

**FINANCIAL LITERACY, ASYMMETRIC INFORMATION AND  
CREDIT ACCESSIBILITY: CASE STUDY OF LAO'S SMALL  
AND MEDIUM ENTERPRISE**



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**A Thesis Submitted in Partial  
Fulfillment of the Requirements for the Degree of  
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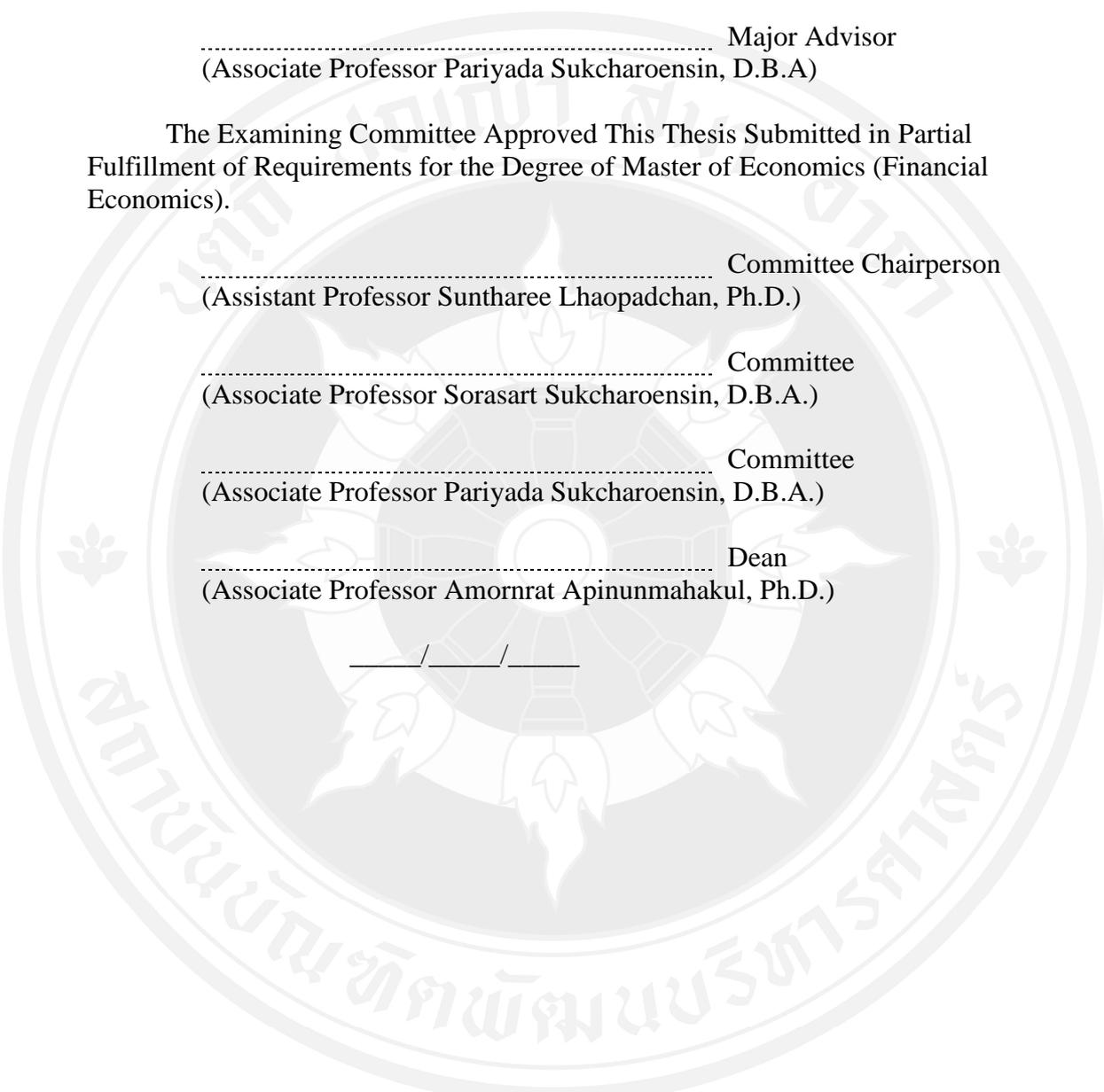
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## ABSTRACT

<b>Title of Thesis</b>	FINANCIAL LITERACY, ASYMMETRIC INFORMATION AND CREDIT ACCESSIBILITY: CASE STUDY OF LAO'S SMALL AND MEDIUM ENTERPRISE
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Small and Medium Enterprise (SMEs) is a fundamental part of economic growth worldwide, ensuring sustainable growth, job creation, reducing income inequality, poverty reduction and highly conducive to economic growth in the Lao PDR. However, consistently with other SMEs worldwide, SMEs in Laos are also confronting with many obstacles especially financial access. So, this study aims to investigate the impact of financial literacy, reduction in asymmetric information and credit access for SMEs in Lao PDR. The questionnaire used to survey the financial literacy is the combination of financial knowledge, financial behavior, financial attitude, and some advanced financial concepts. Besides that, to assess the level of asymmetric information, this study uses the satisfaction of both lender and borrower about the information that provided and received from both parties. The methodology used in this study is binary logistic regression and the SMEs owners who running their business in Vientiane were used as samples. The results reveal positive and significant relationship between financial literacy, reduction in asymmetric information and credit access for SMEs. Furthermore, we found that education level is positive and significantly related to financial literacy. Higher financial literacy then lowers the level of asymmetric information which in turn affects the credit access of SMEs.

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# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

Small and Medium Enterprise (SME) is a fundamental part of economic growth worldwide, they are a key ensuring sustainable growth, job creation, reducing income inequality, poverty reduction and so on. It has been recognized that Small and Medium Enterprise is a key of economic development both in developed and developing countries. Especially in Asia nations, SMEs are the economic gearing which accounted for 98% of all establishment business, 66% of labor force and contributed 38% of total gross domestic product in Asia on average during 2007-2012 and it has been suggesting their contribution can be increase in the future (Yoshino & F, Taghizadeh-Hesary, 2016) . Although the contributions of SMEs play a significant role in economy, but many studies found that SMEs both in developed and developing countries faces with many obstacles that hindrance their growth especially difficult financial problem. According to the nature of SME, most of them start with their own saving and relatives' (Kyophilavong, 2008) so as growing stage they trend to suffer with inadequate fund to invest in long term fixed assets, the problem of access to finance is potential area of concern and can hamper SMEs from their expansion as well as its competition. Accessing to credit or financial capital is the main factor in the performance of SME (Nguyen, 2014). Sufficiency sources of fund enhance SME's survival rate and growth (Mueller, 2012; Shinozaki et al., 2014). Many studies support that accessibility to credit or external finance is essential to fulfill the financial shortage of SMEs and increasing a chance of growth in developing countries. However, (Nguyen, 2014) found that access to different sources of fund available for SMEs is not significant determinant of growth but it indicated that

growing SMEs rely on network developed with customer and owner's education. (Kyophilavong, 2011) indicate that SMEs appear to confront with more difficult in raising money or credit compared to large enterprise. To deal with this problem, various government were trying so hard to conduct many programs that fulfill this problem so Credit Guarantee Scheme (CGS), Development of specialize private banks for SMEs financing were created (Yoshino & F, Taghizadeh-Hesary, 2016).

Even though, many programs were conducted to support SMEs financing there are some evidences reveal that SMEs are still facing with financing difficulty problem, and it remains concerned by various governments worldwide. In obtaining external credit, SMEs depend on informal lender who normally charge higher interest rates (Tong, 2013) and this higher interest rate discourage them to take a loan. Asian Development Bank (ADB) reports that SMEs loan in Developing Member Countries (DMC) of the ADB accounted for 25% of total bank loan in Asia and the Pacific on average in 2012 which lower than previous year by 2% and SMEs loan growth at 10% in 2012 contrast with 19% in 2011 (Shinozaki et al., 2014), the proportion of SMEs loan to total bank loan in DMC accounted for 18.7% of total bank loan on average in 2014 (Shinozaki et al., 2015) this figure show that there are some decreasing trend in formal lending loan to SMEs in DMC countries. Due to the decreasing trend of formal lending to SMEs, it not necessary to interpreted that the decreasing trend occurred because of traditional bank perception who views SMEs as the riskier compared to large firm, it could be occurred because of government policies who try to support SMEs financial access by diversified sources of finance that available for SMEs. To understand deeply, numerous studies have been done to investigate the factor affected SMEs credit accessibility in any aspects. Some evidences reveal that limited access to finance can be occurred if there are a present of asymmetric information between lender and borrower (Berger & Scott, 2006; Moro, Fink, & Maresch, 2015; Motta, 2016; Stiglitz & Weiss, 1981), unequally information available for two parties lead to adverse selection and moral hazard problem, to obtain more information about their clients, commercial bank must be pay attention on data collecting process which costly to them and reflect SMEs as a less attractive client (Fletschner, 2009) and Moro et al. (2015) shows that reducing asymmetric information between lender and borrower can increase amount of credit provided for SMEs significantly. Moreover,

the problem facing SMEs when raising external finance is due to their limitation on owner characteristic, firm characteristic, creditworthiness and collateral. Literature indicates that there are positive and significant relationship between owner characteristic, collateral and formal credit access (Nkundabanyanga, Kasozi, Nalukenge, & Tauringana, 2014) and it also finds that formal credit access and firm characteristic is varies. Many researchers suggest that there are inevitable relationship among financial literacy and credit access, for example, Nkundabanyanga et al. (2014) indicates that financial literacy positively affects access to formal credit and the result is consistent with (Cole, 2009) who pointed out that individuals with lower financial capability will be less interested in financial services, Wanjiku and Muturi (2017) found that person who literate in financial knowledge will make a proper debt management so we can implied that it can make them creditworthiness which lead to easier to access formal credit in the future.

## **1.2 Statement of Problem**

Like any emerging countries, SMEs have been highly conducive to economic development in Laos. According to midterm report of Lao PDR SME Access to Finance Project shows that SMEs in Lao PDR approximately accounted for more than 98% of total registered firm and 81% of total job creation but it is estimated that SMEs contribute only 16% of GDP (World bank, 2017). SME in Lao PDR mostly concentrate in food processing, garment production, construction material, services, education and wooden furniture and it's merely three fourth of them being family owned who usually focus on short term day to day objectives and few of them were able to consider long term planning for business sustainability (Walsh & Southiseng, 2010). Due to their significant contribution to economic growth, the government of Laos has adopted the policy measure and action plans for SME development which aim to enhancing their competitive ness, improvement of access to finance, promotion of entrepreneurial attitude and make sound environment for SME (Onphanhdala & Suruga, 2010; Vixathep, 2014). However, consistently with any other SME worldwide, Small and Medium Enterprise in Laos is also confront with many obstacles, The World bank Enterprise survey conducted in 2012 suggest

that SMEs in Lao PDR consider access to finance as one of the three major obstacles for their business growth ("Lao PDR country profile 2012," 2012). Up to dates report from Midterm Report of Lao PDR SME Access to Finance Project, regarding to Enterprise Survey 2016 access to finance still remained and placed in top five major obstacles on business growth, Bank of Laos statistic report that only 20 % of total loan goes to SMEs and credit that provided to SMEs by commercial bank mostly short term period and it's also found that SME who got credit from commercial bank for long term investment (fixed asset) have declined by 5% compare to 2012 and this figure is lower the average percentage for other countries in the region (World bank, 2017). As given the important role of SMEs in national development and there are evidences proven that financial problem remains concerned by the government. Although there are many researches have been done on access constraints for SMEs, but limitation studies have addressed the factors affect credit decision especially there are limit empirical study on financial literacy of SMEs owner or manager and formal credit accessibility in Laos.

### **1.3 Definition of Small and Medium Enterprises**

#### **1.3.1 Global Definition**

There has not been universal definition of Small and Medium Enterprises (SME). (Quartey & Abor, 2015) indicates that SME could be defined based on skilled labor, legal status, turnover level. Definition of SME is varying widely among economies, it could be depending on the size contributed to economies and each country have their own threshold to distinguish SME from large enterprises (Vandenberg. P, Chantapacdepong. P, & N, 2016). Moreover, definition for SMEs is vary depend on industries, the standard classification of SMEs is usually number of its employees, turnover and total asset (Nguyen, 2014).

Table 1.1 Definition of SMEs in Some Selected Countries

Country	Number of employee	Total Asset	Turnover
<b>European Union</b>	< 250	≤ € 43 million	≤ € 50 million
<b>United Kingdom</b>	< 250	≤ € 12.5 million	< € 24 million
<b>USA</b>	< 500		< \$ 100 million
<b>China</b>	Varies across industries, less than 100 upper limit to 3.000	≤ ¥ 40 million	≤ ¥ 300 million
<b>Indonesia</b>		≤ Rp 10 billion	≤ Rp 50 billion
	Manufacturing and service: ≤ 200	≤ THB 200 million	
<b>Thailand</b>	Retail: ≤ 30	≤ THB 60 million	
	Wholesale: ≤ 50	≤ THB 100 million	

### 1.3.2 Definition of SMEs in Laos

According to the Prime Minister Decree No.42 which officially issued in 2004 defines Small and Medium Enterprises depend on the number of total employees, total value of assets and annual gross turnover (Kyophilavong, 2008). Prime Minister Decree No.42 state that “SMEs are independent enterprise who legally registered and operating according to the prevailing laws of the Laos” and classified into:

Table 1.2 Definition of Lao's SMEs

<b>Category</b>	<b>Employees (person)</b>	<b>Annual turnover (million Lao kip)</b>	<b>Asset value (million Lao kip)</b>
Micro	1-4	< 100	< 70
Small	5-19	< 400	< 250
Medium	20-99	< 1.000	< 1.200

(Walsh & Southiseng, 2010) indicates that SME in Laos mostly concentrate in food processing, garment production, construction material, services, education and wooden furniture and it's merely three fourth of them being family owned who usually focus on short term day to day objectives and few of them were able to consider long term planning for business sustainability. Kyophilavong (2011) indicates that SMEs in Laos are in early stage of development and it is not an easy task in study of the situation of Lao SMEs due to their limitation in data available (Vixathep, 2014). Previous researches summarize that the main obstacle of SME are access to finance, law and taxation, lack of business administration and limitation experience (Onphanhdala & Suruga, 2010; Siharath, 2012; Walsh & Southiseng, 2010). In case of financing SMEs, Kyophilavong (2011) indicates that most of SMEs owner have quite low level of education and faces with financial problem for both set up and operation process, very few of them have financial sources from financial institutions. It is undeniable that lack of reliable information in the market place appeal the direct effect on SMEs credit access, complicated lending procedure is one of factor impede SMEs credit access (Kyophilavong, 2011; Siharath, 2012). According to limitation of updated statistic on the SMEs available in Laos, it not an easy task to identify the accurately situation of its environment but previous literatures indicates that financing problem is a major concern and there are few studied related to SMEs in term of access to formal credit.

## **1.4 Purpose of Study**

Due to their limitation of studied and there are limited studied on national financial literacy for SME in Lao PDR, previous studies indicate that there are two points that might explain volatility in SMEs' financial access: the present of asymmetric information between lenders and borrower (Berger & Scott, 2006; Moro et al., 2015; Motta, 2016; Stiglitz & Weiss, 1981) and financial literacy (Cole, 2009; Nkundabanyanga et al., 2014). While the present asymmetric information and financial literacy are important to access formal credit, so this work is undertaken to investigate the impact of financial literacy and reduction in asymmetric information on SMEs credit access in Laos. Additionally, this study also identified the impact of lending conditions such as pledging of personal assets and other fixed assets as collateral and financial statement when obtaining formal credit especially when those SMEs require for bank loan.

## **1.5 Research Questions**

In achieving these objectives, the following question are formulated:

- 1) What does the impact of financial literacy on credit access?
- 2) What does the impact of reduction in asymmetric information on credit access?

## **1.6 Contribution of Study**

The contribution of the study is to support the existing empirical work on SMEs financing, it could also be shown an overview of credit market available for SMEs in Laos, understanding of SMEs accessibility to different sources of credit, their financing pattern and identified factors affecting SMEs financing decision. In addition, depend on the intension of this study, SMEs owner financial literacy test will focus on Entrepreneurial finance lather than general level, so the result of this study could also be use as the reference point for future research study which could help SMEs in enhancing their financial management. Therefore, the result of this study will fill the gap in limitation of national financial literacy surveys especially on

Entrepreneurial finance. Moreover, the result of this study is expected to provide some evidences to both lender and borrower in financial market for SMEs. SMEs sector can use this result to improve their ability to obtain external finance and credit provider especially formal credit institutions can understand of SME capital need and preference to provide better services. State agencies could also adopt the outcome of this study to implement proper policies to support Laos SMEs particularly in financial access.



## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Financial Literacy

Financial literacy is an ability to manage financial in any aspects, a person who literate in finance is one who proficiency of financial principles and lead to making proper financial choice that can positive consequences on financial well-being of an individuals. According to the Organization for Economic Cooperation Development (OECD, 2011), financial literacy can be defined as:

“A combination of awareness, knowledge, skill, attitude, and behavior necessary to make sound financial decisions and ultimately achieve individual financial wellbeing”

Ramachandran (2012) define a financial literacy as a capability to know, productively use of financial resources to improve economic wellbeing, more financial literate person more poverty alleviation, community development and empowerment of proper financial judgment, in case of financial literacy and financial inclusion; he pointed out that financial literacy is a ladder toward financial inclusion, financial literate ones not only access to financial services but also creates environments to raise a desired financial behavior.

Pearl and Eileen (2014) describes the financial literacy for business owner as “the ability to understand and use business financial statements to generate key financial ratios to evaluate and manage a business”. Fernandes (2015) indicates that financial literacy for business owner is slightly difference from individual literates, the main distinction related with the understanding of information provided by financial statements. He pointed out that financial literacy for business owner should contemplate not only for the use of financial statements, but also financial behavior

which concerned of the financial information and financial preference in the moment of making financial management.

### **2.1.1 Impact of Financial Literacy**

In general, the survey on financial literacy has been conducted in the overall level, there exist very few surveys that provide information on financial literacy of business owner and financial decision making. To remedy this shortage of data, Wachira and Kihiu (2012) studied the impact of financial literacy on access to financial services in Kenya, by using the 2009 National Financial Access survey data and multinomial logit approach to explain the access pattern. The result of studied found that financial literacy is positively correlated with access to financial service but not significant. This result of this study also found that the respondents understood that access to informal financial services are cheaper than one from formal, most of them think that interest rate charged by informal lender are lower than formal one. The result reveal that perception of household in Kenya on interest rate charged are incorrect and we can imply that there is low financial literate in Kenya, consort with (Rooij, Lusardi, & Alessie, 2011), who studied the impact of financial literacy and stock market participation and found that very few understand the concept of advance financial like a complexity of financial products such as stock and bond, many of respondents do not understand the concept of those financial products which consistent with the report of OECD who pointed out that financial literacy remains low in most countries (OECD, 2017).

Even though there are some studied proved that financial knowledge level remains low in many countries worldwide, but mounting evidences suggest that financial literacy is a major variable that affect individual financial decision. Lusardi (2008) studied the household saving behavior in the role of financial literacy, information and financial education program using the model of consumption/saving decision to illustrate the rational to consume and saving over the lifetime, the result indicates that one-third of respondents do not plan for retirement. Moreover, to the one who makes calculation and saving plan, almost of them did not follow through and fewer succeed in implementing their plans. The result also found that, to those who are more financial literates more likely to thought about their retirement.

Furthermore, very few of respondents rely on the help of experts or financial advisors to make saving and investment decisions and most of them rely on informal advice. Literature indicates that a financial literate person will be more participate in saving plan and also financial services. In studied of the impact of financial knowledge on individual behavior; Cole, Sampson, and Zia (2011) show that financial literacy is strongly persuades financial behavior, higher level of financial literacy higher used of bank services (Aussi, Erwin, & Robert, 2016). Beck (2007) explain that if a person is not familiar product, they will not demand them. People with low level of financial capability are more likely to transact with higher cost in obtaining financial services especially high cost of borrowing (Lusardi & Tufano, 2009). Most of them suggest that the likelihood of participation in financial products increased when financial literacy increase.

Lubanga (2016) studied the relationship between financial literacy and access to credit among youth in rural areas, using the questionnaire survey and descriptive statistic and multi linear regression to assert relationship between financial literacy and credit access, the result found that financial literacy and access to credit are positively correlated and significant, the respondents can make sound financial management like they pay their bill on time which also control their spending, could plan for their investment and making well with their debt where enabling them to meet their financial credit easily. But, this studied also reveal that access to credit was limited by lack of collateral. Wanjiku and Muturi (2017) examined the impact of financial literacy on loan repayment, the purpose of this study was to investigate the impact of financial literacy on loan repayment behavior. By using the financial literacy such as financial negotiation literacy, debt management literacy, budgeting literacy and bookkeeping literacy as independence variables whereas timely loan repayment were used as dependence variable. To undertake this one, binary logistic model is formulated to deal with probability of a respondent delaying in loan repayment. The result shows the positively correlated and significant of all independents variables. Imply that, individuals who financial literate can make proper consideration of the available financial products which can assist to create wealth and avoid chances of failure to pay loans and enhance their creditworthiness which can lead to easily access to credit in the future, this result consistent with

(Nkundabanyanga et al., 2014) who convey that there are positive and significant between financial literacy and formal credit access. Wise (2013) found that increase in financial literacy lead to more production of financial tools (financial statement and financial ratios) which in turn increase the likelihood of loan repayment and lower probability new venture failure and further positive effects on new credit appraisal (Nyamboga, Nyamweya, Abdi, Njeru, & George, 2014; Ripain. Noraizan, Amirul. Milda Sharifah, & Mail. Rasid, 2017). Mutegi, Njeru, and Ongesa (2015) found that business owners/manager who are financially literate tend to use and analyses financial report prepared for them, and work on the information in order to make decision related to their firm.

The literatures demonstrate that individual who are not well educated less likely to make sound financial decisions which lead to limit their financial accessibility. In general, if we have more information about different sources of fund meaning that we have more chance of success in loan requirement. To summarize this; following hypothesis is stated

H<sub>1</sub>: there are positive and significant relationship between financial literacy and credit access

### **2.1.2 Measurement of Financial Literacy**

Financial literacy is rapidly recognized as a main skill and very useful in the modern complex of financial landscape. Regarding to a problem that there are not universal accepted about the definition of financial literacy, so the method uses to measure financial literacy also vary substantially and lack of uniformity. According to the Questionnaire and Guidance Notes for Conducting an Internationally Comparable Survey of Financial Literacy (OECD, 2011) to studied of financial literacy by using of survey method, their questionnaire used to evaluate the financial knowledge cover a mixture of attitudes and knowledge as well as capturing behavior of individual; the result found that all of these variables affect to the financial being and financial health, this study is also found that the demographic characteristics is a factor effects on financial literacy. Lusardi and Mitchell (2011) suggest that, in designing a question which will used in financial literacy assessment, the researcher must ensure that their wording of the questions should be simply to understand, but it must contain of basic

financial concept, it had to relate to day to day financial decision and could be differentiate between individual financial knowledge level. Yoshino, Morgan, and Wignaraja (2015) in assessment of financial education in Asia. By using the same questionnaires and methodologies for all participants countries, the overall question used in this survey concentrate on three areas of financial aspects like the understanding of interest compounding rate, impact of inflation which directly have an effect on day to day purchasing power and the understanding about risk diversification, consistent with (Lusardi & Mitchell, 2006) who construct a unique standard on financial knowledge for the 2004 Health and Retirement Study (HRS); the result reveals that financial education program and financial literacy still lower in the region. As there are more complexity in financial sector and regard to the limitation of empirical assessment on financial capability in Asia, the methodologies and results of existed studies are not consistent because of very few numbers of Asian countries have been survey.

Like individuals' financial literacy, there are not concrete measurement in the context of SME financial literacy; Musie (2016) using the borrowing or financing literacy, budgeting literacy and investing literacy in the measurement of financial literacy for SME owner in Mpumalanga province (South Africa) the result shows the positive relationship between the use of those financial concepts and economic success of SMEs. Nyamboga et al. (2014) used the book keeping skill, credit management and budgeting skills as the key factors in an assessment of financial literacy on loan repayment by SMEs. Ripain Noraizan, Amirul Milda Sharifah, and Rasid (2017) adopt ANZ framework which divides keys knowledge for business owner into four categories: mathematical literacy and standard literacy, financial understanding, financial competence and financial responsibility to investigate the level of financial literacy among the participants of the business owner in Malaysia. Turyahebwa, Sunday, Burani, and Eliabu (2013) found that working capital literacy, investment literacy, financing literacy and financial statements report had influenced the performance of SMEs in Uganda. These finding confirmed by (Hande, 2015) who studied the impact of financial management practices on SMEs and found that working capital management, fixed asset management, financial reporting which focus on financial statements had significantly impact on SMEs performance.

In summarize of previously literatures review. Financial literacy can have different dimensions, it's necessarily to made sure that the question used in the study process is cover the commonly accepted of three areas of concern such as: basic financial knowledge, attitude and behavior. Despite there are the same concept of concern, but each questionnaire will be differences through its specific detail of interest. So that, questionnaire used in this research will base on three basic concepts and due to the intention of this research that I focus on specific group (SME) not overall level, I will add some advances financial question which focus on the consequences of business finance.

## **2.2 Asymmetric Information**

Asymmetric information or information failure is a situation that one party can get enough in relevant information while the opponent cannot or a chance to achieve the information is less than the one has. Frederic S. Mishkin indicates that an imbalance in access to information induces a problem in financial market on two ways: Ex-ante and Ex-post problems (Cheng, Ya, & Zhifei, 2016; Hainz, 2011)

The ex-ante problem created by an inequality of information before transaction occur called Adverse selection. Adverse selection occurs when the borrower has more relevant information about their project risk or benefit than financial institutions. Meaning that the borrower has relative information advantage whereas financial institution is relative disadvantage position. Whenever this situation has occurred, due to the disadvantage of the principal part. Most of the lender would probably end up with decide not to make any loans even they are some good opportunities exist in the investment.

The ex-post problem is created by asymmetric information after transaction occur called Moral hazard. Moral hazard is a situation that one party (borrower) gets into any activities that are undesirable or involved in risky investment which will increasing a likelihood of losing principal. This problem arises when two parties have inadequate information about each other, in this case the borrower does not provide sufficiency information to its lender. As the lender party are unable to obtain sufficiency information about their clients, they neither know about willingness to pay

them back nor there is volatile in original agreement when signing loan contract. To deal with this problem and make sure that there is not unprofitable lending in their portfolios, banking or financial institutions reduce lending to the borrower who are not provides adequate information.

### **2.2.1 Impact of Asymmetric Information**

The present of Adverse selection and Moral hazard not only make many number of investors who have a good potential of benefit could not achieved in loans requirement, but also causes to banks and other financing institutions reluctant to lend the borrower who get productive investment opportunities.

As the problem between lender and borrower in financial market related to the present of asymmetric information and has been recognized as a major obstacle in credit access. Moro et al. (2015) examined the impact of reducing in asymmetric information and credit access for small and medium enterprise. With aims to investigate a relationship between the reduction in asymmetric information and the bank credit provided to SMEs. Ordinary least square was employed to test the relationship between reduction in asymmetric information and credit access. The result found that reduction in asymmetric information is associated with more credit, meaning that individuals or borrower who provides a good quality, quantity, completeness and timely information required by bank will lead to an easily and get more access to finance, this result is consistent with (Bushee & Leuz, 2005; Hainz, 2011; Zecchini & Ventura, 2009). Kasekende and Opondo (2003) studied of the financing pattern of SME in Uganda found that sufficient financial information is importance for bank and borrower; higher cost of debt faced SMEs caused by information disclosed, higher volatile in asymmetric information hinders the lender parties to calculate the risk and hesitated to make any loan. Whenever the bank is not able to obtain any information that they need for measure SMEs' financial position, opportunities to access to formal finance is hampers. Higher quality of information disclosed by SMEs consistent with greater access to formal credit (Mary, Venancio, Nixon, & Stephen, 2014). Mounting evidences on credit market prove that to compensate inequality information problem; before the lender parties provide credit to their clients, they need to guaranty the feasibility of their loan applicants and seeing

financial statement is comprehensive tools to know applicant's financial position. Standardize and completeness financial statements increases probability of access to credit, extensiveness financial statements and information provided by financial statements is related to credit access by alleviate in asymmetric information (Caneghem & Campenhout, 2012), Mary et al. (2014) found that there is positively and significant between financial statements and access to credit and significant but negative relationship between reduction in asymmetric information and credit access. Elsas and Krahn (1998) support that exhaustive and timely information obtains by banks are increase a chance of granting more credit.

Previous studies on lending connection suggest that stronger relationship make it more difficult for borrower to hide their undesired information and simply for the lender parties to get more extra information about their clients and its credible enough for reducing a moral hazard problem (Cheng et al., 2016). Petersen and Rajan (1994) indicates that good relationship with a credit provider the availability of financing increases but, smaller effect on cost of borrowing. In study of the determinant of credit approval for new SME, Fatoki and Odeyemi (2010) found that networking which represented by relationship with bank and business information represented by the existence of a business plan are significant determinant of credit approve.

The evidences from literatures indicate that, problem in credit market occurred by the imperfect of information availability to economic transaction. This study focuses on how reduction in asymmetric information affects SMEs financing in Laos. If financing SME is significant with alleviation of asymmetric information, to improve credit access for SME, new SME should learn from the peers or empirical study to improve their chance to enhancing credit access. According to literatures above, to reduce the level of asymmetric information between lender and borrower, new SME should improve their networking with lender by open bank account with them before requiring for bank loan and maintain good relationship with bank, moreover the potential borrower should prepare their financial statements also business plan completely and timely when seeking to bank loan.

H<sub>2</sub>: Reduction in asymmetric information is positive and significant on credit access

### **2.2.2 Measurement of Reduction in Asymmetric Information**

A present asymmetric information is inherent and subjective, to gauge the level of this imbalance could be depended on individual aspects. There are not universal accepted on the measurement of asymmetric information. Ndung'u (2014) in studied of the existent of information imbalance between lender and borrower in Kenya. To examined this, lending officers were asked about the quantity or adequacy information provided by borrowers; higher satisfactions of information the respondents received lower level of asymmetric information. Moro and Fink (2013) uses a relationship between financial institutions and borrower as a proxy's measurement of asymmetric information. A relationship is assumed to increase the ability of banks to monitor, gathers more information about their clients and evaluates the borrower riskiness, stronger relationship makes is possible for financial institutions to recognize the present of adverse selection and moral hazard. The level of asymmetric information is reduced by lending relationship which in turn increase the credit availability for borrower (Cheng et al., 2016; Petersen & Rajan, 1994). Mary et al. (2014) pointed out that asymmetric information has occurred when one party has better or timelier information than the opponent. Moro et al. (2015) used the quality, quantity, completeness and timeliness of information obtained by loan managers as proxies for reduce the present of asymmetric information. Throughout literatures above it's incredible to exactly measure the level of asymmetric information, the level of satisfaction depended on the willingness to provide any information by SME, so this study will base on the assumption that reduction in the magnitude of asymmetric information by exhaustive information provided by SMEs empower financial institutions to evaluate the firms and extent credit to them. In the construction of questionnaire for asymmetric information part, it will cover the rang of lending relationship, adequate and timeliness of information. Higher satisfaction on information prepared by borrower and lender lower level of asymmetric information and more adequate and timely information greater decrease in asymmetric information level.

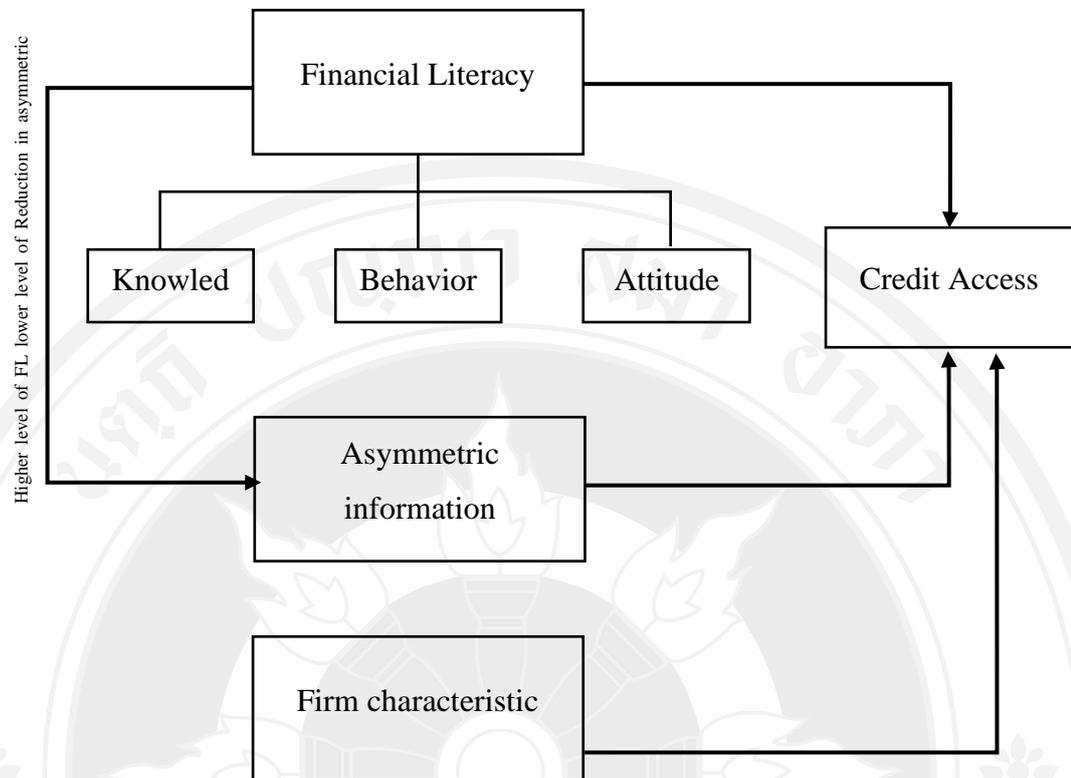
### **2.3 The Relationship Between Financial Literacy and Asymmetric Information**

Depend on the literature above, both financial literacy and asymmetric information affected on credit access. Some study prove that, financial literacy mitigates the problem of asymmetric information by embed a good financial practices such as: regularly recorded, timely, effectively used and provide the accurate financial information to stakeholder especially for external lender, adequate and timely information provided by SME enable the lenders to evaluate the reliability of SME when making lending decision (Adomako. S, Danso. A, & Damoah. J, 2015; Hussain, Salia, & Karim, 2018). Financial literacy is an essential skill that enhances the understanding of financial statement, assists in the preparation and usable financial information that mitigate the level of asymmetric information and in turn increase the possibility of access to credit.

### **2.4 Control Variables**

Depend on the nature of SME that relatively small in the context of size, most of SME firm is considered as younger business who lack of experience. Mounting evidences prove that smaller firm are less likely to access to external finance. Moreover, sector is likely to be a factor affected financial access (manufacturing sector firm are likely to have more chance to access to external credit because of the nature of their business that manufacturing firm are likely to have more tangible asset compared to service sector). There for, this study will control for firm size and sector that may affected on access to external finance.

## 2.5 Conceptual Framework



## CHAPTER 3

### METHODOLOGY

#### 3.1 Questionnaire Construction

##### 3.1.1 Financial Literacy

The questionnaires used in study of Financial Literacy level will bases on the guide line by Atkinson and Messy (2012) which covered financial knowledge, attitude and behavior. Furthermore, to assess the financial literacy level of business owner, the author will add some questions that focus on the components of business finance such as the understanding of information provided by financial statements, the understanding of sources of finance that available for starting business and its operation, behavior and preference toward the sources of finance. The detail of the questionnaire will consist of:

Table 3.1 Key component of Financial Literacy Included in Questionnaire.

<b>Basic financial knowledge</b>	key financial concept and ability to apply numeracy skills in financial situations. The detail of questions will cover the concept of simple and compound interest rate, inflation, risk and return
<b>Advance financial knowledge</b>	understanding of information provided by financial statements and sources of finance
<b>Financial behavior</b>	focus on a wide range of behavior that can enhance or reduce financial wellbeing as well as financial access
<b>Financial attitude</b>	attitude towards moneys and particularly towards planning for future as well as attitude towards the risk due to the investment in uncertainly outcome

### **3.1.2 Asymmetric Information**

To study the existing of asymmetric information is to measure the opinion or attitude of someone. Likert-scale questionnaires were used (Mary et al., 2014; Moro et al., 2015), and questionnaire designed directly investigate whether and how reduction in asymmetric information affect credit access for SMEs. To assess this problem, SMEs owner were asked about their satisfaction on the information they receive and information they provide when seeking for external finance. The questionnaire designed for this part will cover the rang of lending relationship, adequate and frequency of disclosed information by their firm. Higher score or higher satisfaction on information sharing from both lender and borrower lower the level of asymmetric information.

## **3.2 Data Collecting Procedure**

### **3.2.1 Sampling Design**

The target population of this study are SME owner in Laos. The criteria of SME definition will base on the Prime Minister Decree No.42. The study chose SME in Vientiane as the sampling frame. The reason that registered SME in Vientiane was chosen is because of the large number of SME in the city will make it easier to approach the target respondents (according to the data from Small and Medium Enterprise Promotion and Development Office, there are 6,848 SMEs in Vientiane) accounted for nearly 25% of total SMEs in national wide.

According to the limitation of time, budgeting and practical difficulties in obtaining information of the whole target population, the author used the random sampling to arrive at the convenience sample of SMEs owner located around Vientiane.

### **3.2.2 Sample Size**

According to the data from the department of SME promotion, the nationwide SME structure in 2018 based on three sector that include with: production industry, trade and services, accounting for 14.96%, 49.78% and 35.26% respectively. So that, to gather a representative sample of the entire population. The selected respondents are business owner who's running their business base on three sectors as

indicated above. The total number of sample size is 81 and fall into: 32 from services sector, 27 from trade sector and 22 from manufacturer sector.

### 3.3 Data Transform

#### 3.3.1 Measurement of Financial Literacy

Table 3.2 Creating a Score for Overall Financial Literacy Measurement.

Category	Section in questionnaire	Question No.	Score	Total	
				Maximum	Minimum
Financial knowledge	B	9 to 21	1 for correct response. 0 for all the other case	13	0
Financial behavior	C	22 to 27	1 for respondents who put themselves at 4 or 5 scales. 0 in all the other case	6	0
Financial attitude	C	28 to 30	Adding together the responses to each of three questions and then dividing by three	5	1
<b>Total score for overall level of financial literacy</b>			Sum the three scores report above for knowledge, behavior and attitude	24	1

#### 3.3.2 Measurement of Reduction in Asymmetric Information

Asymmetric information is defined as the situation that all relevant information is not known for all parties involved in the transaction and as indicated above the present of asymmetric information is inherent and subjective. So that, to assess the existing of asymmetric information this study will use the respondents' mean rank of the information included in the section D of questionnaire on five Likert scale. Higher level of information they provide and receive higher level of reduction in asymmetric information.

Table 3.3 Measurement of Reduction in Asymmetric Information

Category	Section in questionnaire	Question No.	Score	Total	
				Maximum	Minimum
Reduction in asymmetric information	C	31 to 36	respondents' mean rank of the information included in the questionnaire on five Likert scale	5	1

### 3.4 Model Specification for Credit Access

SME credit accessibility in this study is measured based on the sources of finance available for them. Based on the knowledge of the author, the available sources of credit in Laos are *formal* financing (borrowed from banks, microfinance institutions), *informal* financing (borrowed from informal sources that include any of private money lender, friends/relative).

By using the binary logistic model. Let access to credit (ATF) as a discrete choice variable which take the value of 1 if any firm has accessed to credit and 0 for the otherwise.

$$ATF = \begin{cases} 1 & \text{if firm } i \text{ has accessed to credit} \\ 0 & \text{for the otherwise} \end{cases}$$

In general, the logit function used to define the binary logistic regression of a dichotomous outcome variable ATF on a combination of  $j$  discrete choice (Fufa, 2016) (in here  $j$  is refer to sources of credit available in Laos as indicate above) and continuous independence variables. So, logit function will be used as a model to examine credit access and identify influential factors of access to credit.

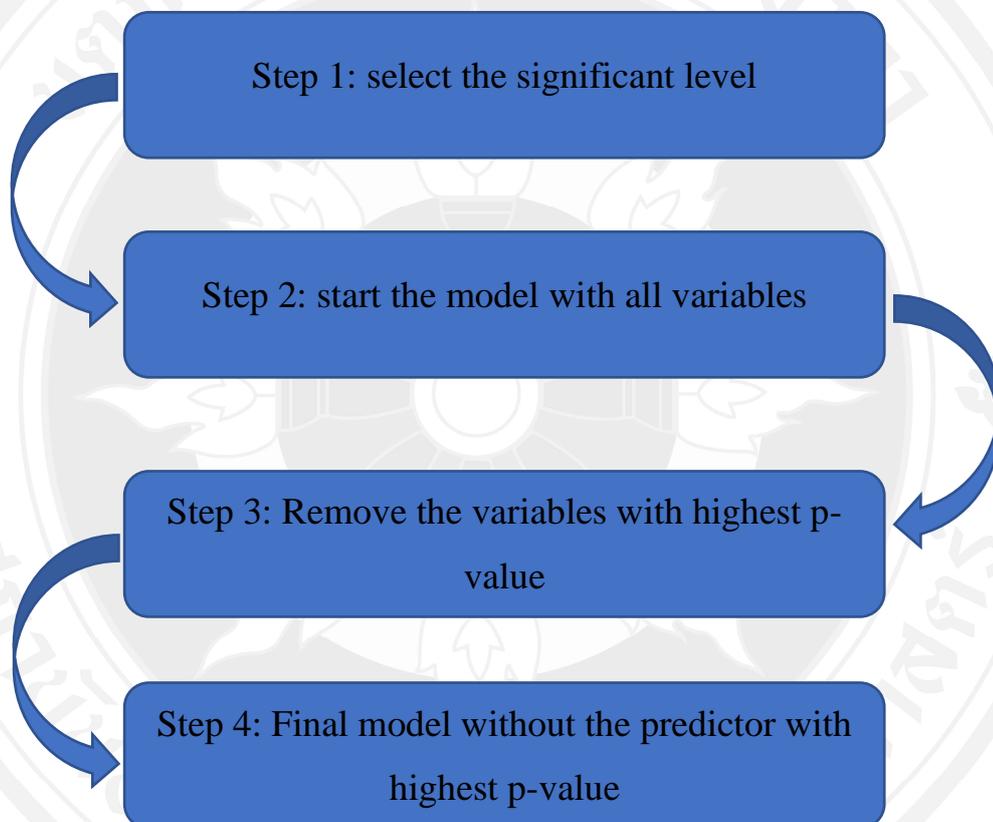
$$\text{logit}(P_i) = \ln\left(\frac{P_i}{1-P_i}\right) = \hat{\beta}_0 + \hat{\beta}_1 x_{1i} + \hat{\beta}_2 x_{2i} + \hat{\beta}_3 x_{3i} + \hat{\beta}_4 x_{4i} + \hat{\beta}_5 x_{5i}$$

The probability of SMEs access to credit given by:

$$\Pr(ATF = 1) = \frac{1}{1 - \exp(-z)}$$

$$\text{Where: } Z = \hat{\beta}_0 + \hat{\beta}_1 x_{1i} + \hat{\beta}_2 x_{2i} + \hat{\beta}_3 x_{3i} + \hat{\beta}_4 x_{4i} + \hat{\beta}_5 x_{5i}$$

### 3.5 Variable Selection Method



Backward elimination is a variables selection method used in this study. The study starts with full model that contains all variables, so we have the advantage of considering the effect of variables simultaneously and the insignificant variables are eliminated by the probability of statistic.

## CHAPTER 4

### RESULT AND DISCUSSION

#### 4.1 Descriptive of the SMEs Survey Data

##### 4.1.1 An Overview of Respondents' Characteristics

The demography profiles of the respondents who participated in this study are displays in table 4.1, the table presents many details of respondents' individual characteristics such as gender, ages, education level, business sector, business fiscal year and total number of its employees.

Table 4.1 Demographical Profile of the Respondents

Demographical Variables		Frequency	Percentages
<b>Gender</b>	Male	39	48.1
	Female	42	51.9
<b>Ages</b>	18 - 25	5	6.2
	26 - 35	25	30.9
	36 - 45	18	22.2
	Over 45	33	40.7
<b>Education</b>	Primary School	1	1.2
	Secondary School	33	40.7
	Bachelor's Degree	43	53.1
	Master' Degree	4	4.9
	Other	0	0
<b>Business Sector</b>	Manufacturer (Food processing, timber products...)	22	27.2
	Trade (Wholesale, Retailor and Automobile repairs shop...)	27	33.3
	Services (Hotel and Restaurants...)	32	39.5

Demographical Variables		Frequency	Percentages
<b>Years of its operation</b>	Less than 1 year	6	7.4
	2 – 5 years	15	18.5
	6 – 10 years	30	37.00
	More than 10 years	30	37.00
<b>Total asset</b>	0 – 70.000.000 LAK	9	11.1
	70.000.001 – 250.000.000 LAK	19	23.5
	250.000.001 – 1.200.000.000 LAK	49	60.5
	More than 1.200.000.000 LAK	4	4.9
<b>Number of employees</b>	1 – 4 people	14	17.3
	5 – 9 people	62	76.5
	20 – 29 people	5	6.2
<b>Annual income</b>	Less than 100 million LAK	16	19.8
	Less than 400 million LAK	30	37.0
	Less than 1.200 million LAK	35	43.2

The table 4.1 show that 51.9% of respondents were female and 48.1 male. The age group are distributed between the age of 18 and above 45 and the higher proportion of respondents represented in the age group above 45 account for 40.7 % , 30.9 % for 25 – 35 and 22.2 % for the age group between 26 – 35 years old.

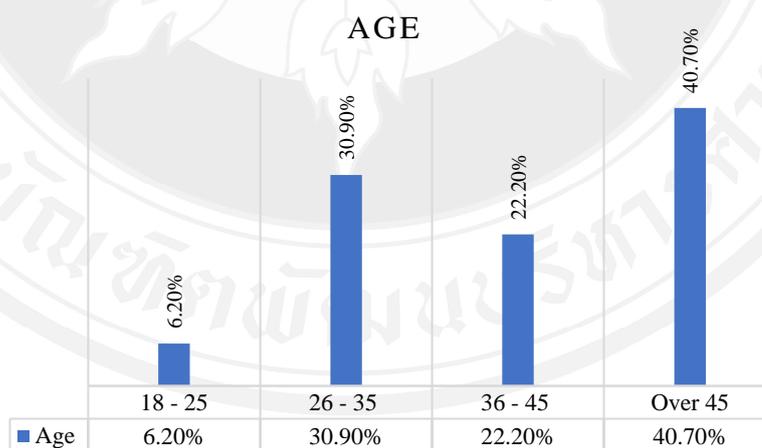


Figure 4.1 Age Distribution of the Respondents

In term of education, 53,1% of respondents have completed bachelor's degree, 40.7% for secondary school and only 4.9% of the respondents who have completed master's degree. Due to this proportions, the second highest of respondents are represented in secondary level that fall under the category of low level of education which further affect the financial literacy knowledge.

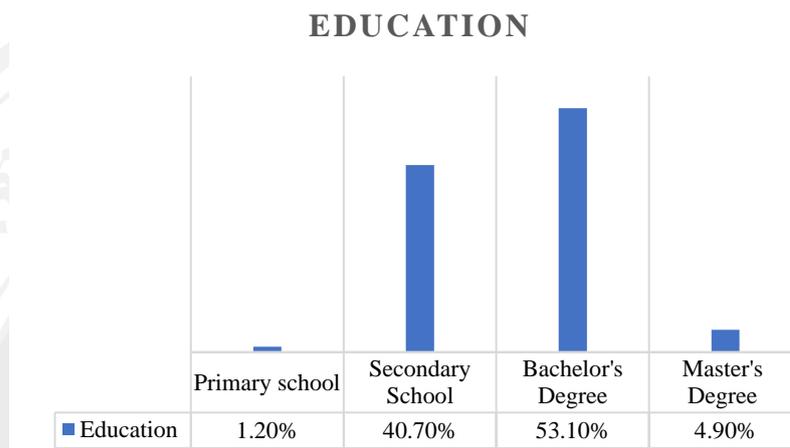


Figure 4.2 Education Level of the Respondents

Many respondents mostly concentrate on services sector which include hotel and restaurant and account for 39.50%, the second highest of business sector is trade (wholesale, retailer and automobile repair shop) that account for 33.30% and 27.20% for manufacturer sector which include food processing unit and garment producer, this result is consistence with (World Bank Group,2019) in the Lao PDR Economic Monitor 2019 Report (Constraints to doing business for SMEs in Laos section) pointed out that the majority of SMEs are in other services sector, retail service and manufacturing.



Figure 4.3 Business Sector of the Respondents

The data show that, most of them are running their business over 6 years (37% running their business between 6 – 10 years and 37% for running over 10 years) 18.5% for running between 2 – 5 years and 7.40% for the new joiner who running their own business less than 1 year.

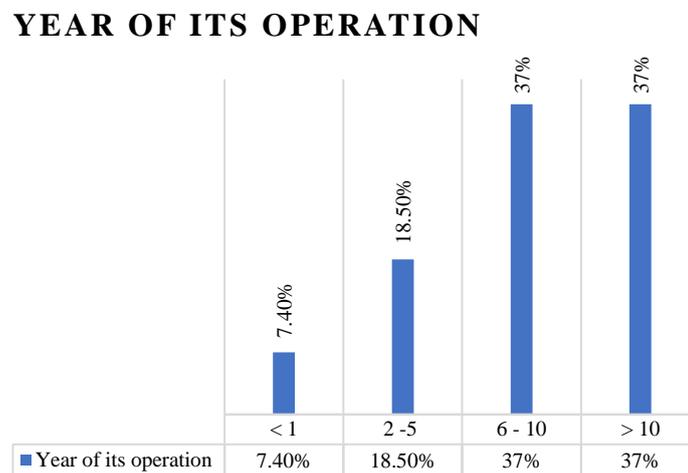


Figure 4.4 Years of Business Operation

The highest proportion of respondents' total asset is fall under category three (250.000.001 – 1.200.000.000 LAK) account for 60.50%, the second highest is fall under category two (75.000.001 – 250.000.000 LAK) which account for 23.50%, and 11.10% for the respondents who has asset value between 0 – 70.000.000 LAK and 4.90% for other.

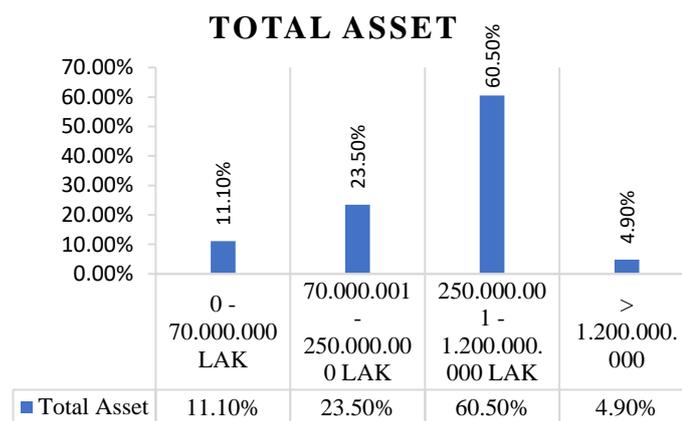


Figure 4.5 Total Asset of the Respondents

In term of total number of its employees, they almost employ 5 – 9 people for running their business and account for 76.50%, 17.30% for 1 – 4 and 6.20% for 20 – 99 people.

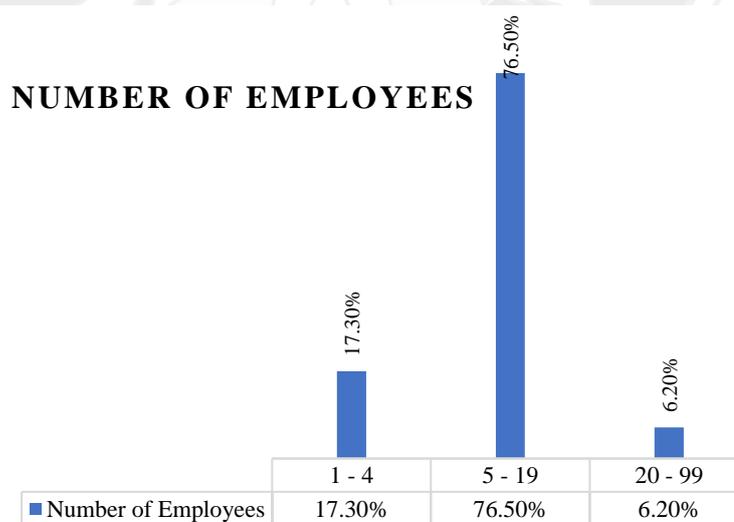


Figure 4.6 Total Number of Employees

The interviewees were asked to place their annual income and the result found that, the highest proportion is 43.20% for income less than 1.200.000.000 LAK, 37.00% for less than 400.000.000 LAK and 19.80% for earning less than 100.000.000 LAK.

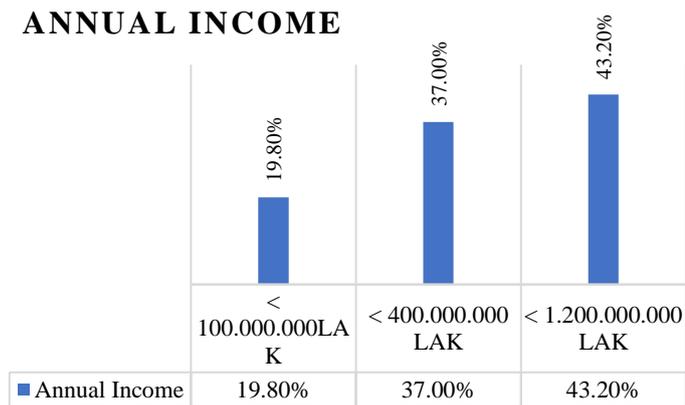


Figure 4.7 Annual Income of Their Business

#### 4.1.2 Descriptive Result

Table 4.1 Descriptive Result for Our Main Variables

Variables	Mean	STD Deviation	Minimum	Maximum
Financial Knowledge	7.58	2.529	3	13
Financial Behavior	3.7531	1.1568	0	6
Financial Attitude	3.7005	0.6458	2	4.66
Financial Literacy	15.0338	3.7521	7.66	23.66
Reduction in asymmetric information	3.4601	0.4875	1.83	5

Table 4.2 present the descriptive result for our main independents variables that contain in this study, the average financial knowledge score of our respondents is 7.58 out of total 13, mean score of financial behavior is 3.7531 out of total 6, Financial attitude is 3.7005 out of total 5 and the average Financial Literacy score of our respondents is 15.0338 out of total 24. In term of Reduction in asymmetric information, average score is 3.4601 out of total 5.

With regard to the major subcategory of financial literacy, financial behavior is supposedly the most significant to financial literacy, because financial behavior which refer to the ability to understand and normally applies the knowledge of financial concepts or information provided from financial statements to make any decision that related to their firm will increase the likelihood of loan repayment on time and also financial wellbeing. Among the major subcategory of financial literacy, the highest score is financial attitude, financial behavior and financial knowledge and account for 74.01%, 62.55% and 58.31 % respectively.

Regarding to a problem that there are not universal accepted about the measurement of financial literacy and the questions used for assess the financial literacy are differences depend on any specific of interest, to compares our result with other study we use the percentage of maximum value of each circumstance and the figure 4-8 below show us the average score of financial literacy including breakdown major categories (financial knowledge, financial behavior and financial attitude) with the result by (P. J. Morgan & Long Q, 2019) who studies about Fintech and Financial literacy in Lao PDR and also compare with the result from OECD who studies the adult financial literacy and the result found that:

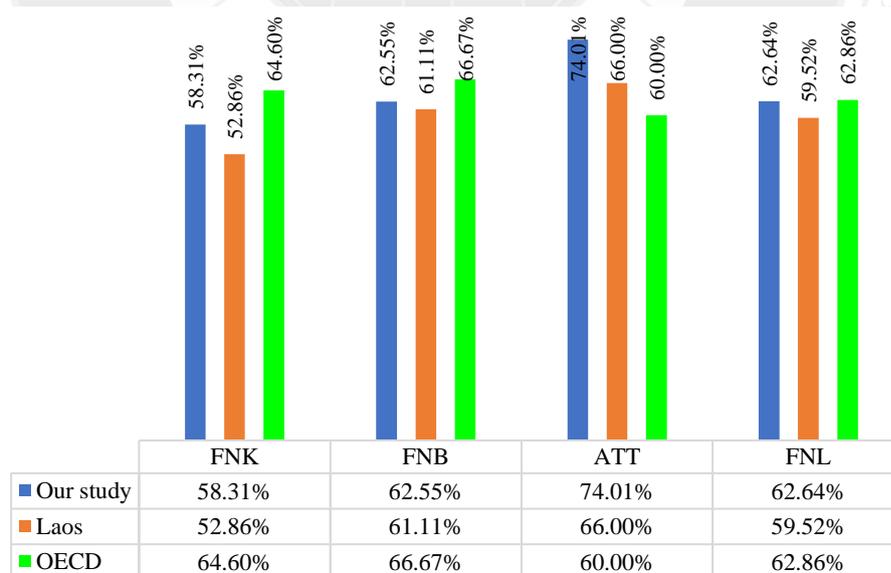


Figure 4.8 Financial Literacy Mean Score and Its Comparison in Term of Percentage of Maximum Value.

This figure show us the average score of financial literacy and major subcategory for our respondents with the mean score of Lao PDR (P. J. Morgan & Long Q, 2019) and the result from OECD. According to this data, average score for both financial literacy and its major subcategories of our study are slightly higher than the average score of Lao PDR. This result may be viewed as reasonable accepted because of our study is mainly focus on the SMEs unit that located in the city who familiar with the numerical skill and day to day financial decisions making in contrast with the score for Lao PDR that calculated by nationwide population that not only live in the cities but also in rural area and lower level of education which future lowered the financial literacy score. On the other hand, there are some difference when compare our result to adult financial literacy from OECD. Financial knowledge, financial behavior and financial literacy from this study is lower than the average score of adult financial literacy that computed by OECD. At the same time, financial attitude score is slightly higher.

#### **4.1.3 The Determinant of Financial Literacy**

According to our literature's reviews, most of the researcher found that demographic characteristics like gender, age, education and income are significantly impact to financial literacy. There for, this study dawns the equation for factor that determine financial literacy as:

$$FL_i = \alpha_0 + \alpha_1 X_i + \epsilon$$

Where FL is financial literacy which computed by the combination of financial knowledge, financial behavior and financial attitude of each respondents. The demographical characteristic factors were used as a control variable to predict the level of FL. With regards to ages, its divided into four group: those over 18 years old but under 25 years old and used as a base group, those over 26 years old but under 35 years old, those over 36 years old but under 45 and those over 45 years old. For education, we also divided into four group: those who have completed primary school and used as a base group, those who have completed secondary or high school, those who have completed bachelor's degree and those who have completed master's degree. For income factor, its divided to three group: those who has income less than 100 million LAK per year and used as a base group, those who has income less than

400 million LAK per year and those who has income less than 1.200 LAK per year.

With regards to gender, male is used as a base group.

Depend on our sample size are small in amount, this study uses the backward stepwise method in SPSS program to select and remove factors that determine the financial literacy level and the result found that:

Table 4.2 Factor That Affects the Financial Literacy Level.

Variables	Unstandardized Coefficients		Standardized coefficients beta
	Beta	Std.Error	
Constant	12.376***	.755	-
Female	-.663*	.350	-.178
Bachelor	1.258***	.229	.505
Master	2.384***	.398	.554
Less than 1.200	.673***	.240	.268

\*\*\* indicate the significant level as \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$  and \*  $P < 0.1$ .

Note: Dependent variable is Financial Literacy

The factor that found significantly to the level of financial literacy are gender, education and income. For gender factor, the study found that female is lower financial literate as compare to male. For education or disclipline of study is positive and significant to financial literacy level, the respondents who have comepleted bachelor and master degree are more financial literate as compare to other who have completd only primary school. As far as education factor is concerned, given other factor constan the repondents who got bachelor and master degree will got more financial literacy score by 1.258 and 2.384 respectively as compare to the base group. Income has also positive and signifiacntly to the financial literacy level and our result found that the repondents who place their annual income less than 1.200 million LAK will higher the financial literacy score by 0.6743 as compare to our base group and given other factors constant.

## 4.2 Main Finding

### 4.2.1 Effect of Major Subcategories of Financial Literacy on Credit Access

In this section, we assess the effects of three major subcategories of financial literacy on credit access and the result shown by table 4.4 as below:

Table 4.3 The Effect of Major Subcategories of FL on Credit Access by SMEs

Variables	Beta	Exp(B)
Constant	-6.712	.001***
Financial Knowledge	.165	1.179
Financial behavior	.250	1.284
Financial attitude	1.381	3.980***

\*\*\* indicate the significant level as \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$  and \*  $P < 0.1$

Note: Dependent variable is credit access.

Binary logistic regression which dependent variable are only take the value 0 and 1 were used for (For our study, 1 is for the respondents who access to credit or loan and 0 for other who does not). According to the result above, financial knowledge and financial behavior are positive but not significant for credit access. In the other hand, financial attitude is positive and significantly to credit access, this mean that the respondents who always plan for their financial goals, saving and spending, more likely to taking financial courses and make decision not only for their day to day but also for long term goals for their business will increase the likelihood of access to external credit by if one point increase in financial attitude the odd ratio of having loan by 3.980 compare to other who does not having loan anymore.

### 4.2.2 Effect of Financial Literacy and Reduction in Asymmetric Information on Credit Access

As we have mentioned earlier that the main purposes of this study are to find out the impact of financial literacy and reduction in asymmetric information on credit accessibility of SME and regarding to those objectives, this study has stated out two

hypothesis that might explain the expected result as: The first hypothesis is Financial literacy is positive and significant to credit access and the second one is reduction in asymmetric information is positive and significant to credit access.

In this section, financial literacy variable is computed by the combination of three major subcategories as knowledge, behavior and attitude and we use the quantity and qualitative of the information provide from both borrower and lender as a proxy measurement of the level of asymmetric information, the higher satisfaction score from our survey meaning that they were both provided the reliable information for each one that future increases the reduction in asymmetric information.

With regards to our literature reviews, the demographical variables such as gender, age, education, business sector, total asset and annual income are also effects on credit access for SMEs in many countries.

To deal with the problem of small sample size, backward Wald elimination method in SPSS program were used to select and remove some variables for our predictions as follow:

Table 4.4 Rank of Variable that Computed by Backward Wald Elimination Method

<b>Variables</b>	<b>Score</b>
Reduction in asymmetric information	20.854***
Financial Literacy	17.803***
Total Asset	16.611***
Annual Income	16.019***
Gender	3.226*
Business Sector	2.201
Education	.003

\*\*\* indicate the significant level as \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$  and \*  $P < 0.1$

The data from table 4.5 above show us the highest score and significantly are reduction in asymmetric information, financial literacy, total asset and annual income,

respectively. On the other hand, gender, business sector and education are lower score and not significant so eliminated by this study.

The effect of financial literacy, reduction in asymmetric information on credit access by SME are tested by the binary logistic regression model. Additionally, total asset which divided into four group: those who's asset value is under 70.000.000 KIP and use as a base group, those who's asset value is over 70.000.001 but under 250.000.000 KIP, those who's asset value is over 250.000.001 but under 1.200.000.000 KIP and those who's asset value is over 1.200.000.000 LAK and annual income which also divided into three group: those who have annual income less than 100.000.000 LAK and use as a base group, those who have less than 400.000.000 Lak and those who has less than 1.200.000.000 LAK were used as control variables and the result represent as follow:

Table 4.5 Empirical Result

<b>Independents Variables</b>	<b>Beta</b>	<b>Exp(B)</b>
Reduction in asymmetric information	2.978	19.647**
Financial literacy	.280	1.322**
Total asset less than 70 M (LAK)		
Over 70 M but under 250 M	4.203	66.890**
Over 250 M but under 1,200 M	7.208	1,350.4***
Over 1.200 M	25.825	1,643E
Annual income less than 100 M		
Annual income less than 400 M	-3.043	.048**
Annual income less than 1,200 M	-2.720	.066*
Constant	-17.234	.000***
Overall Correct		84%

\*\*\* indicate the significant level as \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$  and \*  $P < 0.1$

Note: Dependent variable is credit access.

The estimate result by binary logistic regression shows that reduction in asymmetric information is positive and significant to credit access. With regard to this variable that used as a proxy measurement of asymmetric information higher score lower the level of asymmetric information, so we can interpret that when one point increase in reduction in asymmetric information the odd ratio of access to credit by

SME increase by 19.647. More and reliable of quality and quantity information that provided and received by both lender and borrower increase the likelihood of access to external credit. In addition, disclosed more and timely information about their financial positions can help the lender to evaluates their ability to repay the loan and produces the creditworthiness so increase the probability of credit access for SMEs.

In case of financial literacy variable, the result from table 4.6 above show that there is positive and significant to credit access as expected. By given other variables constant, when one-point increase in financial literacy the odd ratio or probability of credit access will increase by 1.322. Imply that, the respondents who understand and properly apply various of financial skills that include not only basic skills but also the ability of makes and use of the information from other financial statements on their decision making, financial literacy enhance the individual to become self – sufficient that in turn increase the likelihood of access to credit.

For our control variables, the total asset that viewed as collateral is significantly and has the expected sign, higher value of the collateral higher probability of access to credit. The result suggests that those which total asset is over 70 million but under 250 million LAK and those whose total asset is over 250 million but under 1.200 million LAK will increase the odd ratio or probability of access to credit by 66.890 and 1,350.4 as compared to our base group respectively. In fact, before provide credit to SME, financial institutions are incentives to collateral base lending because of collateral from the borrower are used as a protection of loan loss or credit default. In addition, annual income variable is varied depend on their own subgroup, the result suggests that for those that annual income is less than 400 million LAK is negative and significant to credit access and those with less than 1.200 million LAK is negative but not significant to credit access, meaning that when their annual income increase the likelihood of access to external credit is decrease by 95.2% and 93.4% Comparing to our base group respectively. To interpret the implicit of this result, it can assume as when their income increase meaning that them retain earning also increase that in turn lower the probability of rely on external sources of fund.

According to the result above, the analysis is supporting both of our hypothesis: when the respondents are financial literate the probability of access to external finance is increase and when both lender and borrower are provided and

receive the quality and adequate information from each other the level of asymmetric information is reduced and in turn increase the likelihood of access to external finance.

#### 4.2.3 Effect of Financial Literacy on Reduction in Asymmetric Information

Additional to the conceptual framework that I have dawn above, most studies (Moro et al., 2015; Motta, 2016) use the information from financial statements as a proxy measure of magnitude reductions in asymmetric information so this study implies that higher level of financial literacy lower the level of asymmetric information. To find out this relationship, the OLS lease square are used, and financial literacy is used as independent variable and reduction in asymmetric information is defined as dependent variable and the result find that:

Table 4.6 Impact of Financial Literacy on the Reduction in Asymmetric Information

Variables	Unstandardized Coefficients		Standardized coefficients beta
	Beta	Std.Error	
Constant	2.359***	.187	-
Financial literacy	0.073***	.012	.564

\*\*\* indicate the significant level as \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$  and \*  $P < 0.1$

Note: Dependent variable is Reduction in asymmetric information.

The result found that financial literacy is positive and significant to reduction in asymmetric information, and we can dawn the equation as  $Asym = 2.359 + 0.073 FL$ , so we can interpret that when one-point increase in FL the reduction in asymmetric information is increase by 0.073 or the magnitude of asymmetric information reduced by 0.073. this result is supported our conceptual framework that higher level of financial literacy lowers the level of asymmetric information.

## CHAPTER 5

### CONCLUSION AND RECOMMENDATION

#### 5.1 An Overview of This Study

This study aims to investigate the impact of financial literacy, Reduction in asymmetric information and credit access for SME in Lao PDR, additional finding might be helpful to increase the likelihood of access to external finance for SME in Laos. The questionnaire used to survey the financial literacy is the combination of financial knowledge, financial behavior, financial attitude and some advances financial concept that refer to the understanding and use of information provided by financial statements to manage their business effectively. Besides that, to assess the level of asymmetric information this study uses the satisfaction of both lender and borrower about the information which provided and received from both party, higher score of information sharing lower the level of asymmetric information.

The methodology used in this study is binary logistic regression and the SME owner whose business are located in Vientiane (The Capital City of Laos) were used as sampling frame because of the large number of SME in the city will make it easier to approach the target respondents. The data and analysis show that, SME units who participate in this study mostly operates their business in service sector, Trade and Manufacturer by 39.50%, 32.10% and 27.20 % respectively. In term of total asset value, the result found that the highest proportion is over 250.000.001 LAK but under 1.200.000.000 LAK, the second highest is over 75.000.000 LAK but under 250.000.000 LAK and the third one is between 0 – 70.000.000 LAK and account for 60.50%, 23.50% and 11.10% respectively. In addition, this study shows that total asset which used as collateral when require any loan were positive and significant to credit access, increase in collateral value further increase the probability of external credit access for SME. In case of annual income, major highest proportion is 43.20%

for income less than 1.200.000.000 LAK, 37.00% for less than 400.000.000 LAK and 19.80% for earning less than 100.000.000 LAK.

## 5.2 Conclusion

The result suggests that three major subcategory and financial literacy score that computed by this study is slightly higher than those who studied the financial literacy in Laos. Moreover, the result find that female is lower financial literate as compare to the male, level of education and income is positive and significant to financial literacy and this result is strongly supported by (Lusardi & Mitchell, 2011; Morgan & Trinh, 2019) individual with higher level of education and income increase the likelihood of access to external credit for SME.

Regarding to the objective of this study, the result found that there are positive and significant between financial literacy, reduction in asymmetric information and credit access for SME. When one-point increase in financial literacy the odd ratio or probability of credit access will increase by 1.322, financial literate individual who capability with financial concept, ability to understand and apply various aspects of financial skills increase the possibility of credit access. So that, this result is support the hypothesis that there are positive and significant relationship between financial literacy and credit access.

In term of asymmetric information, when one-point increase in reduction of asymmetric information the odd ratio of access to credit by SME increase by 19.647, higher score of reduction in asymmetric information or higher satisfaction on information provided and received from lender and borrower will reduces the magnitude of asymmetric information which further increase the likelihood of credit access. So that, this result is also support the hypothesis that reduction in asymmetric information is positive and significant to credit access.

In addition, this study also found that financial literacy could be reduce the level of asymmetric information, when one-point increase in FL the magnitude of asymmetric information reduced by 0.073. To interpret the implicitly of this finding, individual who has higher level of financial literacy that contains with some basic and advances skills with related to the information provided by financial statements and

capability of understanding credit sources and knowledgeable on the benefit of information sharing for each party will help both lender and borrower with the problem of adverse and moral hazard selections and in turn increase the probability of access to credit for their business.

### **5.3 Recommendation**

The result above confirms that financial literacy, reduction in asymmetric information is positively associated and significant with credit access for SME. Furthermore, we found that education level is one factor that positive and significant for financial literacy and higher financial literacy lower the level of asymmetric information that in turn affect to credit access by SME.

So that, in case of reduction in asymmetric information, the study suggests that to facilitate access to finance for SME, both lender and borrower must be ensure that the information sharing between them will be reliable and completeness. If so, the level of asymmetric information will be reduced and further increase the possibility of credit access. Besides that, it would be more favorable if the authority can make systematic information that available and costless to them, because timely and adequate information sharing reduce the problem of adverse and moral hazard selection that in turn increase the likelihood of access to finance for SME.

As literature above mention that, access to finance is hindrance SME for their growth as well as its operation ("Lao PDR country profile 2012," 2012) and the authorities have been conducts many programs and action plans for SMEs development such as improvement of access to credit and make sound environment for SME (Onphanhdala & Suruga, 2010). Depend on the result that financial literacy is positive and significant to credit access for SME, so this study suggests that to improve access to finance for SME, the indirection way like enhancing the level of financial literacy should be one of concern. As we know that financial literate does not only for individual who capable with numerical skill but also behavior and attitude, SME owner who literate in finance will understand and asses their financial needed, make sound decision for their business not only for day to day but also long-term goal and business performance which further improve their creditworthy and in

turn increase the probability of access to credit. In addition, this study recommend that policy maker should design the program that include financial education for SME training or the financial education program in lower or high school should be conducted because if you are favorable or make a better financial decision when you were young, you will be able to be better when you are adult.

Depend on the recommendations above, the author of this study is strongly believed that the problem of access to credit for SMEs will be reduced. Because of, the education not only effects on financial literacy but implicitly reduces the level of asymmetric information by financial literacy channel. Furthermore, financial literacy, reduction in asymmetric information together positive and significant to financial access for SME.

#### **5.4 Limitation of Study and Recommendation for Future Research**

Although this study got a desire result, but there will be some naturally limitation on study. The objective is to find out the representative result for overall nationwide, but since the sampling frame is only SME located in Vientiane and small sample size. As we indicate above the average score for our study is slightly higher than the national level, So the result may bias due to the benefit or opportunity imbalance between SME owner who located in urban and rural areas. The rural once may face the shortage of training program that might be helpful for their business and it's reasonable to believe that lower education in rural communities could be further reduce financial literacy. So that, for future researches, the researcher must broaden the sample size and distribute the questionnaire to larger business sector and geographical area in order to reduce the potential bias and enhance the accuracy and reliable result.

Finally, this study is one side research that only analyze the data from the borrower or demand side. Thereby, in order to improve the result that helpful to improve the SME credit access, it would be better if the future research could be done from both supply and demand together.

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**APPENDIX**

## Questionnaire

### Section A: General information

1. Respondent's Gender  
 Male  Female
2. Respondent's age  
 18-25  26 - 35  
 36 - 45  More than 45
3. Education level  
 Primary school  High school  
 Bachelor's degree  Master's degree  
 other(please specific).....
4. Type of business(industries)  
 Manufacturer  Trade (Wholesale and Retailer)  
 Service (Restaurant....)  Other
5. Business fiscal number  
 Less than 1 year  2 – 5 years  
 6 – 10 years  More than 10 years
6. What is the approximate asset value of your firm? (In Lao Kip)  
 0-70,000,000  70,000,001 – 250,000,000  
 250,000,001 – 1,200,000,000  More than 1,200,000,000
7. Number of employees  
  - Full time..... employees
  - Part time..... Employees
8. Annual Income  
 Less than 100.000.000 LAK  Less than 400.000.000 LAK  
 Less than 1.200.000 LAK  More than 1,200,000,000

### Section B: Financial knowledge (Basic and some concept of business finance)

9. Imagine that if you have to wait for a year to receive 1 million. In one year's, time will you be able to buy:  
 less than today  the same as today  
 more than today  Don't know
10. Suppose that you lend 1 million to your friend for one year with guarantee interest rate 10 percent per year. How much would you be received at the end of this contract?  
 [Open answer]

11. Suppose that you put 100 million to your saving account with a guarantee interest rate of 2 percent per year (annual payment). You don't make any further payments into this account and you don't withdraw any money. How much would be in this account at the end of five years?
- More than 110       Exactly 110  
 Less than 110       Don't know
12. Investment with higher return associated with high risk?
- True       False
13. High inflation meaning that cost of living is increasing
- True       False
14. It is usually possible to reduce the risk of investing in the stock market by buying a wide range of stock and shares.
- True       False
15. What are the possible sources of fund for starting and operating business? (May tick more than one answer)
- Loan from family and friends       Loan from banks  
 Retain earning       Loan from financial institutions  
 Don't know
16. What is the major component of Financial statements?
- Balance Sheet, Statement of Cash Flow, Income Statement and Statement of Changes in Equity  
 Income statement, Balance Sheet, Statement of Debt and Statement of Financial Position  
 Statement of cash flow, income statement, statement of financial position and statement of debt  
 Balance sheet, statement of cash flow and equity statement  
 Don't know
17. The best description of information provided by financial statements is:
- A collection of reports that show business plans and activities over period of time  
 The report of changing of asset over period of time  
 A collection of reports about the firm wellbeing, financial result and sources and use of fund  
 The collection of reports that show the debt position of firm  
 Don't know
18. What is the main objective of balance sheet?
- Balance sheet is conducted to provide an overview of asset, equity and liabilities as a certain period

- Balance sheet is conducted to present an overview of revenues, expenses as well as net profit
- Balance sheet is conducted to provide an overview of financing activities of the firm
- Balance sheet is conducted to provide an overview of fluctuation of employees of the firm
- Don't know
19. What financial statement most exactly present whether the firm was profitable in the given period?
- Supplementary statement       Statement of cash flow
- Balance sheet       Income statement
- Don't know
20. In general, is it better to have quick ratio greater than 1?
- True       False       Don't know
21. The higher gross margin the more firm retain on each dollar of sales
- True       False       Don't know

### Section C: Financial Behavior, Attitude and Reduction in asymmetric information

Please tick the most suitable number that describes your position on the scale:  
1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree

Financial behavior and Attitude	1	2	3	4	5
22. I always prepare budget in order to control my business performance					
23. I know well the effect of interest rate charge on the loan I borrow for my business					
24. I always pay any bills and other debt on time					
25. I save some portion of my business income for future investment and emergency case					
26. I have adequate knowledge on how to maintain and balance ledger account					
27. I always prepare financial statements (especially for both balance sheet and income statement) and usually use it as a major guide before my decision has made					
28. It is necessary to write financial objective for a future					
29. It is more desirable to invest in any					

riskier assets that also provide higher income					
30. I have participated in training programs for financial skills					
Reduction in Reduction in asymmetric information					
31. Bank or financial institutions has good working relationship with you					
32. You will provide extensive and timely financial information required by banks or financial institutions when obtaining a formal loan					
33. You are regularly disclosed any private information before obtains the formal loan					
34. You are provide accurate and consistency financial information to the banks or other financial institutions					
35. Financial institution who offer finance usually provides proper information on charges					
36. Bank or financial institutions regularly visits your firm to audit the assets					

#### Section D: Credit access

37. Did you ever acquire any formal credit for your firm?  
 Yes  No

