Fintech and Financial Inclusion for MSMEs in Lao PDR

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I. Introduction

Lao People's Democratic Republic (Lao PDR) is a land-locked lower-middle income economy located in Southeast Asia, a vast, deeply diverse, and fast-developing region. In this rapidly growing market, with economic powerhouses like Indonesia and upper-middle income countries such as Thailand and Malaysia, Lao PDR seems to be lagging behind its neighbours. While the country's economy has grown at an average of 7.8% per year in the decade leading up to 2018, this has not brought about proportional poverty reduction with 10% of the Lao population still living with $1.90 a day (2011 prices) in 2018 (The World Bank, World Development Indicators, 2018).

Challenged by its geography and legacies, Lao PDR's economic growth has mainly been brought about by projects in the mining and hydropower sectors, which have not translated into sufficient job creation, and a large portion of the population remains employed in agriculture (Government of the Lao People's Democratic Republic, 2021). The Lao PDR's economy has slowed down since 2018 when a hydroelectric dam's collapse caused severe flooding, and it has been further challenged during the COVID-19 pandemic. After the pandemic shock, GDP growth only partially recovered in 2021 at around 2.5%, driven by the industrial and agricultural sectors (The World Bank, 2022).

Considering the challenges it now faces, Lao PDR should work to unlock "the potential in non-resource sectors" (World Bank Group, 2017, p.iii), which requires continuous support for micro, small and medium-sized enterprises (MSMEs). Indeed, according to the International Labour Organization (2020), "if provided with support, the Lao MSME sector could play a vital role in responding to the COVID-19 crisis and in driving a sustainable and resilient recovery" (p.1). This is also reflected in Lao PDR's 9th 5 Five-Year National Socio-Economic Development Plan (2021-2025), where diversifying the economy and increasing the competitiveness of MSMEs appear as recurring themes.

In Lao PDR, MSMEs represent almost the entire totality of registered firms and, while there is insufficient data regarding the informal economy, there are reasons to expect the real number of MSMEs to be greater. Indeed, according to the Lao National Chamber of Commerce and Industry (LNCCI), there are as many formal micro enterprises operating in the territory as informal ones (Asian Development Bank, 2020). In spite of the overwhelming number of MSMEs as well as people employed by them, their contribution to the country's GDP only accounts for around 20%, significantly lower compared to MSMEs in neighbouring countries (The World Bank, 2020).

While there could be several reasons for the difference in contribution to GDP between MSMEs in Lao PDR and neighbouring countries, financial exclusion and lack of related policies are undoubtedly the major ones. In its 2020 Asia Small and Medium-Sized Enterprise Monitor, the Asian Development Bank (ADB) reported how “every stakeholder interviewed mentioned access to finance as the main barrier to MSMEs [in Lao PDR]” (Asian Development Bank, 2020, p. 121). In 2019 the market capitalization of registered MSMEs in Lao PDR was 5.9%. Commercial banks and Lao Development Bank (LDB), a Lao state-owned bank focused on MSMEs, are the largest providers of credit to MSMEs in Lao PDR, but bank loans are not easily accessible to MSMEs due to constraints such as high interest rates and collateral requirements, lack of a track record and low profit margins for banks.

In recent years, financial technology or fintech has emerged as a possible way to reduce information costs and overcome geographical hurdles, thereby expanding the pool of financial resources available to people and businesses. The COVID-19 pandemic has brought about a drastic fall in Gross Domestic Product, but also a global push for innovation and integration of technology in businesses (McKinsey&Company, 2020). This has come in a period that is sometimes referred to as the Fourth Industrial Revolution, associated to the emergence of technologies such as blockchain, the internet of things (IoT), artificial intelligence (AI), and machine learning. For financial inclusion, fintech could present opportunities as well as challenges (Bank for International Settlements, 2020)(BSI, 2020). As fintech is a *means*, rather than an *end* in and of itself, the benefits it brings about should be considered against Lao PDR’s specific development needs.

II. Financial inclusion and fintech

1. Financial inclusion

Financial inclusion refers to the access to financial services by a country’s adult population. Access to finance is fundamental for individuals and businesses to plan for the future, save, invest and ultimately improve their living conditions. At the most fundamental level, financial inclusion indicates access to a deposit or transaction account (Bank for International Settlements, 2016; Demirgüç-kunt et al., 2017). Indeed, transaction accounts have specific characteristics which make them a fundamental tool to reduce poverty as well as plant the seeds for future economic growth. They represent a safe store of value that enables account owners to save for future expenses or unexpected emergencies, and they can open the way to other financial services, such as credit and insurance (Bank for International Settlements, 2020; The World Bank, 2018b).

Financial inclusion is often seen as the first step to realise other development goals, and it thus featured as a target in eight of the seventeen Sustainable Development Goals (SDGs) (United Nations Capital Development Fund, n.d.). Aside from its value as an enabler of other development goals, financial inclusion is a right in and of itself, as demonstrated by the goal to Achieve Universal Financial Access by 2020 (i.e. UFA 2020). The goal was set forth by the World Bank Group and its partners in 2013 which then committed to increasing the number of people with access to a transaction account to 1 billion (The World Bank, 2018b). While this goal was reached early, with 1.2 billion people opening a financial account between 2011 and 2018, a huge proportion of adults worldwide remain unbanked. Indeed, it is estimated that around 31% of the world's adults still do not have a basic transaction account (The World Bank, 2018b).

Businesses, especially MSMEs are also systematically excluded from financial services, especially those provided by formal and regulated financial institutions. This is particularly significant because MSMEs are fundamental economic players, especially in developing countries (Vasquez Callo-Müller, 2020). In Southeast Asia[1], economic activity is dominated by MSMEs, which between 2010 and 2019 represented 97% of all business enterprises, provided jobs to 69% of the workforce, and contributed 41% to a country's gross domestic product (GDP), on average. In Lao People's Democratic Republic (Lao PDR), MSMEs represent around 99.8% of the total number of businesses and in 2018 gave employment to 82.4% of the total working population. (Asian Development Bank, 2020).

Any inclusive development strategy should consider MSMEs' needs, and credit may not be at the top of the list (Beck, 2019)[2]. Indeed, some (Demirgüç-kunt et al., 2017) note that "not all financial products are equally effective in reaching development goals" and point to payments

[1] Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam

[2] The the literature has found that among informal small business owners, only a minority "is of aspirational or transformational type" ((Beck, 2019, p.3).

as a better possible area of focus (Bank for International Settlements, 2020; Demirgüç-kunt et al., 2017).

2. Fintech

In recent years, financial technology, often better known as fintech, has attracted attention as a potentially disruptive way to democratize the financial sector and provide access to previously excluded individuals and businesses (Appaya, 2021; Beck, 2019; Morgan, 2022). In simple terms, fintech can be understood as the use of recent technologies for the provision of financial services or products. Beck (2019) provides a more complete definition:

> "In the broad sense, fintech refers to technology-enabled innovations in financial services that are often associated with new business models and providers, new processes, and new products, all of which might have a material effect on the provision of financial services, be it by incumbents or by new entrants into the financial sector" (Beck, 2019, p.2).

From this definition, we understand that fintech can manifest in various forms, i.e. "new business models and providers, new processes, and new products" but also that it can be introduced by both financial institutions or new players in the finance sector (Beck, 2019, p.2). This definition also does not limit the scope of fintech to the most recent wave of innovation including artificial intelligence (AI), machine learning, and big data. This is intentional to allow for a more fruitful evaluation of the different fintech options available to Lao PDR.

III. Financial inclusion in Lao PDR

Barriers to financial inclusion may either concern supply side actors, i.e. providers of financial services, or demand side actors, i.e. business owners. For traditional finance providers such as banks, MSMEs may not be worth financing due to the low volume of transactions expected and the fixed costs involved with the provision of credit, or they may be seen as too risky borrowers because of the lack of information and formal documents needed to assess the risk associated with lending to them (Beck, 2019).

Incomplete or missing business track records (e.g. balance sheet, profit and loss statement, etc), lack of solid accounting system, and absence of credit history are among some of the main reasons why it is hard for banks to evaluate MSMEs and thus provide financing. Because of insufficient information, lending to MSMEs is riskier, explaining why MSMEs often incur high lending rates and bank fees. This is especially the case for non-registered businesses, which lack fundamental formal financial information. Even LDB, which is an MSME-focused bank, charges an average annual lending rate of 10%, which is lowered to a more generous 6.5% through the SME Promotion Fund (Asian Development Bank, 2020, p.123). Lastly, MSMEs may not possess any asset suitable to be used as collateral (Beck, 2019).

MSMEs' struggles are particularly severe in Lao PDR because the financial sector is underdeveloped, and options like credit guarantees are still infant. Nonbank financing, which includes financing by microfinancing institutions, leasing companies, pawnshops, and others, is also not common. The current best hope for Lao MSMEs is to gather funds through the SME Promotion Fund which, after being established in 2013, has become more accessible thanks to the government's efforts to reduce interest rates. Despite strong demand, this SME Promotion Fund remains highly dependent on the World Bank, which provides 20$ million out of the 47$ million total capital of the fund.

Aside from the supply-side obstacles to financial inclusion mentioned above, demand-side barriers are also worth mentioning. Business owners often lack sufficient financial knowledge or are not unaware of the financing options available to them. Misconceptions surrounding financial services or lack of trust in finance providers can also discourage business owners from even trying to access financial services. At the beginning of this paper, transaction accounts were mentioned as a fundamental first step toward financial inclusion. For owners of low-value-added businesses, especially those located in rural areas, transaction accounts may be inaccessible due high fees relative to income, geographical distance, and costs related to transportation needed to reach a branch (Bank for International Settlements, 2016).

IV. Analysis

1. Research question and methodology

Considering the significance of MSMEs in Lao PDR's economy as well as the disruptive potential of fintech with regard to financial access, this paper aims to answer the following research question:

Can fintech increase financial access for MSMEs in Lao PDR?

It is hypothesized that *specific fintech innovations have the potential to increase financial access and contribute to financial sector development in Lao PDR, but at the condition that certain regulatory and infrastructure conditions are met.*

In order to test the above hypothesis, this study will (a) lay out a qualitative analysis of fintech innovations evaluated against the needs and challenges of MSMEs in Lao PDR, and (b) collect MSMEs' responses through an online survey.

a. Survey methodology, findings, and limitations

The survey developed for the purpose of this study contained 25 items related to access to finance, access to information communication technology (ICT) services as well as fintech. To find possible respondents, several methods were attempted. Firstly, the author contacted the Lao National Chamber of Commerce and Industry (LNCCI) by email requesting their cooperation in spreading the survey with the companies in their network. The author also relied on *Laos100,* a series of reports by JETRO containing a list and detailed description of 100 business people that JETRO selected as possible business partners for Japanese companies interested in investing in Lao PDR (Japan External Trade Organization, 2017, 2018, 2019). The reports contain a link to the company's website or to their Facebook page, when available. For this section of the report, *Laos100* reports published in 2017 and 2018 were used as the main reference as they are the most recent, non-sector-specific version available. Thanks to these reports, 61 emails from different companies were collected. After an initial analysis of the trends relating to ICT usage among MSMEs in Southeast Asia, the author decided to also spread the survey through the social networking site (SNS) Facebook[3].

At the time of writing, the survey has received only three responses making a sound, relevant analysis impossible. This is perhaps due to the survey pool being insufficiently small and other limitations concerning the author's resources. Indeed, several of the websites and Facebook pages linked within the *Laos100* reports no longer exist, and the delivery of the email could not be completed in 12 cases, in which the author received an error message stating that the email address could not be found or receive emails. While this perhaps hints at the fragility of MSMEs, which are by nature more exposed to economic shocks such as the one during the COVID-19 pandemic, it is beyond the purpose of this study.

The author is not native to Lao PDR, does not speak Lao, and was unable to travel to Lao PDR due to COVID-19, budget-related and time-related constraints. Considering Lao PDR's low internet and digital penetration, finding possible respondents represented a significant challenge, and, although the LNCCI was contacted, the author received no response. Due to such limitations, the survey was defective in several ways. Firstly, the language used in the survey was English and no Lao translation was available, making it impossible for non-English speakers to respond. Secondly, the survey was conducted entirely online, thus inaccessible for MSMEs lacking access to the internet and are among some of the key targets of this research. Consequently, provided that the survey had collected sufficient responses, any analysis resulting from it would have been subject to selection bias.

2. *Digital connectivity in Lao PDR*

As the world finds itself in the Fourth Industrial Revolution, innovations in the financial sector or, more precisely, fintech innovations can be expected to happen at a higher frequency than it could have ever been imagined. This revolution is distinct in "velocity, scope, and systems impact" (Schwab, 2016). While this paper purposefully does not restrict its definition of fintech to any specific wave of technological advances, the most significant financial innovations observed rely on third-wave or fourth-wave technologies. For this reason, it is worth answering

[3] The author posted a notice asking for business owner cooperation in two Facebook groups. The name of the Facebook groups are "Facebook – Laos" and "Lao Professional Services Forum" and were selected in hope of finding like-minded business owners willing to take part in the survey.

whether these technologies can take foot in Lao DPR and what is the extent and quality of infrastructure to support them.

The main telecommunication companies in Lao PDR are Lao Telecommunication Public Company (Lao Telecom), ETC Company Limited (ETC), Star Telecom Co., ltd (Unitel) and TPLUS Digital Sole Co., Ltd (TPLUS), which has recently been acquired by Lao Telecom (Ministry of Internal Affairs and Communications of Japan, n.d.). Internet provision by these companies is mainly done through ADSL, but optical fiber services, which are faster and more reliable, are becoming available in recent years. Unitel, Lao Telecom, ETL, Unitel and TPLUS are the main providers of mobile broadband and, since 2020, three out of four have started offering 5G services. Fixed broadband is mainly provided by ETL, Unitel and SKY Telecom State Company. According to a report by Japan's Ministry of Internal Affairs and Communications, all existing switching systems have been digitalized and optical fiber backbone has been installed across the country (Ministry of Internal Affairs and Communications of Japan, n.d.).

In 2020, 56 out of 100 people in Lao PDR were found to have a mobile cellular subscription, against the world average of 106 people out of 100 indicating that certain individuals hold more than one cellular phone and mobile cellular subscription (The World Bank, World Development Indicators, 2020). In terms of digital connectivity, that is access to affordable and reliable internet services, Lao PDR is lagging behind its peers in terms of "accessibility, quality and affordability" (The World Bank, 2018a, p.2). In 2017, the mobile broadband internet access was 35% while fixed broadband was 3% which is perhaps unsurprising considering that in 2017 fixed broadband in Lao PDR resulted as the 192nd most expensive (The World Bank, 2018a).

This is not a good prospect for the integration of fintech solutions in Lao PDR, as good quality fixed broadband is "required for high-capacity data transmission to support the next wave of digital development" (The World Bank, 2018a, p.2). The price for mobile broadband connection is closer to average, but the quality and speed of connection are on the low side. Moreover, there is a significant regional divide, as service outside the capital Vientiane is more often unreliable or absent. According to a user survey undertaken by the World Bank there is overall dissatisfaction with internet services and users are sceptical about the possibility of having to spend higher fees for improved quality (The World Bank, 2018a).

The government of Lao PDR has developed a digital economy promotion policy, recognizing the potential for digitalization to practice good governance, ensure transparent payment systems and improve revenue collection (Times Reporters, 2022). It hopes to attract investments to improve its telecommunication infrastructure and to develop a high-speed, affordable ICT network beyond urban areas (Government of the Lao People's Democratic Republic, 2021). Earlier this year, Germany contributed one million euros in support of Lao PDR's digitalisation policy (Reporters, 2022). If the policy were to prove successful, Lao PDR could have access to high-quality, affordable ICT services by 2025.

3. *Fintech and financial inclusion for MSMEs in Lao PDR*

a. *Opportunities*

According to Beck (2019), the reason why traditional financial institutions do not lend to MSMEs can be reduced to a discussion surrounding costs and risks. Recent financial innovation driven by technology has been able to address these concerns by significantly reducing costs and enabling better risk management (Appaya, 2021; Beck, 2019; Morgan, 2022; Srikumar, 2021).

Two areas in which Fintech demonstrates the most potential for increasing financial access for MSMEs in developing Southeast Asia are alternative forms of finance, such as online peer-to-peer (P2P) lending platforms, and digital payments (Morgan, 2022). Digital payments have been relatively successful in ASEAN countries, and 25% of digital payment customers in the region are shown to be unbanked, and 16% are underbanked (Morgan, 2022, p.11).

Other countries in Southeast Asia and India have already started looking at fintech as a possible solution to increase financial inclusion and business opportunities (Iwasaki, 2018). In the Philippines, for example, BPI Direct BankKo has been working to modernize and digitalize its credit scoring system (Mayeda, 2021), while India has adopted a digital universal digital ID system that "allows for identity verification and for the mapping of information across datasets" (Iwasaki, 2018; Morgan, 2022, p.13).

In Lao PDR, the Lao Development Bank (LDB) has recently launched its mobile banking applications, which would allow clients to pay water and electricity bills or carry out money transfers online (Avertorial Desk, 2022). Digital IDs are also being piloted (Morgan, 2022). The government has been striving to implement favourable tax policies to incentivize fintech companies' development (Cambridge Centre for Alternative Finance, 2021; Morgan, 2022), and digitalization is one of the main goals of its 9th 5-Year Socio-Economic Development Plan.

How can fintech be helpful in promoting financial inclusion among MSMEs? Firstly, fintech can reduce costs. With online banking operations, costs of transactions can be cut by eliminating the need to commute to a branch, thus enabling access to transaction accounts from any place with an internet connection. For banks, cost reductions for banks are especially significant with the Fourth Industrial Revolution technologies. Most recent solutions for automation, which rely on AI, machine learning, and more, can now be applied to repetitive processes, significantly improving productivity and reducing costs for banks in the long run (Pearson, 2022). To give another example, distributed ledger technology (DLT) can be used to create transparent, decentralized databases, which reduce exposure to cyber risks (e.g. data loss and manipulation), and enable to save time on clearance and settlement mechanisms (Srikumar, 2021)[4].

Secondly, fintech can be used to curtail information asymmetries. Fintech companies that are part of the Fourth Revolution and specializing in big data and DLT can develop digital credit scoring systems by relying on data collected from smartphones, applications, or digital platforms. With more people having access to internet services and mobile applications around the world, the data that can be gathered in the aforementioned methods is "rich, relevant and immense" (Widiyasari & Widjaja, 2021, n.d.). These digital credit scoring systems, sometimes known as alternative credit scoring (ACS), can act as the gateway to a broader set of financial services.

Lastly, less contemporary forms of fintech like peer-to-peer (P2P) lending platforms may also prove useful, especially in a country with as low digital connectivity as Lao PDR, as they require relatively know digital literacy in comparison to newer and more complex fintech solutions.

b. Limitations

Despite the potential benefits, several regulatory and infrastructure-related obstacles remain. When considering the options mentioned above in relation to Lao PDR, it becomes apparent that low quality internet connection could represent an obstacle to accessing transaction accounts online. Because of the low penetration of fixed broadband connection, it is also

[4] It should be also noted that the applications of these technologies and the opportunities that they offer are far broader than those just mentioned as examples.

doubtful whether highly energy-consuming big data and DLT companies could provide reliable services or whether it would be profitable for an entrepreneur to start such a business in the country.

Aside from challenges regarding fintech services penetration in Lao PDR, the risks associated with such financial innovation should be also mentioned. The most recent wave of fintech innovation has been brought about by the entry in the market of a significant number of new finance providers. These new entrants often have "unconventional business models that don't fit neatly into existing legal frameworks" (Appaya, 2021, n.d.) and risk remaining unregulated for years. Lao PDR, together with Myanmar, are also the only ASEAN countries with no dedicated regulatory framework for P2P lending or equity crowdfunding (Cambridge Centre for Alternative Finance et al., 2021; Morgan, 2022). Although waiting to see how the market develops can be a strategic choice for regulators, it also exposes users to risks. Indeed, fintech is associated with concerns surrounding user privacy protection and cyber-related risks. Not only could users' private data be stolen but, in worst-case scenarios, risks being used against them for fraudulent purposes (Beck, 2019).

The lack of understanding of these new fintech players, products, and services also risks destabilizing the financial system. Indeed, some of the new fintech players are giants like Indonesia's Gojek known for their homonymous *superapp* whose services span across various sectors. Moreover, fintech companies may take on more risks (Garcia Pascual et al., 2022). The complexity of financial services, lack of understanding, and increased risk-taking could create the conditions for a catastrophic landfall, in a similar way to the way low understanding of new financial products contributed to the Global Financial Crisis of 2008.

It should also be mentioned that evidence supporting the link between fintech and financial inclusion is missing. It has been noted that the correlation between fintech companies and the number of adults with an account at a financial institution was positive between 2014 and 2017, but only moderately and only in Indonesia. Similarly, progress has been shown in terms of digital payments but mainly in countries such as Malaysia and Thailand, which are considered high-income economies (Morgan, 2022).

V. Conclusion

MSMEs are not only the backbone of Lao PDR's economy, but they also represent an opportunity for the country to embark on a path of more inclusive and sustainable growth beyond hydropower and mining. One major obstacle that has plagued and still plagues micro, small and middle-sized business owners in the country is the exclusion from financial services.

Financial technology or fintech could represent a way to overcome it. Through services such as automized digital credit passports, online banking and payments, and peer-to-peer lending, it would be possible to address those issues that have traditionally plagued MSMEs and policymakers such as lack of financial literacy and awareness, lack of credit history, high transaction fees, and pricy borrowing rates.

Despite the promising outlook, serious concerns remain. Firstly, Lao PDR is insufficiently equipped with high-quality and affordable internet and other supporting infrastructure which would be required for fintech companies to operate profitably. Similarly underdeveloped is the country's regulatory framework, which would unlikely be able to successfully protect fintech users (Appaya, 2021).

Moreover, fintech development is associated with the entry into the financial sector of non-traditional finance providers as well as with the introduction of complex financial services. Due to their novelty and complexity, we can expect for the development of regulation on fintech companies and services risk to take considerable time, which in turn will leave customers exposed to financial and cyber risks for years to come.

Fintech should a means, rather than an end. Promoting fintech alone would not be sufficient to achieve financial inclusion. If not properly designed, policies aimed at fintech development could only work to increase income and regional inequality. While the more financially and technically savvy business owners in Vientiane could access a larger poor of services, other MSMEs across the country may remain left out. For the moment, the government should continue its digitalization policy to achieve ICT infrastructure on par, if not superior, with the region's average, while continuously working on removing financial access barriers for MSMEs beyond fintech.

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