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# Role of embedded finance in increasing financial inclusion

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## **Abstract**

This chapter examines the role of embedded finance in increasing financial inclusion. The author shows that embedded finance increases financial inclusion by changing the way banked adults, unbanked adults and SMEs interact with financial services. Embedded finance provides greater access to finance for underserved adults and businesses and generates revenue for embedded finance service providers and banks, thereby presenting a win-win opportunity for both the users and providers of embedded financial services.

**Keywords:** Financial inclusion, embedded finance, embedded payments, unbanked adults, poverty.

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## 1. INTRODUCTION

The chapter examines the role of embedded finance in increasing financial inclusion. It explores how embedded finance can increase financial inclusion or reduce financial exclusion. Financial exclusion is a growing problem in many countries (Devlin, 2005; Koku, 2015). Financial exclusion means that people do not have access to formal financial services, and these people are generally considered to be 'unbanked' (Koku, 2015). It is estimated that over 1.4 billion people in the world are unbanked (World Bank, 2022). Many unbanked adults can be found in countries in Asia, South America, and Africa. Most unbanked adults are poor and live in economically disadvantaged communities where there is limited means of livelihood, low income and ravaging poverty (Koomson, Kofinti and Laryea, 2023). This makes it difficult for them to earn a good income, rise above poverty and live a good life (Ozili, 2021; Lee, Lou and Wang, 2023).

Financial inclusion is often considered to be poverty-alleviating because financial inclusion would give poor communities an opportunity to use affordable formal financial services to start a business, earn an income, rise above poverty, and live a meaningful life (Lee, Lou and Wang, 2023). This has led policymakers in several countries to adopt several strategies to reduce financial exclusion or increase the level of financial inclusion (Shaikh et al, 2023; Lee, Lou and Wang, 2023; Ozili, 2023).

Financial inclusion refers to access and use of affordable formal financial services (Zins and Weill, 2016; Ozili, 2021). Promoting financial inclusion is important in developing countries because it gives economically disadvantaged communities equal access to affordable formal financial services which they can use to improve their welfare and rise above poverty (Park and Mercado Jr, 2018; Ozili, 2018). Policymakers in developing countries are adopting several strategies to increase the level of financial inclusion such as the use of information and communication technology (ICT), Fintech penetration, increasing the number of microfinance institutions, expanding bank branch networks, deploying agent banking in rural areas, and using central bank digital currency to promote financial inclusion (Ozili, 2018; Milana and Ashta, 2020; Philippon, 2019; Ozili, 2023). Regarding ICT, the existing literature shows that ICT can be used to broaden financial inclusion by facilitating efficient payments, and helping banks make faster credit decisions

(Chakrabarty, 2011; Lapukeni, 2015). ICT also helps to reduce the cost of financial services, making it cheaper for economically disadvantaged communities to access formal financial services (Alshubiri, Jamil and Elheddad, 2019). ICT also facilitates the deployment of cost-saving tools and services (Chu, 2018). Another ICT-based strategy for increasing the level of financial inclusion that is gaining traction among private sector agents is using embedded finance to increase financial inclusion because embedded finance provides a convenient way to access financial services.

Embedded finance is the seamless integration of financial services into a non-financial platform. Embedded finance provides an opportunity for non-financial companies to offer financial services. It allows customers to access financial services through a third-party application that is embedded in the business of non-financial companies (Ozili, 2022c). The concept of non-financial companies offering financial services or banking services to the public is known as embedded finance. The primary aim of embedded finance is to simplify the entire consumer purchase experience by making it easier for consumers to access money-related services anytime and anywhere they are making a purchase. Embedded finance technology has made it possible for non-bank businesses to offer financial services such as quick loans, bank accounts, savings products, investment and payments services, to a tech savvy audience, which are predominantly banked adults and some unbanked adults, without needing to provide extra statutory documentation. Broadly speaking, embedded finance 'enables' the provision of financial services on-demand.

One might ask: what exactly is embedded finance enabling? The answer to this question is simple if we take a look at some of the manifestations of embedded finance. Embedded finance manifests (i) when people access bank loans remotely using digital apps and do not need to visit a bank to obtain a loan, (ii) when people no longer pay cash when making purchases at a store rather they pay electronically through an app, (iii) when people no longer need to log in to a bank app before making a money transfer, (iv) when people can buy global investment stocks from the convenience of their smart phone applications, (v) when people can instantaneously buy insurance on a product when making a purchase, (vi) when people can invest their money without needing a fund manager, and (vii) when

people can purchase a product now and pay later. These are some of the things that embedded finance is enabling today. This shows that embedded finance not only seeks to simplify the entire consumer purchase experience, it also seeks to make financial services available everywhere and anytime, which is similar to what financial inclusion seeks to achieve which is to ensure that everyone has access to financial services.

Although embedded finance is a game changer in the world of financial innovation (Wullweber, 2020; Ozili, 2022), there is very little research on embedded finance because it is still a recent financial innovation. Despite the growing popularity of embedded finance in the industry, the academic literature has not provided a discussion on the role of embedded finance for financial inclusion. There is a need to identify and highlight the role of embedded finance in increasing the level of financial inclusion. This study provides insight into how embedded finance might increase the level of financial inclusion.

This study contributes to literature in the following ways. First, this study contributes to the financial inclusion literature by presenting embedded finance as a potential strategy for increasing the level of financial inclusion. Second, the study contributes to the financial innovation literature by presenting embedded finance as a disruptive financial innovation that could disrupt the financial sector. Finally, the study contributes to the literature by adding to on-going debates about strategies to increase financial inclusion.

The rest of the paper is organized as follows. Section 2 presents a review of literature on some strategies used to achieve financial inclusion. Section 3 presents some research insights and statistics about embedded finance. Section 4 highlights the role of embedded finance in increasing financial inclusion. Section 5 assesses the global interest in information about financial inclusion and embedded finance. Section 6 identifies the drawbacks of embedded finance for financial inclusion. Section 7 presents the conclusion of the study.

## 2. LITERATURE REVIEW

Existing studies identified some strategies that can be used to increase the level of financial inclusion. Chakrabarty (2011) focused on banks and argued that banks have an important role to play in easing the supply-side constraints to financial inclusion. The author argued that mainstream financial institutions can play an important role by increasing awareness about financial products, lowering transaction costs, and offering products that are convenient, flexible, and customised to meet the needs of low-end bank customers. Chakrabarty (2011) also argued that technology can act as an enabler of financial inclusion, and banks should leverage on technology by adopting technology that has a human touch so that the poor are not driven away from banking because the technology interface is unfriendly. Grohmann et al (2018) showed that greater financial literacy can strengthen financial inclusion in most countries regardless of income levels. They conclude that improving financial literacy is a worthwhile option for policymakers to consider, and financial education can be an important instrument of financial inclusion.

Shen et al (2020) investigated the channels through which financial inclusion can be achieved in China. They found that the direct impact comes from the level of financial literacy and the use of digital financial products, which are advanced by popularity of the Internet. They also observed that Internet usage and digital financial products usage enhanced the positive relationship between financial literacy and financial inclusion. They conclude that, to increase the level of financial inclusion in China, policymakers should improve the financial literacy of consumers and promote the use of digital financial products. Agarwal et al (2020) argued that the widespread adoption of mobile phones, the advancement of technology infrastructure, the harvesting of big data, financial education and technological education have created opportunities for Fintech firms to increase financial inclusion in society. Chen and Divanbeigi (2019) examined the role of regulation in fostering financial inclusion. They argued that policy makers can facilitate financial inclusion by enacting more friendly regulations. They undertook a cross-country study and found that financial inclusion is higher in countries that adhere to a higher number of regulatory good practices. In other words, they found that financial inclusion is higher in countries with high levels of regulatory quality.

Anson et al (2013) examined the role of post offices in promoting financial inclusion. They argued that the widespread presence of post offices in rural and poor areas presents an opportunity for post offices to play a leading role in advancing financial inclusion. In their analysis of post offices in 60 countries, they found that post offices are more likely to provide accounts to individuals from financially vulnerable groups than traditional financial institutions. Their result suggests that post offices can increase account ownership by acting as cash-merchants for transactional financial services, such as electronic government and remittance payments, and that partnerships between the post office and other financial institutions coincide with a higher bank account penetration. Ozili (2022a) provided arguments for why central bank digital currencies (CBDCs) can increase the level of financial inclusion. The author argued that financial inclusion is one of the many reasons for issuing a central bank digital currency in developing countries. Ozili (2022a) further argued that CBDCs can increase financial inclusion by digitizing value chains, improving access to digital financial services, helping to enlarge the digital economy, enhancing the efficiency of digital payments, and offering low transaction costs.

Ozili (2022b) focused on the benefits of big data and artificial intelligence (AI) for financial inclusion. The author argued that the benefits of artificial intelligence and big data for financial inclusion are improved efficiency and risk management for financial services providers; the provision of smart financial products and services to banked adults; simplification of the account opening process for unbanked adults and the creation of credit scores for unbanked adults using alternative information. Gopaldaswamy et al (2016) showed that microfinance helps to increase financial inclusion by providing access to micro-credit and micro-capital for poor people and SMEs in the community. They can use their access to microfinance to increase their income, savings and make loan repayments. Ozili (2018) showed that digital finance can increase financial inclusion by reducing cost for banks, improving the welfare of individuals and businesses that have a reliable digital platform with which to access funds in their bank accounts to carry out financial transactions, and providing convenient access to credit, savings, and investments and access credit.

Jenik (2017) focused on the role of crowdfunding for financial inclusion. They argued that crowdfunding is a type of financial innovation or a financing mechanism where small amounts of funds are raised from large numbers of individuals or legal entities to fund businesses, specific projects, individual consumption, or other needs. Crowdfunding involves bypassing traditional financial intermediaries and using online web-based platforms to connect users of funds with retail funders (Jenik, 2017). They argued that crowdfunding can play an important role in financial inclusion if an enabling and safe environment is in place to support crowdfunding. They further argued that crowdfunding can benefit unbanked adults and underserved people by improving access to finance for unserved and underserved borrowers; creating cheaper community-based insurance products; and facilitating access to digital investments by people who currently have limited or no options to get financial returns on their savings.

### **3. EMBEDDED FINANCE – RESEARCH INSIGHTS FROM AROUND THE WORLD**

A Q4 2021 Embedded Finance Survey<sup>1</sup> revealed that the global embedded finance industry is expected to grow by 39.4% on annual basis to reach US\$241,018.2 million in 2022 and US\$776,731.2 million by 2029.

The survey shows that the Asia-Pacific region has the highest number of embedded lending providers in the world. The region is also the hotspot for some of the most advanced Fintech markets globally, making it the world leader in Fintech innovations. Countries such as Australia, India, China, Singapore, Indonesia, and Malaysia recorded strong increase in demand for embedded lending options from 2020 to 2021. The increase in demand for embedded finance is driven by the presence of a large young population in the region.

In Europe, embedded lending is becoming increasingly popular among consumers due to the rising popularity of the buy-now-pay-later (BNPL) lending model. The BNPL model of lending is very popular among European consumers due to its affordability and

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<sup>1</sup> See table 1



convenience. Some of the key players offering BNPL service in Europe include Klarna, PayPal Credit, and Splitit in the region. Embedded lending is more popular in the United Kingdom compared to other European countries. Countries like the United Kingdom, Germany and France have made significant contributions to the region's embedded insurance business growth. Other research and statistics can be found in table 1.

In the Africa & Middle East region, the embedded payment industry is going through a trial phase. Incumbents in the payments market ecosystem need to evolve to stay relevant in the industry, as the ever-changing demand from clients is making the current payment system outdated. Established and new Fintech companies have invested heavily in embedded payment solutions in 2021, resulting in market growth. The embedded payments industry in the Africa and Middle East region is still in its nascent stages of development in most of the big economies such as Egypt and the UAE. However, in the last two years, there was a spike in the number of start-ups in the embedded payment market which has helped to enhance the payment systems in the region. This was made possible by the collaborative efforts of governments and other stakeholders. Several factors are driving embedded finance market growth in the region. These include a vast economy, a large young population, and an abundant skilled workforce. As a result, the region has enormous potential to grow its embedded finance industry in 2023 and beyond.

Finally, some of the general use-case of embedded finance occurs when: Telcos offer loans directly to their customers; car manufacturers offer credit lines and leasing products to finance their cars; airlines offer loans to finance a vacation; clothes retailers offer consumer financing through buy-now-pay-later schemes; remittance companies offer shared family accounts to their users, making international money transfer cheaper and faster; SMEs offer payment cards to millennials and students; and ride-sharing companies that enable instant payment to their drivers via debit cards. Examples of real-world embedded service providers are Uber, Vopy, Alviere, OnePipe, Stitch, MatchMove, Uber, LendFlow, Modulr, Plaid, Simpl and Unit.

**Table 1. Market Research Insights and Statistics about Embedded Finance**

<b>Region / country</b>	<b>Research Insights</b>	<b>Source</b>
Global	Embedded finance is projected to have a total market value of US\$7.2 trillion by 2030 <sup>2</sup>	Dealroom.co
Global	The embedded finance industry is expected to grow steadily at 23.9% over the forecast period during 2022 to 2029. The embedded finance revenues will increase from US\$241,018.2 million in 2022 to reach US\$776,731.2 million by 2029.	ResearchAndMarkets.com
Global	The estimated market value for embedded finance will be over \$138 billion by 2026.	Forbes
Asia Pacific	The embedded finance industry in the Asia-Pacific region is expected to grow at almost 25% each year until at least 2029, according to ResearchandMarkets <sup>3</sup> . The Asia Pacific is home to the leading embedded lending providers in the world. The growth is driven by a combination of a young, digital population and innovative technologies.	ResearchAndMarkets.com
Africa & Middle East	The embedded finance revenues in the region will increase from US\$10,359.2 million in 2022 to reach US\$39,820.0 million by 2029. <sup>4</sup> But there is a large proportion of the young population who do not have access to financial services in the Africa and Middle East region.	ResearchAndMarkets.com
Europe	The embedded finance revenues in the region will increase from US\$42,310.2 million in 2022 to reach US\$121,508.7 million by 2029. In Europe, embedded lending is becoming increasingly popular among consumers due to the rising popularity of the buy-now-pay-later lending model.	ResearchAndMarkets.com
Latin America	The embedded finance revenues in the region will increase from US\$7,495.9 million in 2022 to reach US\$28,735.7 million by 2029. In Latin America, embedded lending is in its nascent stages of development. The trend of embedded lending, along with other	ResearchAndMarkets.com

<sup>2</sup> <https://dealroom.co/blog/dealroom-talks-the-rise-of-embedded-finance>

<sup>3</sup> <https://www.globenewswire.com/news-release/2022/03/23/2408280/28124/en/Asia-Pacific-Embedded-Finance-Markets-Report-2022-50-KPIs-on-Embedded-Lending-Insurance-Payment-and-Wealth-Segments-2020-2029.html>

<sup>4</sup> <https://www.researchandmarkets.com/reports/5547747/africa-and-middle-east-embedded-finance-business>

	services, is growing in the region and is expected to see an industry push for strategic alliances over the next four to eight quarters <sup>5</sup>	
Indonesia	The embedded finance revenues in Indonesia will increase from US\$1,821.1 million in 2022 to reach US\$7,402.1 million by 2029.	ResearchAndMarkets.com
Nigeria	Nigeria's embedded finance market is expected to grow 54.5 percent from \$1.6 billion in 2022 to over \$8 billion by 2029. Embedded finance enthusiasts in Nigeria predict that Nigeria can exceed its 80 percent target of financial inclusion by 2030 if it embraces embedded finance.	ResearchAndMarkets.com
Nigeria	According to Dataphyte <sup>6</sup> , a media and research data analytics organization, N26.17 trillion unbanked financial transactions occurred outside the traditional banking systems through embedded finance services from January to November 2021.	Dataphyte
Italy	Italy's embedded finance industry is expected to grow by 36.4% on annual basis to reach US\$3,533.3 million in 2022 and US\$10,699.7 million by 2029	ResearchAndMarkets.com
Kenya	Kenya's embedded finance industry is expected to grow by 40.0% on annual basis to reach US\$305.2 million in 2022 and US\$1,061.6 million by 2029.	ResearchAndMarkets.com
United Kingdom	The UK embedded finance industry is expected to grow by 33.8% on annual basis to reach US\$8,579.4 million in 2022 and US\$23,252.2 million by 2029. The embedded insurance industry in the United Kingdom has gained widespread popularity among investors and global insurtech firms. Several insurtech firms are raising funds to launch new products, scale their platform, and expand their product offering in other European countries.	ResearchAndMarkets.com
South Africa	The embedded finance industry in South Africa is expected to grow by 47.1% on annual basis to reach US\$765.9 million in 2022 and US\$3,091.1 million by 2029.	ResearchAndMarkets.com
United Arab Emirates	The UAE embedded finance industry is expected to grow by 43.8% on annual basis to reach US\$2,148.4 million in 2022 and US\$7,257.7 million by 2029.	ResearchAndMarkets.com

<sup>5</sup> <https://www.researchandmarkets.com/reports/5547746/latin-america-embedded-finance-business-and>

<sup>6</sup> <https://www.dataphyte.com/latest-reports/economy/chartoftheday-n26-17-trillion-was-unbanked-in-2021/>

China	China's embedded finance industry is expected to grow by 37.1% on annual basis to reach US\$71,271.2 million in 2022 and US\$213,171.0 million by 2029. China is one of the leading countries in the global embedded finance market. China dominates the embedded insurance market in the Asia Pacific region. The large e-commerce industry in China is the major factor driving the growth in China's embedded insurance market.	ResearchAndMarkets.com
India	India's embedded finance industry is expected to grow by 46.0% on annual basis to reach US\$4,801.8 million in 2022 and US\$21,127.5 million by 2029. Embedded insurance is becoming popular in the Indian insurance market.	ResearchAndMarkets.com

#### 4. ROLE OF EMBEDDED FINANCE IN INCREASING FINANCIAL INCLUSION

##### 4.1. Increase financial inclusion without needing a bank account

Embedded finance provides an opportunity to increase financial inclusion. By integrating financial services into the process of non-financial service providers, unbanked adults can be integrated into the formal financial system without owning a bank account (Radcliffe and Voorhies, 2012; Ozili, 2023). With embedded finance, unbanked adults can access basic financial services by providing their mobile number which will be inputted into the digital payment gateway of the non-financial business they patronise. The mobile number would become a means of formal ID for unbanked adults and can also be used to create a transaction history for unbanked adults, thereby replacing the need for a transaction bank account. This approach would be effective in countries where existing financial regulation and legal rules permit the synchronization of people's mobile phone number and their personal financial activity. In such countries, Fintech providers, banks and online lenders will need to create financial services and products that can be accessed through a mobile phone number for people without a bank account and for those who may not have access to traditional banking services.

## **4.2. Financial inclusion through trusted brands**

Embedded finance can also increase financial inclusion by allowing individuals without a bank account to easily be integrated into the financial system through their trusted brands (Ozili, 2022c). With embedded finance, unbanked adults that are well known by brand representatives can be better served by the brand representatives that know them. The brand representatives, who are non-financial service providers, can extend discount and credit purchase services to unbanked adults that they know well, thereby increasing interpersonal relationships. The brand representatives that accept electronic payments can offer to open a bank account for unbanked adults as an add-on service to provide convenience for unbanked customers and to increase financial inclusion.

## **4.3. Deepen financial inclusion through greater access to credit**

Embedded finance can deepen financial inclusion for banked adults by creating a credit history for banked adults each time they use buy-now-pay-later (BNPL) services. Banked adults that use embedded financial services, such as BNPL, will be able to use their credit history to access cheaper loans from banks and Fintech lenders. They can also use their credit history to access sophisticated financial products and services such as premium mortgage and investment products. However, it is possible that banks may feel threatened when non-financial businesses begin to generate credit history for customers (Dubey, 2019). Banks should not feel threatened because the loans issued to banked adults by non-financial service providers are mostly loans issued by banks in the first place; therefore, banks will only be riding on the back of embedded financial service providers to reach their own customers even though it will come at the cost of reduced fee income for banks.

#### **4.4. Greater financial inclusion for SMEs**

A major roadblock for SME financial inclusion is that traditional lenders assess SMEs' creditworthiness based on their assets and disqualifies small businesses that do not have assets to collateralise their loans. The lack of access to finance for SMEs leads to financial exclusion for some small businesses. Embedded finance can address this issue by combining sophisticated technology infrastructure, expertise in distributing financial services at scale, and capital from financial institutions to increase access to credit for SMEs. With embedded finance, SME owners only need a phone to onboard, go through security and transact online, which eliminates the need for banks. SMEs can now send money back to family abroad, pay vendors overseas, purchase insurance and other services needed to run a business without needing to use a bank card. Banking-as-a-service (BaaS) can also enable various forms of financing options, so that small businesses can have a full one-stop-shop for the finances they need to fund their business. Embedded finance will make it easier for SMEs to receive capital, receive credit, and any other financial services that they require, while they work hard to gain market share and grow as a business.

### **5. ASSESSING GLOBAL INTEREST IN INFORMATION ABOUT FINANCIAL INCLUSION AND EMBEDDED FINANCE**

In this section, the author assess the global interest in internet information about financial inclusion and embedded finance. Monthly time-series data were extracted from Google Trends database for embedded finance and financial inclusion. The sample period is from January 2017 to July 2022, while the country coverage is global. The data obtained from Google Trends database measures interest over time (or the popularity) of specific web-search keywords on the internet. The data reflects the number of times people searched for specific keywords in a location over a time period. To obtain the data, the author simply query the Google Trends database by inserting the keyword 'embedded finance' into the search box in the Google Trends database. The resulting data is what the author refers to as 'interest in internet information about embedded finance' data. This procedure is

repeated for the 'financial inclusion' keyword. The data output from the database are numbers (or popularity count) ranging from 0 to 100. These numbers represent interest in a keyword relative to the highest point on the scale for the given location, region and time. The numbers capture the relative popularity of a keyword. A count of less than 50 indicates that interest in the keyword was relatively low. A count of 50 means that interest in the keyword is half as popular. A count of 100 means that interest in the keyword was highly popular and reached the peak popularity for the term. A score of 0 means there was not enough data for the term.

Figure 3 shows that global interest in internet information about embedded finance was relatively low from 2017 to 2020, while global interest in internet information about financial inclusion increased from 2017 to 2020. Global interest in internet information about embedded finance rose significantly during the COVID-19 pandemic in 2021 and exceeded global interest in internet information about financial inclusion in 2022. The increase in global interest in embedded finance was due to the COVID-19 pandemic which led to a rise in the demand for remote digital financial services such as embedded financial services. Regarding countries that recorded the highest interest in internet information about embedded finance and financial inclusion, figure 2 shows that Singapore, the United Kingdom, India and the United States had the highest interest in internet information about embedded finance during the period, while Figure 3 shows that developing countries, such as Zimbabwe, Rwanda and Uganda, had the highest interest in internet information about financial inclusion during the period.

In terms of country-level trends, figure 1 shows that interest in internet information about financial inclusion was low in developed countries in the last 5 years beginning from 2017. This is due to the high levels of financial inclusion in developed countries such as the United Kingdom, Australia, Switzerland, Netherland, Canada, South Korea and the United States. Financial inclusion is not a priority in developed countries because they have already attained high levels of financial inclusion. This explains the low interest in internet information about financial inclusion in developed countries in the last five years and during the COVID-19 pandemic as shown in figure 3. In contrast, interest in internet information about financial inclusion is relatively high in some developing countries in the

last 5 years beginning from 2017. This is due to the already low levels of financial inclusion in developing countries such as India, Kenya, Tanzania, Nigeria, Ethiopia, Ghana, Uganda, Zambia and Zimbabwe. Financial inclusion is a priority in most developing countries because of the large unbanked population in developing countries. This also explains the high interest in internet information about financial inclusion in developing countries in the last five years and during the COVID-19 pandemic as shown in figure 3. Furthermore, regarding embedded finance, figure 2 shows that interest in internet information about embedded finance is relatively high in some developed countries in the last 5 years beginning from 2017. This is due to the significant Fintech penetration and the sophisticated payment system in developed countries such as the United Kingdom and Singapore as shown in figure 2.



Figure 1. Global interest in internet information about embedded finance and financial inclusion (from January 2017 to July 2022)

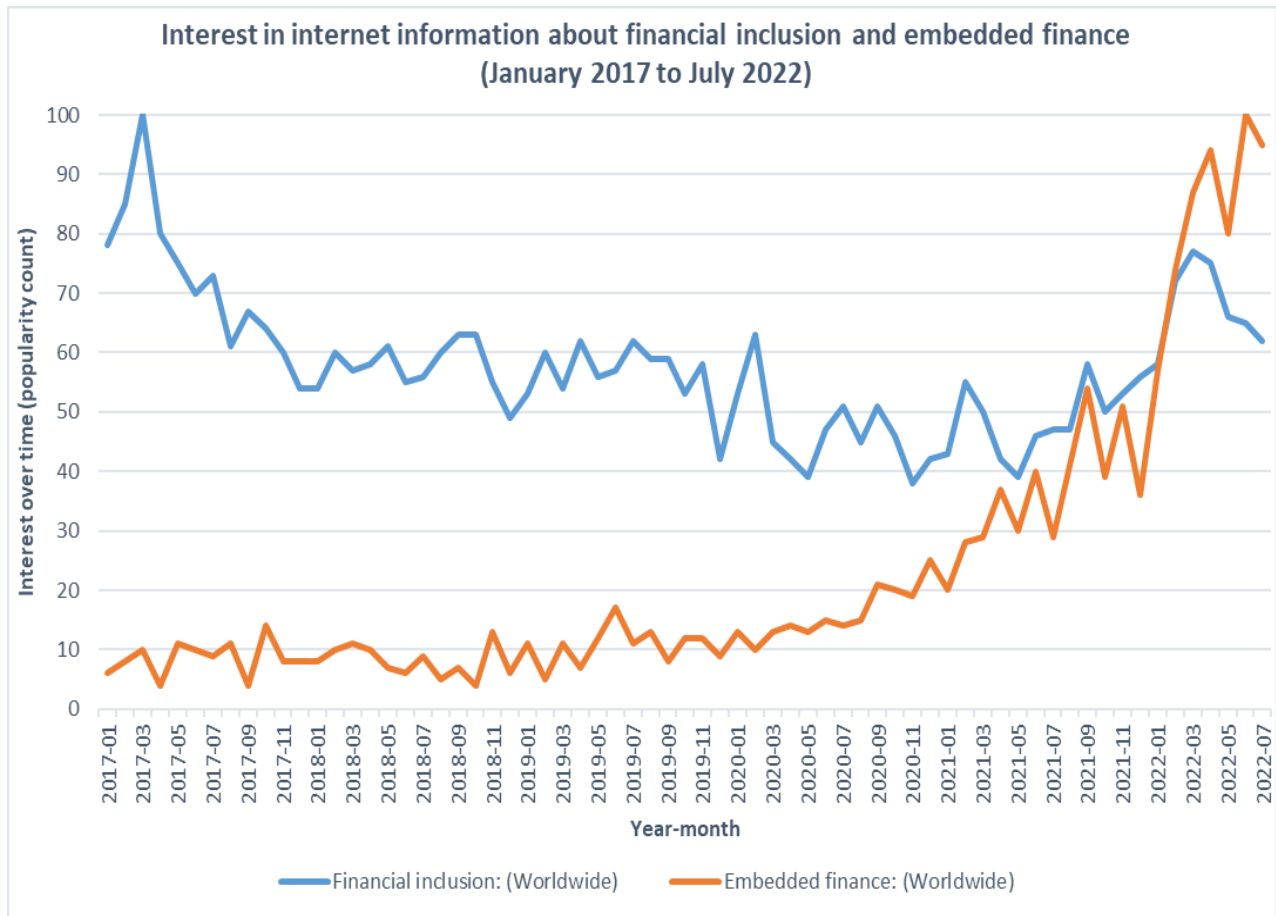


Figure 2. Interest in internet information about embedded finance by country  
(January 2017 to July 2022)

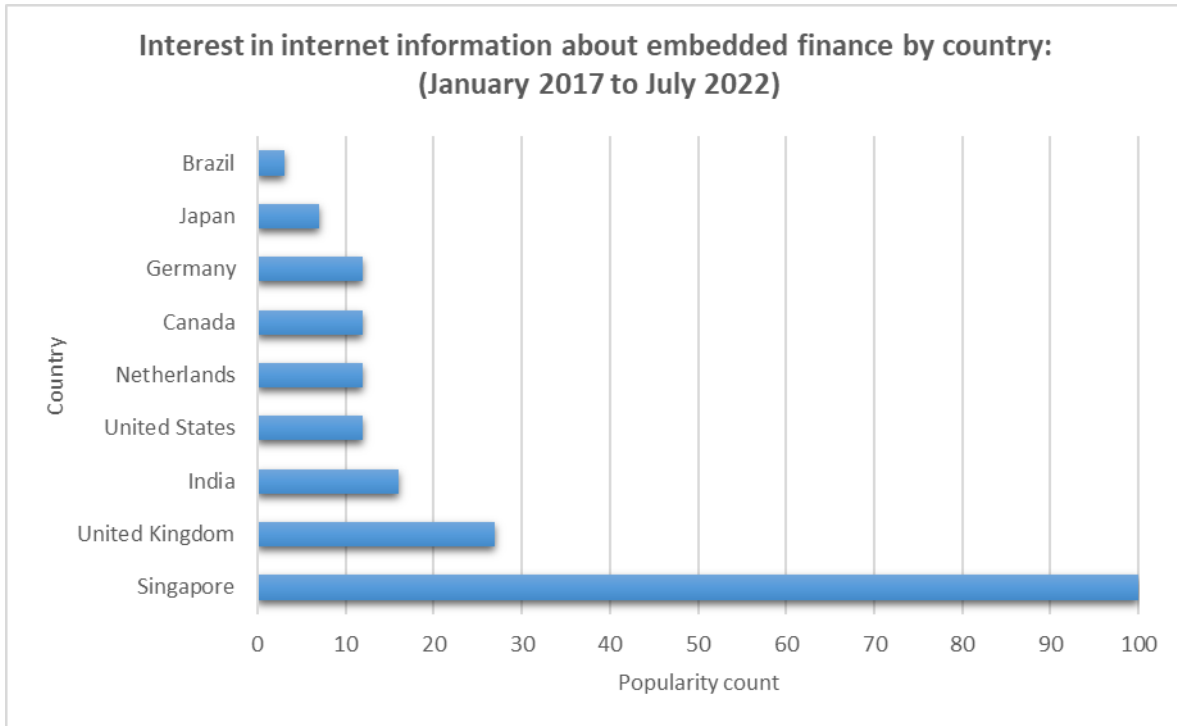
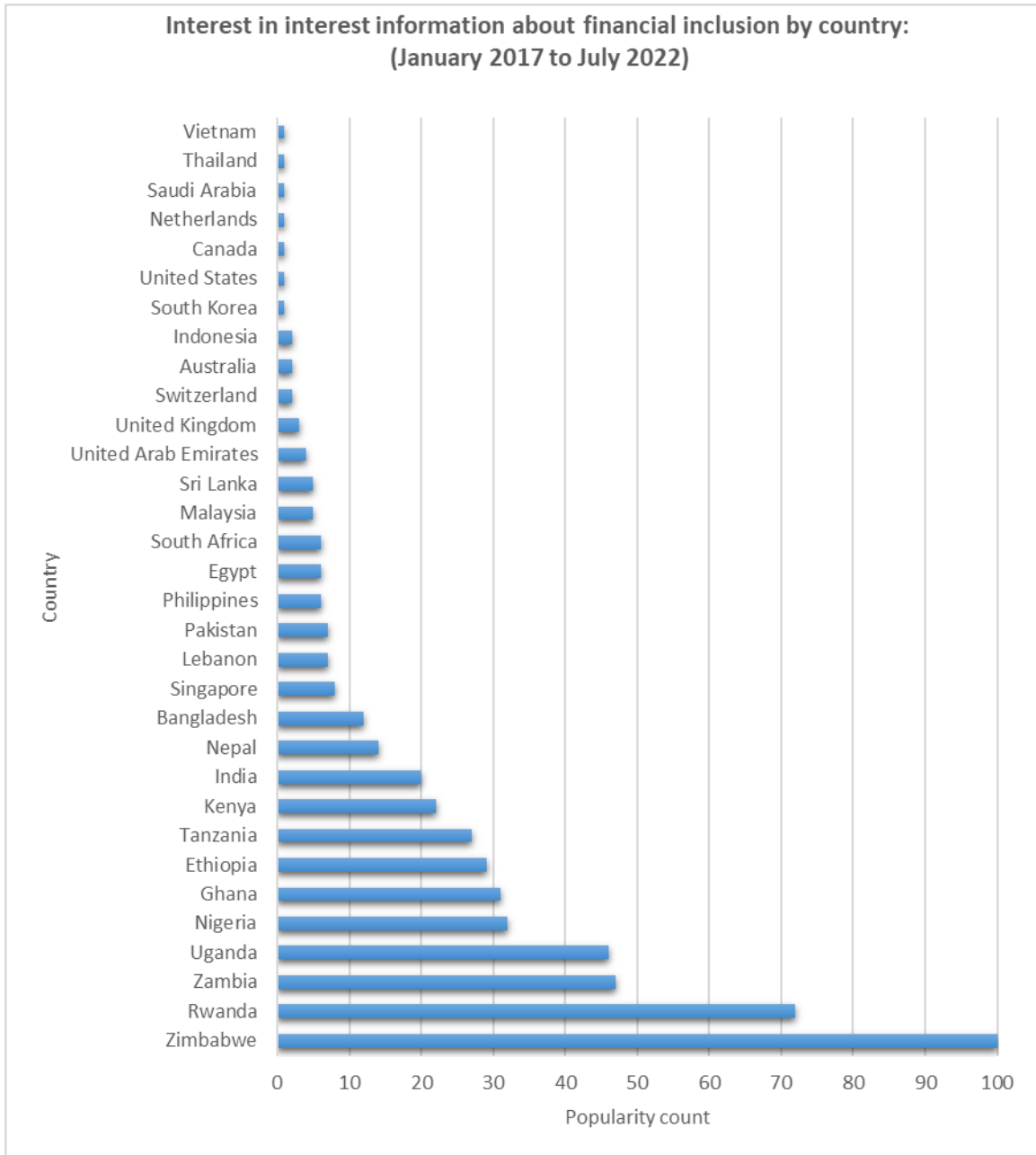


Figure 3. Interest in internet information about financial inclusion by country  
(January 2017 to July 2022)



## 6. DRAWBACKS OF EMBEDDED FINANCE FOR FINANCIAL INCLUSION

Using embedded finance to increase financial inclusion comes with its own problems. The first drawback or disadvantage is that there may be reluctance to use embedded financial services among the older population. This reluctance can hinder financial inclusion for older unbanked adults. Although the younger population (i.e., Gen Z and millennials) are likely to be more receptive to embedded finance, the older population may be reluctant to engage with embedded financial services due to their fixation on the old way of doing things, their lack of awareness about embedded finance and its benefits, the fear of the unknown and the uncertainty that comes with change (Ozili, 2022c).

The second drawback is the lack of trust in the financial services offered by third-party non-financial companies. Banked and unbanked adults may have trust issues that would make them reluctant to use embedded financial services. They may doubt the quality and authenticity of the financial services offered by non-financial service providers and would not consider the source to be trustworthy enough. Many banked and unbanked adults mostly feel comfortable when transacting with a regulated financial institution. The lack of trust in non-financial service providers among banked and unbanked adults may arise from a general distrust in third-party financial offerings, mistrust of bank agents, or a general lack of confidence in the financial system. However, if the trust of these customers can be won, it can make banked and unbanked adults become receptive to embedded financial services for financial inclusion. To overcome this drawback, there is a need for more education to show customers that taking out financial services with a non-financial company is safe. Such education will be particularly important in persuading the more conservative and older population to embrace embedded finance services and join the formal financial system (Ozili, 2022c).

Another drawback is that banks can become very slow in embracing embedded finance. Embedded finance needs banks to reach its full potential for financial inclusion. But the major drawback is that banks may become very slow or reluctant in opening up their capabilities to third-party non-financial institutions to enable embedded finance use cases for financial inclusion (Ozili, 2022c). This is partly because some banks still operate outdated legacy systems that need to be updated or overhauled. It could take a long time,

maybe 2 or 3 years, for banks to transform their outdated legacy systems, and bring it up to modern standards before a comprehensive embedded finance strategy for financial inclusion can be pursued. To overcome this drawback, banks need to invest in modern core banking systems. Those that have already upgraded their legacy technology to a modern banking system technology can begin exploring embedded finance use cases for financial inclusion. While those that have not upgraded their core banking system need to invest in such a system as quickly as possible.

## 7. CONCLUSION

The chapter examined the role of embedded finance in increasing financial inclusion. In the paper, the author showed that embedded finance adoption is increasing in many parts of the world. Embedded finance is also increasing financial inclusion for banked adults, unbanked adults and for SMEs through greater access to finance, greater access to loans and capital at the service point, thereby making it easier and convenient to access financial services to improve one's welfare and to start and grow a business. The author also identified some drawbacks to using embedded finance to increase financial inclusion. The drawbacks include customers' lack of trust in third-party offerings and the slow adoption of embedded finance by banks who may feel threatened by the embedded finance disruption. Notwithstanding the drawbacks, embedded finance is growing among the young population and is becoming an important disruption in the modern financial sector. The implication of using embedded finance to promote financial inclusion is that embedded finance will ensure greater access to financial services that assist people with day-to-day living and help families and businesses to plan for their needs from long-term goals to unexpected emergencies. Embedded finance provides financial service offerings that encourage people to use formal credit and insurance products to start and expand their business, invest in education or health, manage risk, and cope with financial shocks to help improve the overall quality of their financial well-being. Policy makers should provide an enabling policy environment that allows embedded financial services to thrive through easy third-party licensing procedures, reduced regulatory burden and strong data

sharing rules. Policy makers also need to introduce customer protection regulations in the formal financial system to increase customers' trust in banks and their embedded finance partners. The limitation of the study is that it focused only on the role of embedded finance for financial inclusion. It did not focus on the role of embedded finance in disrupting the entire financial system landscape. Future studies can examine how embedded finance can disrupt the payments system and the financial system as a whole. Future studies can also examine how financial education can increase the use of embedded financial services among uneducated banked and unbanked adults. Future studies should also examine the appropriate use case application of embedded finance in several regions because the applicable use case of embedded finance in Asia and Europe may not be directly applicable in African countries.

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