).

3.4 – Detailed screening

Leading the second screening to identify the five following key words as primary themes: *Mobile Money*, *Gender, Financial Inclusion*, *Entrepreneurship* and *Technology.*

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The R shiny tool was reprogrammed to incorporate a more detailed screening. This is what the toggles look like:

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"MPessa" = 2,

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"Credit" = 5

Cite – I am citing everything in APA (pls remember)

Pessa, J. C. (2018). Turning scars into stars in the knowledge-based economy: A case of M-PESA women empowerment initiative in rural Tanzania. *Library Philosophy and Practice*, *1*, 1-19.

Ahmad, A. H., Green, C., & Jiang, F. (2020). Mobile money, financial inclusion and development: A review with reference to African experience. *Journal of economic surveys*, *34*(4), 753-792.

Words/ New Vocab:

New word: Fintech (financial technology) – computer programs and other technology used to support or enable banking and financial service.

Links to potentially revisit:

1. <https://www.vodafone.com/news/empowering-people/mobile-financial-services-female-entrepreneurs-kenya>
2. <https://emergingbrandafrica.com/m-pesa-at-18-how-the-fintech-powerhouse-transformed-africas-economy/>
3. <https://www.emerald.com/insight/content/doi/10.1108/dprg-09-2021-0111/full/html>
4. <https://academic.oup.com/wbro/article/33/2/135/5127166>
5. <https://onlinelibrary.wiley.com/doi/full/10.1111/joes.12372>
6. <https://www.herbusiness.co.ke/how-m-pesa-transformed-kenya/>