YANGON UNIVERSITY OF ECONOMICS

DEPARTMENT OF COMMERCE

THE EFFECT OF DECISION MAKING HEURISTICS AND COGNITIVE BIASES ON MSMES PERFORMANCE

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This is to certify that this dissertation entitled "**The Effect of Decision Making Heuristics and Cognitive Biases on MSMEs Performance"** submitted as the requirement for the Degree of Master of Commerce has been accepted by the Board of Examiners.

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ABSTRACT

This research paper was emphasized on the analysis of the effect of decision making heuristics and cognitive biases on MSMEs performance. The drive of the research is to analysis the decision making heuristics and cognitive biases of MSMEs owners, to investigate the effect of decision making heuristics and to explore the mediating effect of financing on the relationship between decision making heuristics, cognitive biases and performance of MSMEs in Yangon, Myanmar. Overconfidence, optimism, mental accounting, and loss aversion as independent variables, financing as mediating variable and MSMEs performance as dependent variable were included in this study. The primary data was collected from the Micro, Small, and Medium Enterprises Association (Yangon). Of the total of 120 members at the Micro, Small, and Medium Enterprises Association (Yangon), 50 MSME owners were selected as the respondents for this study. All the MSMEs owners had high decision making heuristics and cognitive biases. Among them, loss aversion had significant relationship with the performance of MSMEs. Each of the heuristic and bias were associated with the three levels of financing. When the expansion stage financing was served as the mediator between heuristics, biases and MSMEs performance, there had a mediator effect. The results showed that the overconfidence and optimism were associated with performance whereas the loss aversion was not. It is important for MSME owner to know the uses of decision making heuristics and cognitive biases as an effective way of making decisions. As the heuristics and biases are ingrain in the psych of the small business owners, removing those decision making heuristics and cognitive biases may be difficult. However, this study proved that MSME owners could use the heuristics and biases in efficient and effective ways. The empirical implications that can be taken from this research are that when MSME owners had the decision making heuristics and cognitive biases, it was not totally negative.

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LIST OF ABBREVIATIONS

MSMEs	Micro, Small and Medium Enterprises
SMEs	Small and Medium Enterprises
GDP	Gross Domestics Product
OECD	Organization for Economic Cooperation and Development
WBES	World Bank Economic Survey
OC	Overconfidence
OP	Optimism
MA	Mental Accounting
LA	Loss Aversion
FIN	Financing
P	Performance
FNF	Friedrich Naumann Foundation
ASESAN	Association of Southeast Asian Nations
MADB	Agricultural Development Bank
MIDB	Myanma Industrial Development Bank
JICA	Japan International Corporation Agency
CGI	Credit Guarantee Insurance
SPSS	Statistical Package for the Social Science

CHAPTER I
INTRODUCTION

Micro, small and medium sized enterprises (MSMEs) are mostly regarded as the decisive factors in improving the welfare of both developed and developing nations as well. In developed countries, due to the expanding globalization and improved supply chain practices, large businesses can't stand themselves in all aspects of productions and services. They have to depend upon MSMEs which sell them products to install in their finished products to be able to export. Also the prosperity of a developing country (including emerging economies) undertaking depends upon the efforts of MSMEs involved in it. Advances in MSMEs sector hold a key to its contributions to developing economies.

MSMEs are the sources for economic development and employment creation which in turn increase innovations and power of production. Developed country like Australia, in western Sydney more than 80 percent of the 72,000 firms are MSMEs (Khandelwal et al., 2004). For the countries in European Union, SMEs are counted about 25 million that is 99 percent of all businesses and employing almost 95 million workers (OECD, 2004). Therefore, MSMEs are keeping the role of major player in developed countries. On the other hand the process of development in many low-income countries is appreciably gained from, MSMEs. MSMEs, including micro enterprises in Asia contributed a remarkable percentage to each country's GDP (Vandenberg, Chantapacdepong and Yoshino, 2016). MSMEs also contribute nearly 100 percent of total employment and almost 70 percent of GDP in middle-income countries (OECD, 2004).

Back to the 1980's, since then, SMEs are regarded as the important back bone of the economy. The success rate of SMEs is interconnected with both regional and national socio economic growth. The South Africa's sustainable economic growth is due to the successful MSMEs (Scheers, 2016). SMES in Pakistan are providing large volume of GDP and millions of job opportunities (ZAFAR et al., 2017). Though MSMEs are recognized as the core developmental economic units, they face a lot of challenges to survive be, stable, and expand.

While MSMEs have its own advantages over large companies such as innovations, creation, flexibility and adaptability, they have challenges and weaknesses. MSMEs are mostly ran by entrepreneurs and that means when comparing to large companies, they have limited resources which are both tangibles and intangibles. Problems like period banking facilities, lack of required technology, marketing issues and skilled labors are what MSMEs face (Aruna, 2015).

These constraints can be divided into two categories; internal and external factors. Internal factors are financing, funding, human resources development, marketing and advertising, strategic management etc. External factors are political situations, unclear legal process, country's economic conditions and lack of credit worthiness by financial institutions like banks etc. The internal weakness can be managed by owners of the MSME by fulfilling the requirements wisely. Some external issues and challenges should be solved by government means.

Among several factors, financing problem of MSMEs is unique because of entrepreneurs' low financial literacy, irrational behaviors and poor access to financial resources. A well-developed financial management practices are the root of all management practices in a small firm (Meredith, 1986). The inefficient and ineffective financial decisions mostly affect the performance of MSMEs. The failure of SMEs obviously seems to be financial related issues (OECD, 2006).

Studies on the financial management problems of SMEs have been done by many scholars. They normally address the effects of issues and challenges of financing on MSMEs performance. The aspect of MSMEs financial management includes understanding the factors of the financial stability of the firm and managing these factors through good financing and financial decisions. Hence among these studies, one is that people are not 100 percent rational which is introduced by behavioral finance, entrepreneurs and small business owners are influenced by heuristics and biases in the decision making process.

Entrepreneurs and owners turn to have problems related with decision heuristics, for example, deciding quickly based on the recent popular news without checking whether the information sources are valid or reliable (Tversky and Kahneman, 1973). Thus, irrational behaviors can have significant impacts on the MSMES performance.

1.1 Rationale of the Study

Entrepreneurship as a form of MSMEs is a vital to continue development and innovation in today's society of business. With the aim to understand the complexity and nature of entrepreneurship and MSMEs performance, several research works are conducted from various perspectives. Most recently, an attention is paid to the field related to MSMEs where they too, are affected by behavioral biases and share a need for taking into accounts of the decision making heuristics and cognitive biases from the point of owner's decision making.

Decision making at corporations is a planned process carried out by experts and data analytics but in small business, it is completely based on the owners experience and personal judgments as they cannot afford to access to the advanced technology and to invest in recruiting data experts. Thus decision makers in MSMEs can be influenced by framing, confirmation bias, planning fallacy, aversion to regret and illusion of control etc. (Baron, 2004).

If managing MSMEs is to be considered from behavioral elements perspective, it is necessary to establish that MSMEs owners employ the heuristics and mental short cuts in decision making. In entrepreneurial process, it is investigated that cognitive factors play a significant role as a very broad range (Baron and Ward, 2004). In fact, by employing heuristics from managerial cognition, entrepreneurial cognition would be an important source for competitive advantages (Alvarez and Busenitz, 2001).

In spite of numerous problems to MSMEs, funding has been one of the bottlenecks to capture opportunities (Rita et al., 2018). Financial resources are necessary things that shape the firm throughout the life cycle. MSMEs owner should try to focus on the financing pattern in each stage of the firm in order to sustain and compete in the industry (Koch et al., 2010).

In Myanmar there are not many means or places by which MSMEs can have access to get sources of finance. Choosing the right to fit the current situation is the crux of the owner decision making. Financial decision making is backed up with different heuristics and biases and therefore it becomes an essential aspect for decision maker to understand the behavioral biases and make financial decisions properly. This study will identify the gap to link between the MSMEs performance through the entrepreneurial cognition, and the behavioral aspects of financing decisions.

1.2 Objectives of the Study

There are three main objectives of the study. They are

(1) To analysis the decision making heuristics and cognitive biases of MSMEs owners.

(2) To investigate the effect of decision making heuristics and cognitive biases on performance of MSMEs.

(3) To explore the mediating effect of financing on the relationship between decision making heuristics, cognitive biases and performance of MSMEs.

1.3 Method of Study

This was a descriptive analysis to demonstrate the nature of data. Both primary data and secondary data were used. Primary data was obtained by using quantitative method of data collection. Five points likert scale measurements were applied and the questions for each variable were self-constructed by adopting from previous literature. The questionnaire was divided into two sections.

- Section A consists of respondents' demographic profile.
- Section B consists of independent, mediating and dependent variables.

Secondary data was used from various related research articles and papers. Sample size requirement was determined by the table for determining sample size for known population (Krejcie and Morgan, 1970). Data were analyzed with SPSS program and multiple linear regression analysis was used to find out the results.

1.4 Scope and Limitations of the Study

The scope of this study was only concentrated on the most likely possible four heuristics and biases that could be found in MSME owners when making financial decisions in Yangon, Myanmar. Primary data was collected through structured quantitative questionnaire to mix MSMEs industries in Yangon. Further research could be conducted for each MSMEs category and different regions. Considering the demographic variables could be a limitation to this study.

This study was limited in many ways as COVID - 19 pandemic outbreaks happened. The impacts of pandemic on country socio economics would affect the

country wide MSMEs. Thus, in turn, the result of this study would be affected, possibly either good or bad.

1.5 Organization of the Study

The layout of this study consists of five chapters. Chapter one provides an introduction of the study, rationale, objectives of the study including general and specific objectives, method of the study, scope and limitations of the study and organization of the study which is a final part. Chapter two outlines the literature review related to MSMES and behavioral finance. This chapter consists of overview of behavioral finance theory, characteristics of overconfidence, optimism, mental accounting, and loss aversion. It also reviews the related literature about MSMEs performance. Chapter three shows the status of Myanmar MSMEs, present national approach for promotion MSMEs, financing MSMEs, and it also describes the background of the MSMEs association in Yangon. Chapter four expresses the analysis of survey data which is collected to explore the effect of decision making heuristics and cognitive biases on MSMEs performance for making decision through the mediating role of financing. Finally, chapter five concludes this study with a discussion of the results found out from the data analysis. It also presents the suggestions for MSMEs owner to benefit of their wise use on heuristics and biases.

CHAPTER II
THEORETICAL BACKGROUND

In this chapter, it outlines the literature review related to behavioral finance. This consists of overview of behavioral finance theory, characteristics of overconfidence, optimism, mental accounting, loss aversion, financing and MSMEs performance. Moreover, previous researches are reviewed and conceptual frame work of the study is finalized.

2.1 Behavioral Finance Theory

Behavioral finance is the study of psychology of financial decision making. This field has been emerged since 1960s and it now lasts for almost sixty years beyond. It focuses on the role of behavioral biases and heuristics on decision making e.g. the use of mental short cut or rule of thumbs in large as well as routine decision making. Before behavioral finance era, traditional finance assumed individuals as fully rational economic men. That means that they act as their best interests by making decision that reflect all available information. But this assumption has some flows. In 1979, two psychologists, Amos Tversky & Danieal Kahneman (1979) studied the involvement of psychology in decision making and there by starting the foundation of behavioral finance which is a sub field of behavioral economics.

After 2007-2008 financial crises, the traditional finance theories like capital asset pricing model, efficient market hypothesis couldn't explain the root cause of the crisis and they no longer stand for single perfect theories. Thus, the theory of behavioral finance gained ground on the efficient market hypothesis. The main force was that the human behavior plays in driving asset prices (Shiller, 2002). In short, Behavioral finance relates the human judgments and choices to money and finance based on the fact that human has bounded rationality

2.2 Overconfidence

Overconfidence is defined as people who are overconfident in their abilities (Nevins, 2004). In a study, Torngren & Montgomery (2004) found that the professionals who have knowledge in the respective fields are mostly overconfident about their ability. As the effect of overconfidence is overtrading, this leads to poor

decisions (Nevins, 2004). Overconfident set-up business owners weighted a higher probability of success to their businesses compared to the implementation of businesses (Cooper et al, 1988; Busenitz and Barney, 1997). This is consistent with Nevis's research of entrepreneurs who have high levels of confidence.

Ritter (2003) stated that small business owners are keen to be overconfident in their decision making. The view of Phung et al, (2015) was that overconfident individuals overestimate or exaggerate their capacity to successfully perform a work. In a research study by Odean (1998), it was found that overconfident traders generally conduct more invest than normal counterparts.

The overconfidence may in part stem from two other biases, the self-attribution bias and the hindsight bias. The self-attribution bias can be defined as people who describe success to their own ability, while blaming loss on tough luck. By doing so it repeatedly will lead people to think of that they are talented and this will increase their overconfidence. For the hindsight bias, it is defined as the disposition of people to believe that they predicted it before it happened after a circumstance occurred. This will increase the overconfidence of people as that they can predict the future better than they actually can (Barberis and Thaler, 2003).

Overconfidence can present itself through the "better than average effect". In their research Taylor and Brown asked a room of people if they were better than average at driving, relative to others, in the room and invariably well more than 50% said yes. David Hirshleiper found out that overconfidence and over optimism can be found in a number of different settings, for example men tend to be more confident than women (Hirshleiper, 2001).

2.3 Optimism

Optimism can be viewed as one of the types of biases that characterized by the mislead perceptions of the future (Weinstein, 1980). An optimist is the one who either underestimates the unfavorable outcomes or overestimates the favorable outcomes. A lot of previous studies in entrepreneurships and small businesses emphasized both the positive and negative views of optimism concerning financing and firm performance (Landier and Thesmar, 2009; Baber and Odean, 2001).

In the behavioral fiancé literature, Puri et al, (2007) studied that the small business owner who had optimism bias has higher productivity. Small business owners had been found to show more optimism than managers in the large enterprises

(Busenitz and Barney, 1997). This could be related to difference in characteristics, prior experiences, skills and complexity of individual that many small business owners face, amongst other types of business.

Optimism may make a business owner to proceed with an idea before all the steps to fully known. Even though broad uncertainties exist in the decision-making condition, a superior's confidence is likely to encourage the business owner to take actions before it makes complete sense. If a business man waits until all the information is to start the venture, the opportunities they are seeking will most likely be gone by the time more complete data becomes available (Busenitz and Barney, 1997).

While the previous studies emphasized the relationship between risk taking, performance and optimism, very little attention has been devoted to the issues of practical applications of small business owners for the availability of loan and financing for small businesses.

2.4 Mental Accounting

People tend to place money into arbitrarily separate mental compartments. Thus, this human tendency to keep particular decisions into mental compartments based on superficial attributes is called mental accounting. According to Hirshleiper (2001), mental accounting is a kind of narrow framing that keeps track of gains and losses related to decisions in separate mental accounts. Mental accounting is a concept developed by Richard H Thaler. Thaler (1985) defined mental accounting as the tendency of people to separate their money into several accounts. The money in different accounts is then treated differently.

Mental accounting can cause individuals to make sub-optimal financial decisions. Charupat & Deaves (2003) explained in their article that mental accounting has enormous consequences in everyday life. It affects how people think about spending money and how they save money for the future. It influences how people deal with losses and gains.

People often separate decisions that should be united. According to Ritter (2003), people are more careful with money they earn as with money they get easily. Shefrin & Thaler (1988) argued that people account the source of income into three difference brackets wage and salary income, asset income and future income and spend differently.

Thaler (1985) who first described how mental accounting works, illustrated that SME owners treat funds for things differently. In a research study by Tversky and Kahneman (1981), they asked people that if they lose a $10 on their way to the theatre for a play they decided to see, will they still go to the play and buy a ticket for $10 they intended to buy for the play? They found that the majority of those who lost the cash were willing to buy a ticket. For them the loss of $10 is not linked to the purchase of the ticket and the effect on the decision is accordingly slight.

They also asked the people if they lost a $10 ticket that was given to them, would they buy a new ticket for the play. In this turn, it is found that the majority of people took the option of not replacing the lost ticket. For them the expense to see the play is $20 as a cost which may be ridiculously expensive for them.

Entrepreneurs can have the mental accounting bias. It is the view of Phung (2005) that in the mental accounting bias it is important to realize that money is fungible, regardless of its intended use; all money has the same value. He suggested that SME owners must be aware of the mental accounting bias because it will influence the way they treat money.

2.5 Loss Aversion

Loss aversion describes how gain and loss are valued separately. Kahneman and Tversky first proposed loss aversion. They argued that the impact of a loss on people's happiness was much stronger than the impact of a gain of the same magnitude (Kahneman & Tversky, 1979). They were of the same opinion that loss aversions can cause individuals to make unsound financial decisions (Kahneman & Tversky, 1979).

In behavioral finance theory, loss aversion assumes that people are more sensitive to loss than gain. There is a theoretical proof that people assign losses more than twice as largely as potential success. For example, most of the people choose an even 50/50 chance of a gain of $5,000 in a game to offset an even chance of a loss $2,000 before they find it attractive. SME managers who had high loss aversion tended to limit the working capital of the firm and as a result the firm performance decreased (Lamptey et al, 2020).

Loss aversion idea concluded that people try to avoid catching a loss. In the finding of Barber and Odean 1999, the investment of an investor worth $1000, jumped to $1500 and the investor tend to hold the investment for profit while if it

dropped into $500, then tempted to sell it in order to avoid locking in the loss. The idea of loss is very painful that people do not want to recognize the loss.

Odean looked at the trading patterns of approximately 160, 000 customers of a U.S. discount broker. Odean reported that investors realized gains 1.68 times more frequently than they realized losses. Hence, loss aversion can cause business owner to be too conservative in their business strategy.

2.6 Financing

Financing choice is the most crucial aspect in small businesses. MSMEs have to care the specific financing decisions in the business life cycle: early stage, growth stage and expansion stage. In the early stage of any business, the owner of the small business usually requires a relative amount of fund to evaluate market potential, investigate the prototypes, set up the business. It is important to attract the potential investors for the business in the early stage. When the firm enters into the growth stage, as the firm is larger, the requirement of the manufacturing machines, equipment and assets is grater to product or serve with good and services along with the profits. Thus, in this stage, the owner needs to decide the source of financing whether from debt or equity. And although the firm has operated; there are times where it might still not be profitable. Funds are in need for developing new product, improving current product, expansion of equipment, marketing etc. in the expansion stage.

In all stages, firm owner has to decide the financing decision. But when deciding to use debts, the cognitive bias of the owner plays an important part. This can be in the form of over estimation of the business prospect, overconfidence and consideration of the high success of chance when giving information about the loans or investments to bank or investor. The existing literatures show that there are both positive and negative relationships between cognitive bias, heuristic and financing. Over optimism is less evident in well-educated and experienced entrepreneurs (Reza et al., 2000). People who have the illusion of control and sample size neglect tend to take risk and more likely to run a new set up (Keh et al., 2002). Hence there is a positive relationship between cognitive bias and financing (Adomdza et al., 2016) and negative relationship (Schwardmann and Wheele, 2016). Thus, a question still presents whether the heuristics and cognitive biases for decision making can be related to MSMEs performance by financing.

2.7 MSMEs Performance

A MSME could access its success using financial and non-financial performances. The financial performance includes revenues, turnover, profit per employee, at the same time the non – financial performance concentrate on issues related to customer satisfaction, customer royalty. Recognizing the drawbacks of relying exclusively on financial or non - financial measures, the modern MSMEs have adopted a blending approach to the implementation of financial and non – financial performances. In the course of operation, certain steps serve as precursors.

A significant part of the current literature deals with research on how large organizations measure their performance, an evident lack of awareness of how SMEs measure their performance. However, the performance of small businesses can be measured by some approaches. These are goal approach, competitive value approach and stake holder approach etc. (Yuchtman and Seashore, 1967; Daft, 1995). From these approaches, one can use profits, revenues, returns on investments, sales and equity as financial performance of the firm. Financial performance is straightforward and easy to comprehend and compute, but they are not readily accessible. Thus, non – financial performance is used for accuracy when measuring firm performance. The usual non – performance measured by firms are increase or decrease in the number of employees, availability of resources, the assets of the firms (Robinson and Sexton, 1994; Mc Gee, Dowling, and Megginson, 1995).

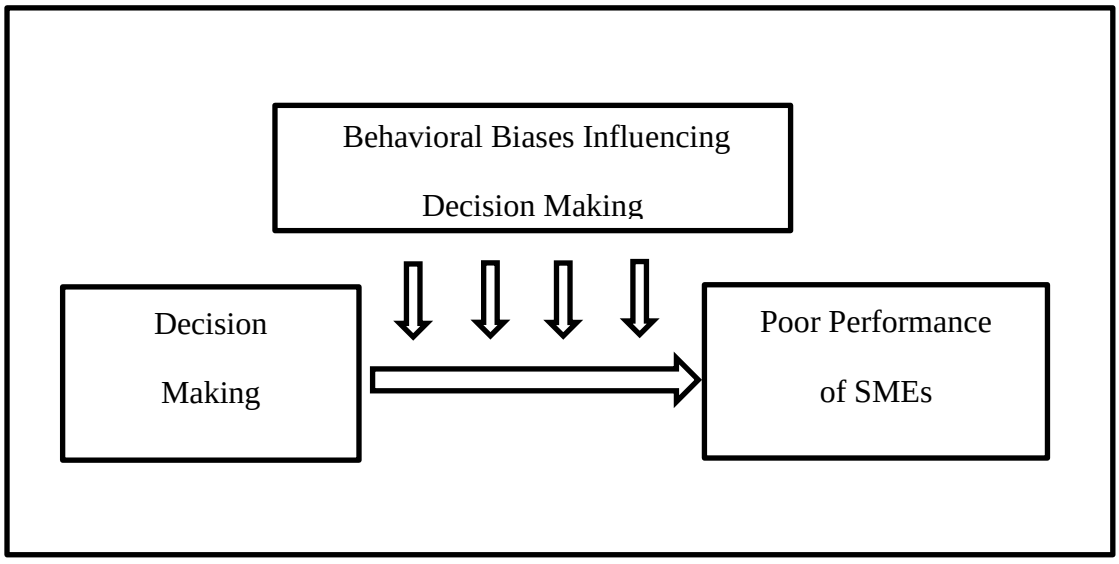
2.8 Conceptual Model of Previous Research Studies

This part consisted of the previous studies related to the current study. The first study was about the behavioral biases and performance of SMEs. It was completely based on secondary data. The next one was the study of the relationship between behavioral biases and performance of SMES with the mediating role of entrepreneurial innovations. The last previous study was the investigating the effects of behavioral biases and entrepreneurial orientation on MSMEs and the mediator financing.

2.8.1 Relationship between Behavioral Biases and Poor Performance of SMEs

This study revealed that there was a relationship directly and indirectly between behavioral components and financial decision of small and medium size enterprises that later affects the SMEs performance. This research was completely based on previous available literature on behavioral finance and SMEs. It can be concluded that there was a significant relationship between variables such as behavioral biases in investment decisions and poor financial performance of the small business.

Figure 2.1 Relationship between Behavioral Biases and Poor Performance of SMEs

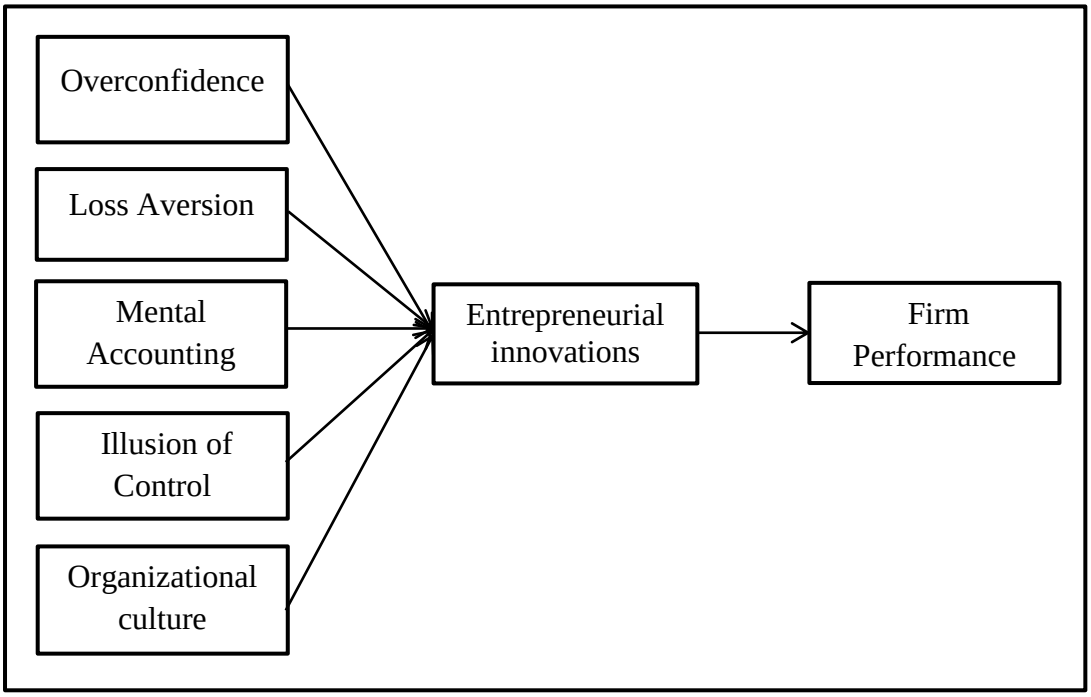


Source: Raveendra, Singh, Singh and Santhosh (2018)

2.8.2 Relationship between Behavioral biases and Performance of SMEs

This study in figure 2.2 focused on four behavioral biases as independent variables which affect the profitable performance of the firm, dependent variables and the mediating role of entrepreneurial innovations. It proved that overconfidence and loss aversion had a tendency of influence over entrepreneurs' decision. A part from personality traits and local culture, it could be concluded that entrepreneurs had some cognitive biases that pose effects to their firm performance.

Figure (2.2) Relationship between Behavioral Biases and Performance of SMEs

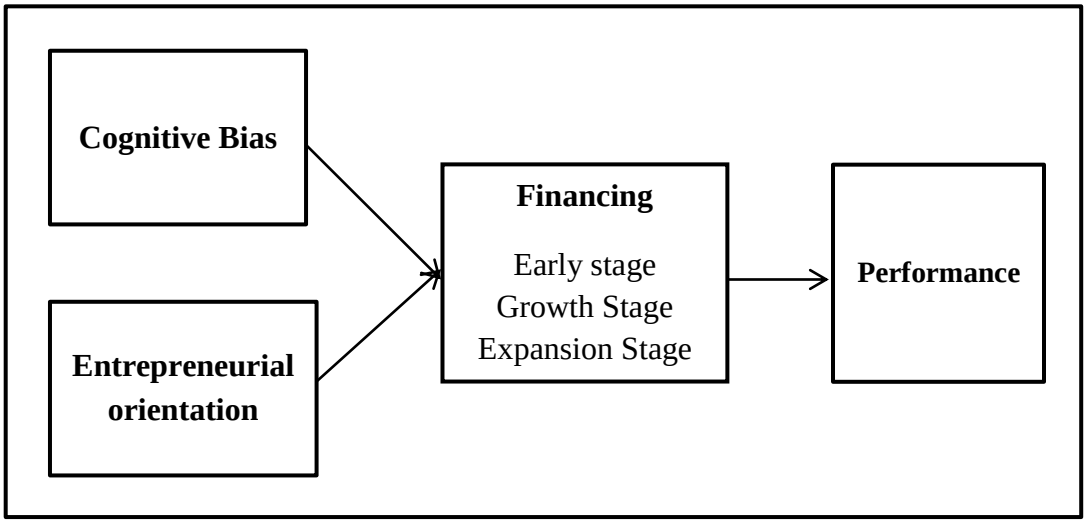


Source: Baig, Rehman, Jamil, Hashim and Iqbal, 2019

2.8.3 The Effects of Behavioral biases on Performance of SMEs

In figure 2.3, it examined the effects of cognitive biases and heuristics on performance of batik SME with the mediating role of financing. The process of financing was influenced by independent variables driven by dual mental system. This study revealed that SME owners have bounded rationality and use enormous heuristics and exhibit cognitive biases.

Figure (2.3) The Effects of Behavioral Biases on Performance of SMEs

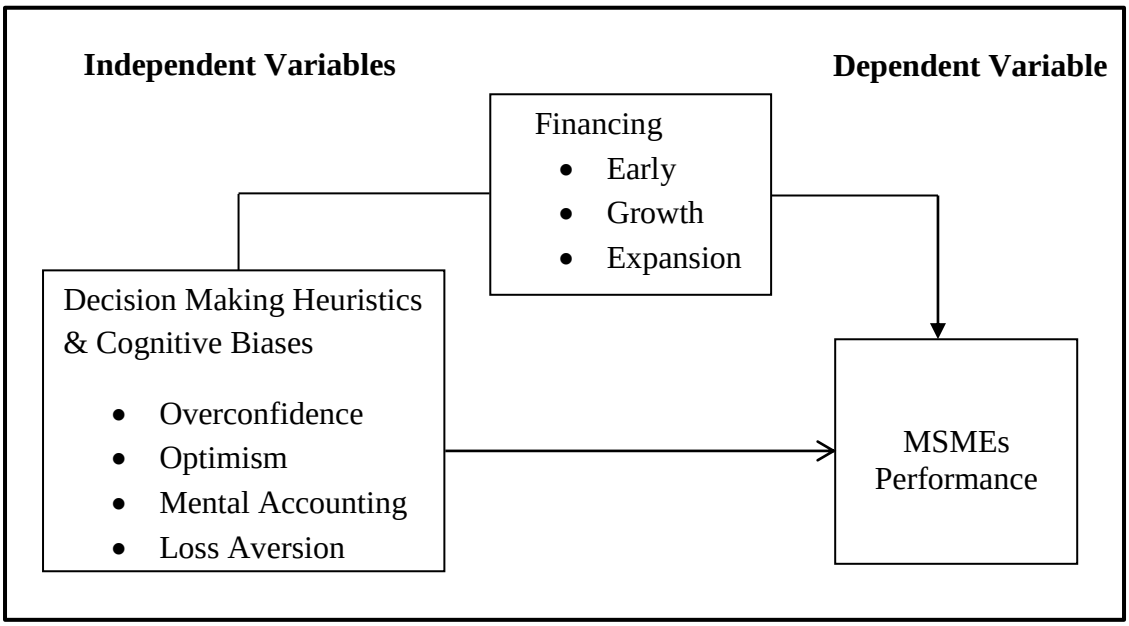


Source: Maria & Sugeng, 2018

2.9 Conceptual Framework of the Study

The proposed conceptual frame work based on previous research is presented as follows. This model consists of two independent variables: decision making heuristics and cognitive biases with four sub variables namely overconfidence, optimism, mental accounting, loss aversion, the mediating variable: financing composed of three stages i.e. early, growth and expansion and one dependent variable: MSME performance consists of financial and non-financial performance. By conceptual and theoretical usage, there would be over sixteen behavioral biases (Shiller, 1998) but the conceptual framework as of the operational framework of this study is constructed with the most relevant and workable variables in order to align with Myanmar MSMEs. This model tests the effects of decision heuristics and cognitive biases on the MSMEs performance through the mediating variable financing.

Figure (2.4) Conceptual Framework of the Study



Source: Own Complication based on Maria and Sugeng, 2018

2.10 Working Definitions

Overconfidence (OC)

Overconfidence is defined as "unwarranted faith in one's intuitive reasoning, judgments and abilities" (Pompian and Michael, 2006). Starting a business requires overconfidence and there is no doubt that a higher level of confidence makes an entrepreneur to take more debts when financing the business.

Optimism (OP)

Optimism means unrealistic positive view of either oneself or business. It can lead MSMEs owners to overestimate their future businesses prospect and encourage then to take loans from financial institutions.

Mental Accounting (MA)

Mental accounting treats money in separated buckets or pools (Taler 1985). MSMEs owners who have mental accounting bias predict worry about business finances. The effects of mental accounting on owners decision pose whether to use debt or from own wealth.

Loss Aversion (LA)

Loss aversion or prospect theory stated that human feel the pain of loss more than the pleasure from gain (Tversky and Kahneman, 1974). Generally, the tendency for business growth is much more than well-developed large corporations. Thus, MSMEs owners will put huge hope in positive outcomes of their firms than negative ones. And this is a turn to make the MSMEs owner to take more loans at each stage of business.

Financing (FIN)

Financing is fundraising in each stage of the business. At the early stage products are introducing, profits are unstable and investors are not interested in this stage. At the growth stage, consumers are aware of the product and profits increases and it is important to get fund to maintain this. At the expansion stage more fund is needed to enter new markets, produce new or renew the existing products.

MSMEs Performance (P)

Performance of a firm means how the firm does its operation in order to meet the needs of the firm goals and be able to compete with its competitors. Performance of MSMEs in this study is divided into financial performance and non-financial performance. Financial performance indicator includes return on assets, return on sales and sales growth. Non-financial variable consists of firm reputation and brand preference.

CHAPTER III
BACKGROUND PROFILE OF MICRO, SMALL AND MEDIUM ENTERPRISES ASSOCIATION (YANGON)

This chapter presents the brief information about the micro, small and medium enterprises in Myanmar. This includes status of Myanmar MSMEs, present national approach for promotion MSMEs and financing for MSMEs. Moreover, in this chapter, the background profile of the Micro, Small and Medium Enterprises Association (Yangon) which consists of its formation, objectives and agenda is stated.

3.1 Status of Myanmar MSMEs

Over ninety per cent of all businesses in the Union of Myanmar are assessed as Micro, Small and Medium Sized Enterprises. According to the World Bank Economic Survey (WBES), out of Myanmar's estimated 13,053 formal businesses, 10% are micro (less than 5 employees), 69% small (5 to 19 employees), 16% medium (20 to 99 employees) and 5% large (100+ employees). Myanmar has 4,772 - micro, small and medium businesses with revenue growth that is greater than 10%. These growing enterprises employ 53,100 full-time workers and have 6,518 billion kyats (US $4.15 billion) turnover. Segmentation of WBES shows that almost half of SMEs in Myanmar are small, low growth firms.

The government has recognized that MSMEs are main drivers for the country's future national economic development. The subject MSME stakeholders cover farmers, service providers, producers, wholesalers, retailers, those who transport these produce and merchandise and also the ones who provide services regarding these, for the products succeed in consumers in their various sectors along with supply change. To get higher technology, productive and innovation, Myanmar SMEs got to increase access to finance, to boost the policy and regulative environment, and promote entrepreneurship and human capital development.

However, some Myanmar entrepreneurs who can afford ample investment are not very terribly interested to place their capital in SME sectors, as they seemingly do not see immediate profit from this business. Instead, they are a lot of willing to speculate in export, import and general trading. As a result, Myanmar has did not turn out worth another products, making the lower income for the country, whereas

increasing import volumes has caused the country suffer budget deficits each year. The Department of Industrial Supervision and Inspection under the Ministry of Industry has categorized industry into thirteen sectors—foodstuff, textile, lodging, house-hold utensils, literature and artistic industry, raw material industry, mineral process and production, agricultural and farming equipment, vehicular manufacturing, electrical equipment production, general industrial workshops

In the production of consumer goods, Myanmar local products still need to give guarantees on quality and quantity in comparing with some neighboring countries. Myanmar has now opened and is persuading international investments. As a bunch country, Myanmar wants a lot of investments to be able to produce more and more qualified products and services. If it fails to try and do so, the country will continue requiring pricey foreign import items. In this regard, local MSME entrepreneurs are seeking assistance from relevant departments and the government and non-government association instantaneously as the neighboring countries are becoming momentum in manufacturing global consumer products.

3.2 The Present National Approach for Promotion MSMEs

Myanmar has developed Small and Medium Enterprises Development Law 2015. Moreover, in February 2019, The Ministry of Planning, Finance and Industry was set to introduce a master plan for small businesses especially for micro, small and medium enterprise development. The MSME Master Plan 2020-2030 is jointly developed by the government body, the Ministry, local microfinance institutions and Germany's Friedrich Naumann Foundation (FNF) in accordance with ASEAN SME Policy Index 2018 and the ASEAN Strategic *Action Plan* for *SME* Development (2016-2025).

The MSME Master Plan is aimed at boosting sustainable development and the competitiveness of local enterprises in preparation for entry into the ASEAN Economic Community and international markets. It focuses on seven main areas: Ensuring a positive economic environment; access to finance; collaboration between MSMEs and government; improving economic capability and skills; infrastructure; technology and innovation; and market.

3.3 Financing for MSMEs

Myanmar's financial institutions include state and private banks, state and private insurances companies and other private non-bank financial institutions. State owned banks like Myanma Agricultural Development Bank (MADB) provides seasonal and term loans for agriculture, livestock's and breeding, Myanma Industrial Development Baank (MIDB) which was founded in 1997 under the sponsorship of Myanmar Industrial Development Committee rendering both industrial and business loans. Government's Myanma Economic Bank, which provides nationwide financial support as loan to MSMEs with the help of Japanese government under the Japan International Corporation Agency (JICA) SME Two-Step Loan project. Many other participating financial institutions with JICA also render two –step loan to businesses.

As financing is one of the backbones of any business, business owners complained about better financial support with almost zero interest rate, and strong markets for their potential products from SMEs. Thus, the Myanmar government has provided local MSMEs with K30 billion as collateral loans and K7.393 billion as credit guarantee insurance (CGI) loans while Japan’s JICA has lent 20 billion yen; Myanma Economic Bank, K200 billion; and German Development Bank,15.3 million euros. Currently, to heal the effects of COVID-19, the government and JICA supply emergency loans which allow them to use full amount as working capital in business.

3.4 Background Profile of Micro, Small and Medium Enterprises Association (Yangon)

Micro, Small and Medium Enterprises Yangon Association is a social organization formed on December 8, 2018 by micro, small and medium enterprises based in Yangon Region. The association is an official association with the registration certificate 2 / Yangon / 00157 issued by the Yangon Region Government Association Registration Board in accordance with the State Law on Associations which must be complied with all social organizations and it has the right to implement the association's objectives and activities until 31 December 2024.

In the first week of December 2018, the MSMEs Enterprises Meeting in Yangon Region SME center was held with the intention of helping to find solutions to the problems of various entrepreneurs in addition to related businesses. It wants to work for the good of the nation, starting with our community, because the association believes that unity is needed to ensure long-term development in the socio-economic

environment by helping each other with MSMEs while dealing with firms' own problems.

The association was established on December 8, 2018 with the great desire of the partners to strive for the development of respected industry and environment by improving the business environment. There are 120 members till now and running various kinds of products and services ranging from food stuff to manufacturing. From its inception to the present day, the organization has set four goals and five processes in the interests of its members, MSME Entrepreneurs, and has collected no fees other than annual fees.

The association has five objectives. They are -

1. To be able to provide technical assistance and cooperation among local entrepreneurs
2. To connect local businesses with local and foreign entrepreneurs
3. To increase the knowledge of local entrepreneurs
4. To improve employment opportunities and improve social life for local people
5. To help those who have an idea to start a business and prepare

Its agendas are as follows,

1. Local businesses will be able to help each other, solve their problems and meet their technical needs with each other, or by connecting with relevant organizations and individuals for free

2. Free information, meetings and seminars are given to help local businesses connect with local and international businesses

3. To increase the knowledge of local entrepreneurs, the following courses on knowledge and skills are developed to strengthen theoretical and practical knowledge
    i. Business Management Training
    ii. Human Resource Management Training Project
    iii. Service Management Training and Financial Management Training
    iv. Tax and Law compliance Training
    v. Environmental awareness Training

4. The following courses are offered to create job opportunities for local people and improve their lives.
    i. Vocational training required for job seekers
    ii. Sales and marketing training for employees
    iii. Skills training for employees based on business needs
    iv. Occupational safety training

5. For those who are planning to start a business, the association provides advice on product / service management, business planning and business registration.

CHAPTER IV
ANALYSIS OF DECISION MAKING HEURISTICS AND COGNITIVE BIASES ON MSMES PERFORMANCE

The following chapter consists of three separate sections. Firstly, the demographic background of the MSME owners is presented. Secondly, the mean scores of the overconfidence, optimism, mental accounting, loss aversion, three stage of financing and performance of the firms are exhibited. Finally, the analysis of MSME owners' heuristics and biases on firm performance with the mediation of financing is shown based on the regression output of SPSS software.

4.1 Research Design

This study is concerned with the exploration of the effect of decision making heuristics and cognitive biases on MSMEs performance. Along with this, the mediation effect of the financing between the relationship of the independent variables; heuristics and biases and the dependent variable; MSMEs performance were analyzed. The necessary data were collected by using survey questionnaire with the research outline of multiple regression analysis and descriptive analysis. The survey questionnaire was structured in order to obtain the primary data. This questionnaire included two parts. The first part consisted of the demographic background of the respondents who were the MSME owners from Micro, Small and Medium Enterprises Association (Yangon). The second part was used to measure the effect of decision making heuristics and cognitive biases of MSME owners on MSMEs performance. The questionnaire has five points ranging from “strongly disagree" to "strongly agree". To measure the extent of the variables, the questionnaire is adopted from Maris and Sugeng, 2018.The sampling method is simple random sampling method. Of the total 120 MSMEs from the MSME owners from Micro, Small and Medium enterprises Association (Yangon), 50 MSMEs were gathered as primary data, hence on average 41.66% was acceptable. The data collecting time was in November, 2020 and the obtained primary data were run by using SPSS.

4.2 Demographic Background

This section presented the demographic backgrounds of the respondents including gender, age, level of education, types of the owner business, years of the operation of the business in MSME owners from Micro, Small and Medium enterprises Association (Yangon). These demographic backgrounds of the respondents are stated in the following table 4.1 with frequency and percentage.

Table 4.1 Demographic Background of Respondents

No.	Attribute	Frequency	Percentage
1	Gender		
	Male	27	54.0
	Female	23	46.0
	Total	50	100.0
2	Age		
	25 and below	-	-
	26 – 35	17	34.0
	36 – 45	21	42.0
	46 and over	12	24.0
	Total	50	100.0
3	Level of education		
	High School	5	10.0
	Graduate	45	90.0
	Post Graduate	-	-
	Other	-	-
	Total	50	100.0
4	Types of business		
	Manufacturing	27	54
	Retail	6	12
	Service	17	34
	Other	-	-
	Total	50	100
5	Years of operation		
	1 to 3 years	5	10.0
	3 to 6 years	32	64.0
	6 years and above	13	26.0
	Total	50	100.0

Source: Survey Data, 2020

According to table 4.1, this showed the demographic background of the respondents. The percentage of the gender of the respondents is not quite different comprising 54% of male and 46% of female. The result indicated that the female could do and manage the business themselves. For a long time, male dominated the doing of business by the norms of the society. Regarding age, it is found that under 26-35 years are marked for 34%, 36-45 years marked for 42% and 46 and over marked for 24%. Most of the MSME owners were mature and they were MILLENNIAL and XENNIAL. Natured and pampered via way of means of elders who did not want to make the errors of the preceding generation, they were optimism, overconfidence and achievement –oriented. For the subject level of education, the majority of the respondents are graduated i.e. 90% of the respondents and the rest 10% are accounted for high school level. As a result, the more people have knowledge and education, the more they want to do their own businesses. The type of business was classified into four types. In which manufacturing type was 54%, retail was 12% and service was 34%. Manufacturing business was originally the common type of business and the service business as well. The year which the firm operates between 1 to 3 years was 10% which was 5 out of 50, 3 to 6 years was 64% which was 32 out of 50 and 6 years and above was 26% which included 13 out of 50 firms. Majority of the businesses were found within the last six years after the economy and political situation of the country had changed.

4.3 Reliability Test

The reliability test is conducted by computing the Cronbach's alpha. The value of the Cronbach's alpha for the studied variables must exceed 0.060 which is the minimum alpha value to meet the need (Hair et al., 1998). If the alpha values of the measures are ahead of the minimum value 0.060, this studying can be said as a reliable one. Thus, if it is, all the items in the study are held on.

Table 4.2 Reliability Test of the Variables

No	Variable	Cronbach's Alpha	Number of items
1	Overconfidence	.850	6
2	Optimism	.791	6
3	Mental Accounting	.790	6
4	Loss Aversion	.783	5
5	MSMEs Performance	.660	4

Source: Survey Data, 2020

According to table 4.2, the reliability of the constructed measures can be clearly observed. Each and every measure had exceeded the minimum requirement of the reliability test which is 0.060. The overconfidence items had Cronbach's Alpha value of 0.850, the optimism items had Cronbach's Alpha value of 0.791, the mental accounting items had Cronbach's Alpha value of 0.790, the loss aversion items had Cronbach's alpha value of 0.783 and MSMEs performance items had Cronbach's alpha value of 0.660. This can be concluded that all variables had an acceptable level of reliability.

4.4 Analyzing the Decision Making Heuristics and Cognitive Biases of MSME Owners

The decision making heuristics and cognitive biases for included overconfidence, optimism, mental accounting and loss aversion in this study. To explore the mean value of these decision making heuristics and cognitive biases of MSME owners, the descriptive analysis was applied. Each variable had its own items. Table 4.3 described 6 items for overconfidence, 6 items for optimism, 6 items for mental accounting and 5 items for loss aversion. The primary data was gathered with five-point likert questionnaires. The five points are (strongly disagree, disagree, neutral, agree and strongly agree) started from 1 to 5. Sekaran, 2003 expressed that mean value of the inquiry variables which is less than 2.00 was considered as low degree, between 2.00 and 3.5 was moderate degree and 3.5 and above are described as high degree of the perception.

Table 4.3 Analyzing the Overconfidence of MSME Owners

Sr. No	Overconfidence	Mean	SD
1	Firm is flexible enough to meet a large unexpected order	4.6200	.49031
2	If the possible reward is very high, I would not hesitate to borrow money to put into a business that could fail	4.7200	.49652
3	Participating only in business undertakings that are relatively certain	4.7800	.46467
4	It easy to think of lots of different kinds of ideas for a project	4.7600	.47638
5	I always see my business will continue to grow	4.8400	.37033
6	Paying little attention whatever making decision	4.7800	.41845
	Overall Mean Value	4.7500	.34380

Source: Survey Data, 2020

According to the table 4.3, the overall mean of the overconfidence of the MSME owners was 4.75 which mean that the small business owners had high degrees of overconfidence. The item six was the highest mean value as it was 4.84. According to the result, MSMEs owners who had overconfidence oversaw their business to continue to grow in future. This is the common nature of the people, especially who had started their business very recently. The lowest mean score is 4.62 which indicated that the owner thought they had limitations for overcoming the large order.

Table 4.4 Analyzing the Optimism of MSME Owners

Sr. No.	Optimism	Mean	SD
1	In uncertain times, I usually expect the best about my business	4.9400	.23990
2	Always optimistic about my business future	4.9000	.30305
3	Happy for me to keep busy in business	4.7600	.43142
4	Ever expect things to go my way	4.7200	.49652
5	Counting on good things happening to me	4.7200	.49652
6	Overall, Expecting more good things to happen to my business rather than bad	4.9200	.27405
	Overall Mean Value	4.8267	.27139

Source: Survey Data, 2020

According to table 4.4, the overall mean of the optimism in MSME owners was 4.8267 which mean that the high level optimism was found in MSME owners. The highest mean value was found in item number one. And the lowest mean value laid in both item 4 and 5. Thus, MSME owners had over optimism about their businesses even in uncertain time. They hope good things rather than bad and this makes them getting confidence when doing business.

Table 4.5 Analyzing the Mental Accounting of MSME Owners

Sr. No.	Mental Accounting	Mean	SD
1	Always keep enough money in my bank account in order to meet the monthly unforeseen expenses	4.6400	.48487
2	Always reserve money for a number of expenditures	4.6400	.48487
3	Don't spend money that I have reserved for a certain expense on something different	4.5600	.50143
4	If running short of money within the business, I sometimes use money that was meant for something different	4.8200	.52255
5	Don't use well defined budget	4.7600	.43142
6	If having too much of a certain expense in a certain period, then I spend less on it in the remaining period	4.8000	.40406
	Overall Mean Value	4.7033	.33041

Source: Survey Data, 2020

Table 4.5 expressed that the MSME owners had mental accounting bias because of the high mean value of overall items as 4.7033. The highest mean value of 4.8. MSME owners tended to spend less when spending much in the past. The lowest mean value among the items was 4.56, the item number 3. According to the results, MSME owners had inconsistent thought about money. They didn't spend money that they had reserved for a certain expense on something different.

Table 4.6 Analyzing the Loss Aversion of MSME Owners

Sr. No.	Loss Aversion	Mean	SD
1	Decision in business largely based on knowledge, experiences and education	4.8800	.32826
2	Have acknowledged financing the capital in business	4.7800	.58169
3	Cautious about losses which show sudden changes in business environment	4.9800	.14142
4	Having hope when undertaking financing that has exhibited a sure loss	4.8800	.32826
5	Investing capital in my business that have past positive performance	4.9400	.23990
	Overall Mean Value	4.8920	.20288

Source: Survey Data, 2020

Table (4.6) presented the mean value of the loss aversion of the business owners. It could be seen that the overall mean value of the loss aversion measurements was 4.89 which means the high level of the loss aversion stayed in MSME owners. All items had high mean value and the highest one was item five with 4.94 and the lowest one was item two with 4.78. Thus, the small business owners feared loss very much and thought from the view of gain.

4.5 Decision Making Heuristics and Cognitive Biases of MSME Owners

Table 4.7 Analyzing Decision Making Heuristics and Cognitive Biases of MSME Owners

Sr. No.	Loss Aversion	Mean	SD
1	Overconfidence	4.7500	.34380
2	Optimism	4.8267	.27139
3	Mental Accounting	4.7033	.33041
4	Loss Aversion	4.8920	.20288

Source: Survey Data, 2020

Table (4.7) showed that the analysis of decision making heuristics and cognitive biases of MSME owners. These all four heuristics and biases took place in the thinking system of the MSME owners. Among them, loss aversion is the highest with the mean value of 4.892. The meaning of this result was that the MSME owners dared not hold the loss and wanted to avoid them which would make decisions about business more carefully. Moreover, the other heuristics and cognitive biases also presented highly in MSMEs owners according to the result.

4.6 Analyzing the Financing of MSMEs

Table 4.8 Analyzing the Financing of MSMEs

Sr. No.	Financing		
	Early Stage	**Mean**	**SD**
1	Using funds that mostly come from debt at the early stage of the business	4.6200	.49031
2	Using funds that mostly come from own capital at the early stage of the business	4.7800	.46467
	Overall Mean Value	4.7000	.39123
	Growth Stage		
1	Using funds that mostly come from debt at the early stage of the business	4.9000	.30305
2	Using funds that mostly come from own capital at the early stage of the business	4.7600	.43142
	Overall Mean Value	4.8300	.29641
	Expansion Stage		
1	Using funds that mostly come from debt at the early stage of the business	4.8400	.37033
2	Using funds that mostly come from own capital at the early stage of the business	4.7200	.49652
	Overall Mean Value	4.7800	.38012

Source: Survey Data, 2020

According to the table 4.8, the financing in the early stage came from the MSMEs owners' own capital as the mean value of the equity financing decision was higher than that of debts financing decision at 4.78. For the growth stage, it could be concluded that the MSMEs owners got debts for the financing since its mean 4.9 was higher than the equity financing. When making financing decision in expansion, the mean value of the debt financing 4.84 is greater than the mean value of the equity financing decision which was 4.72.

4.7 Analyzing the Performance of MSMEs

Table 4.9 Analyzing the Performance of MSMEs

Sr. No.	Performance	Mean	SD
1	The assets are increasing in my business within last three years.	4.6800	.47121
2	The numbers of employees are increasing in my business within last three years.	4.7200	.45356
3	Profits are increasing in my business within last three years.	4.7000	.46291
4	Sales are increasing in my business within last three years.	4.9400	.23990
	Overall Mean Value	4.7600	.29433

Source: Survey Data, 2020

The results as shown in table 4.8 indicated that the performance of MSMEs had continually improved within the last three years, the financial performance i.e. sales and profits and the non – financial performance assets owned by the firms and the numbers of employee were good. The results show that MSMES performance is generally strong. Therefore, MSMES owners made financing decisions at each stage of the business well.

4.8 Relationship between Affecting Factors and MSMEs Performance

In this section, the relationship between independent variables and dependent variables was found out by correlation. There were four independent variables; overconfidence, optimism, mental accounting and loss aversion. Dependent variable was performance of MSMEs. The Correlation matrix displayed relationships between variables retrieved by Pearson's coefficient.

The range of correlation coefficient is from -1.0 to +1.0. It is significant at 1% and 5% level. If the correlation coefficient is near 1, it would show that the variables are positive linearly related. For the value of the correlation coefficient is -1, it indicates that the variables are negative linearly related. And if the value of r is zero, it would reveal that there is no linear relationship between the studied variables.

Table 4.10 Correlation Matrix between Affecting Factors and Performance

Correlations						
		OC	OP	MA	LA	P
OC	Pearson Correlation	1	.626**	.477**	.463**	.244
	Sig. (2-tailed)		.000	.000	.001	.088
	N	50	50	50	50	50
OP	Pearson Correlation	.626**	1	.540**	.580**	.246
	Sig. (2-tailed)	.000		.000	.000	.085
	N	50	50	50	50	50
MA	Pearson Correlation	.477**	.540**	1	.476**	.162
	Sig. (2-tailed)	.000	.000		.000	.260
	N	50	50	50	50	50
LA	Pearson Correlation	.463**	.580**	.476**	1	.377**
	Sig. (2-tailed)	.001	.000	.000		.007
	N	50	50	50	50	50
P	Pearson Correlation	.244	.246	.162	.377**	1
	Sig. (2-tailed)	.088	.085	.260	.007	
	N	50	50	50	50	05

Source: Survey Data, 2020

Note: **. Correlation is significant at the 0.01 level

In according to the table 4.10, all independent variables except loss aversion have no significant relationship with dependent variables. The independent variable: loss aversion is significant at 1% level. Therefore, this variable is positively significant on dependent variable, MSMEs performance. The remaining variables did not have linear relationship with the parameters since all the correlations were higher than 1% significant level.

4.9 Effect of Decision Making Heuristics and Cognitive Biases on MSMEs Performance

Table (4.11) Multiple Regression Analysis

Variables	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std. Error	Beta		
(Constant)	1.235	.892		1.384	.173
Loss Aversion	.735**	.182	.503	4.032	.000
R	.503[a]				
R Square	.253				
Adjusted R Square	.237				
F value	16.254				

a. Dependent Variable: MSMEs Performance

b. Predictor: (Constant),Loss Aversion

c. ** Significant at 1% level

Source: Survey Data, 2020

Table 4.11 pointed out the effect of loss aversion on MSMEs performance. The regression analysis resulted the variation in the loss aversion which was independent variable and it could be explained by Adjusted R Square 0.257 with the dependent variable, the performance of MSMEs. According to the results, the adjusted R Square 0.257 means that 25.7 percent of the variance of the performance of MSMEs was explained by loss aversion. The results show that the performance of the firms owned by loss aversion affected owners get high performance.

4.10 Mediator Analysis

Mediating variable is known as a third variable which are used to observe the relationship between the dependent variables and independent variables by intervention. Studies about the mediator analysis have been done by academicians. Among them Baron and Kenny's, 1986 model is the most well-known approach when conducting mediation in a particular study. This approach contains three steps to test the process among variables. Apart from this, the bootstrapping approach which was laid out by Preacher and Hayes (2004) is one of the most common tools to explore the mediating analysis. In this study, the method of Baron and Kenny's was applied. The mediation condition is tested with the regression analysis sequent

Table 4.12 Regression Analysis of Decision Making Heuristics and Cognitive Biases on Early Stage Financing

Variables	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std. Error	Beta		
(Constant)	-.012	.733		-.016	.987
Overconfidence	.976**	.114	.858	8.538	.000
Optimism	.008	.160	.005	.048	.962
Mental Accounting	-.018	.112	-.015	-.162	.872
Loss aversion	.025	.187	.013	.136	.893
R	.860[a]				
R Square	.739				
Adjusted R Square	.716				
F value	31.933				

a. Dependent Variable: Early Stage Financing

b. Predictor: (Constant), Overconfidence, Optimism, Mental Accounting, Loss Aversion

c. ** Significant at 1% level

Source: Survey Data, 2020

Table 4.12 mentioned the regression analysis of the overconfidence, optimism, mental accounting, and loss aversion on early stage financing. It could be seen that the value of the R square 0.739 and the value of the Adjusted R Square 0.716 which was

the indicator of variation in the effect of decision making heuristics and cognitive biases for on early stage financing. The significance of the model was at 1percent level. This indicated that the overconfidence was the important variable which pushed the owner to make financing in early stage financing.

Table 4.13 Regression Analysis of Decision Making Heuristics and Cognitive Biases on Growth Stage Financing

Variables	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std. Error	Beta		
(Constant)	.164	.471		.349	.729
Overconfidence	-.021	.073	-.024	-.280	.781
Optimism	.947**	.103	.867	9.218	.000
Mental Accounting	.123	.072	.137	1.714	.093
Loss aversion	-.079	.120	-.054	-.657	.514
R	.902[a]				
R Square	.813				
Adjusted R Square	.797				
F value	48.950				

a. Dependent Variable: Growth Stage Financing

b. Predictor: (Constant), Overconfidence, Optimism, Mental Accounting, Loss Aversion

c. ** Significant at 1% level

Source: Survey Data, 2020

In table 4.13, the regression analysis of decision making heuristics and cognitive biases on growth stage financing was shown. According to the results, R Square and Adjusted R Square were 0.813 and 0.797. In the value of the Adjusted R Square, this could be explained that there were 80 percent about the variance of the independent variables and dependent variables. For the F value, the overall significance of the model was highly significant at 1 percent level. This showed that the optimism was the important variable which pushed the owner to make financing in growth stage financing.

Table 4.14 Regression Analysis of Decision Making Heuristics and Cognitive Biases on Expansion Stage Financing

Variables	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std. Error	Beta		
(Constant)	- 1.204	.767		-1.569	.124
Overconfidence	.271	.120	.245	2.262	.029
Optimism	.925**	.167	.661	5.528	.000
Mental Accounting	-.109	.117	-.095	-.928	.359
Loss aversion	.152	.195	.081	.778	.440
R	.835[a]				
R Square	.698				
Adjusted R Square	.671				
F value	25.996				

a. Dependent Variable: Expansion Stage Financing

b. Predictor: (Constant), Overconfidence, Optimism, Mental Accounting, Loss Aversion

c. ** Significant at 1% level

Source: Survey Data, 2020

According to table 4.14, this model could explain about the variation of the performance of MSMEs as the value of R square is nearly 70 percent. Since the value of R Square was 0.698, this revealed that 69.8 percent of the data was suitable between decision making heuristics and cognitive biases and expansion stage financing. Regarding the value of the F test, the overall significance of the model is highly significant at 1 percent level. This indicated that like in the growth stage, the optimism was the important variable which pushed the owner to make financing in growth stage financing.

Table 4.15 Regression Analysis of Expansion Stage Financing on MSMEs Performance

Variables	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std. Error	Beta		
(Constant)	3.589	.508		7.060	.000
Expansion Stage Financing	.245*	.106	.316	2.311	.025
R	.316[a]				
R Square	.100				
Adjusted R Square	.081				
F value	5.343				

a. Dependent Variable: MSMEs Performance

b. Predictor: (Constant), Expansion Stage Financing

c. * Significant at 5% level

Source: Survey Data, 2020

Table 4.15 pointed out the effect of expansion stage financing on MSMEs performance. The regression analysis resulted the variation in the expansion stage financing which was independent variable could be explained by Adjusted R Square 0.081 with the dependent variable, the performance of MSMEs. According to the results, the adjusted R Square 0.081 means that 8.1 percent of the variance of the performance of MSMEs was explained by expansion stage financing.

Expansion stage financing had the positive sign and highly significant, coefficient value at 1 percent level. The positive relationship showed that the increase financing in extension stage to more MSMEs performance by 1 unit will also raise the effect on MSMEs performance by 0.245 units.

Table 4.16 Regression Analysis of Decision Making Heuristics and Cognitive Biases and Expansion Stage Financing on MSMEs Performance

Variables	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std. Error	Beta		
(Constant)	-.350	.386		-.907	.369
Overconfidence	.409**	.060	.464	6.788	.000
Optimism	.627**	.084	.561	7.434	.000
Mental Accounting	-.001	.059	-.001	-.020	.984
Loss aversion	.033	.098	.022	.334	.740
Expansion Stage Financing	.276*	.135	.284	2.051	.046
R	.938				
R Square	.879				
Adjusted R Square	.869				
F value	82.031				

a. Dependent Variable: MSMEs Performance

b. Predictor: (Constant), Overconfidence, Optimism, Mental Accounting, Loss Aversion, Expansion stage Financing

c. ** Significant at 1% level

d. * Significant at 5% level

Source: Survey Data, 2020

According to the results, the value of the R Square 0.879 stated that 87.9 percent of the data was suitable between decision making heuristics and cognitive biases and expansion stage financing and MSMEs performance. The Adjusted R Square 0.869 showed that the variation amounted with the 86.9 percent in the effect of decision making heuristics and cognitive biases and expansion stage financing and MSMEs performance. Overconfidence, optimism and expansion stage had high and positive relationship with the MSMEs performance. However, loss aversion had no relationship with MSMEs performance when financing acted as mediator. Therefore, it can be concluded that, expansion stage financing had complete mediation between decision making heuristics and cognitive biases and MSMEs performance.

CHAPTER V
CONCLUSION

The study examined the decision making heuristics and cognitive biases effect that financing decisions on MSMEs performance at Micro, Small and Medium Enterprises Association (Yangon). This study particularly explores to: identify the decision making heuristics and cognitive biases of MSME owners, to investigate the effect of decision making heuristics and cognitive biases on performance of MSMEs and to test the mediating effect of financing on the relationship between decision making heuristics, cognitive biases and performance of MSMEs. This chapter presents conclusions, discussions, suggestions and recommendations resulting from the findings in accordance with the objectives.

5.1 Findings and Discussions

This study is intent on decision making heuristics and cognitive biases of MSMEs owners and to evaluate MSMEs performance. In order to meet these three objectives, the research was done though using primary and secondary data as a descriptive research method. The primary data was collected from 50 MSME owners at Micro, Small and Medium Enterprises Association (Yangon) which has population of 120 members by following simple random sampling procedure when collecting data.

According to the descriptive analysis of the demographic background of MSME owners, the male owner is slightly higher than the female owner. It seems like when setting the business up, females can have limitations by the norms of the society when comparing to male. Most of the MSME owners are at the age level of between 36 and 45 years. The educational background of the MSME owner is mostly graduate level which shows that the graduated people are more willing to build their own businesses. Manufacturing businesses take the largest part in the study and the second is the sort of providing services. This can be seen that the manufacturing businesses are the most common business type which the entrepreneurs choose and the service and retail businesses have many opportunities to operate for the new bees. Next to the life of the MSMEs in this study, most businesses are reaching 3 to 6 years and the second largest are 6 years and above.

For the first objective, the descriptive analysis shows that the MSME owners have high level of decision making heuristics and cognitive biases including overconfidence, optimism, mental accounting, and loss aversion. Among them the loss aversion has the highest place in MSME owners thinking. Not only loss aversion, but also others heuristics and biases are found in small business owners. Thus, this study filled up in one small corner of the behavioral finance universe.

Regarding the second objectives, it is clear from the results that loss aversion is associated with the performance of business. MSME owners tend to hold the hope for gain and they want to avoid the loss. When they ignore the prospect of loss, they may take more risks when doing the businesses. This is proven in that when a MSME owner has a high level of loss aversion that is a cognitive bias towards one's business prospects that it can actually increase the operation of business then turn the increase in business performance.

The research indicates the third object which is the SME financing behavior seems to be connected with various aspects of entrepreneurial behavior. Financing is related with the cognitive bias from entrepreneurs, where cognitive biases have an effect on improving performance. The analysis results shows that if the mediator financing is included between decision making heuristics and cognitive biases on performance of MSMEs, there is significant relationship with the mediating role of expansion stage financing. The firm performance can be improved by doing more debt for financing activities in the expansion phase because of the overconfidence and optimism, where the MSME's condition is relatively stable compared with the early phase and the growth phase.

This study confirms as follows: decision making heuristics and cognitive biases, which consists of overconfidence, optimism, mental accounting, and loss aversion has a positive influence towards SME financing; Financing, which consists of expansion stage has a positive influence towards MSMEs performance; loss aversion from decision making heuristics and cognitive biases has a positive influence towards MSMEs performance, which consists of financial and non-financial dimensions. When the mediator, expansion stage financing intervened between the heuristics and biases and MSMEs performance, there is no significant relationship between loss aversion and MSMEs performance but the overconfidence and optimism had. The managerial implications that can be taken from these research results are that when a MSME owner has heuristics and biases, it is not entirely negative.

5.2 Suggestion and Recommendation

Studying the decision making heuristics and cognitive biases which stream from behavioral finance field is a pretty new and unexplored aspect in Myanmar MSMEs. Future MSMEs owners, managers and entrepreneurs must be able to understand the bounded rationality i.e. the role of decision making heuristics and cognitive biases.

It is important for MSME owner in Myanmar to know the uses of decision making heuristics and cognitive biases are an effective way of making decisions. As the heuristics and biases are ingrain in the mind of the small business owners, reducing such decision making heuristics and cognitive biases may be difficult. But it is excellent to use the heuristics and biases in a good way e.g. using loss aversion in better way in this study.

MSME owners should have to maintain the overconfidence, optimism which can make their financing decisions more effective in expansion stage. Overconfident and optimist small business owners are more likely to take risky financing decisions and this means when the decisions are right, they can get high return in the business. MSME owners who have loss aversion bias can make their business well. But it is important to analyze how the loss aversion play as a positive factor in performance of MSMEs more specifically.

Before making important decisions such as financing, operating, managing the problems, people should always consider whether there are the heuristics and biases in thinking probably. This empirical study indicated that the performance of the MSMEs could be influenced by these decision making heuristics and cognitive biases. Therefore, this proved that a group of MSME owners at Micro, Small and Medium Enterprises Association (Yangon) are prone to heuristics and biases.

Again, the important note is that MSMEs owners should understand the effects of decision making heuristics and cognitive biases that can have on the financing decision. Moreover, the MSMEs owner should understand how these decision making heuristics and cognitive biases change the decision making thinking not even in the aspect of financing but in other aspect of decision making about the business.

5.3 Needs for Further Research

This research is able to prove that decision making heuristics and cognitive biases in MSME owners that influences firm performance and financing like numerous previous studies that have supported this finding. Therefore, it is suggested to do research by categorizing the business scale, levels, such as micro, small, medium and large to be able to capture clearer findings due to having different firm features, both from the side of asset ownership and annual sales profits. Also this study only covers one MSMEs association from Yangon and thus other MSME owners from other States and Divisions should be observed. This study needs to be examined in future research by modifying the present model by adding more heuristics and biases that can be found in MSMEs owner, managers and entrepreneurs based on strong theoretical references.

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APPENDIX

Only for M.Com Thesis -

Dear Responder,

The purpose of this questionnaire is to gather data regarding behavioral antecedents influencing MSMES in Yangon, Myanmar. All of your response to the given questions would be used for the research and will be kept confidential. Thank in advance for your cooperation and timely response!

I. Demographic Profile (Please √ in given box)

1. Gender: Male ☐ Female ☐
2. Age groups

25 and below	☐
26 – 35	☐
36 – 45	☐
46 and over	☐

3. Level of education

High School	☐
Graduate	☐
Post Graduate	☐
Other	☐

4. Types of business

Manufacturing	☐
Retail	☐
Service	☐
Other	☐

5. Years of operation

1 to 3 years	☐
3 to 6 years	☐
6 years and above	☐

QII. Instruction: Please kindly tick in the space under number 1 to 5 related for each statement that you feel most appropriate. These questions are designed to answer with five likert scale from 1 = strongly disagree to 5 = strongly agree. Please indicate your agreement or disagreement to the following statements. Just mention your own "**Opinion"** based on the following 5 scales:

1 = strongly disagree

2 = disagree

3 = neutral

4 = agree

5 = strongly agree

No.	Statement	1	2	3	4	5
(1) Overconfidence						
1	My firm is flexible enough to meet a large unexpected order.					
2	If the possible reward is very high, I would not hesitate to borrow money to put into a business that could fail.					
3	I would participate only in business undertakings that are relatively certain.					
4	I find it easy to think of lots of different kinds of ideas for a project.					
5	I always see my business will continue to grow.					
6	I pay little attention whatever making decision.					

(2) Optimism						
1	In uncertain times, I usually expect the best about my business.					
2	I am always optimistic about my business future.					
3	It is important for me to keep busy. ®					
4	I hardly ever expect things to go my way. ®					
5	I rarely count on good things happening to me. ®					
6	Overall, I expect more good things to happen to my business rather than bad.					

No.	Statement	1	2	3	4	5
(3) Mental Accounting						
1	I always keep enough money in my bank account in order to meet the monthly unforeseen expenses.					
2	I always reserve money for a number of expenditures.					
3	Sometimes I spend money that I have reserved for a certain expense on something different. *					
4	If I run short of money within the business, I sometimes use money that was meant for something different.*					
5	I used well defined budget					
6	If I have too much of a certain expense in a certain period, then I spend less on it in the remaining period.					

No.	Statement	1	2	3	4	5
(4) Loss aversion						
1	My decision in business largely based on knowledge, experiences and education.					
2	I have acknowledged financing the capital in business.					
3	I am cautious about losses which show sudden changes in business environment.					
4	I am hopeful when undertaking investment that has exhibited a sure loss.					
5	I usually have investing capital in business that have past positive performance.					

No.	Statement	1	2	3	4	5
(5) Early Stage						
1	I use funds that mostly come from debt at the early stage of the business.					
2	I use funds that mostly come from own capital at the early stage of the business.					

(6) Growth Stage						
1	I use funds that mostly come from debt at the growth stage of the business.					
2	I use funds that mostly come from own capital at the growth stage of the business.					

(7) Expansion Stage						
1	I use funds that mostly come from debt at the expansion stage of the business.					
2	I use funds that mostly come from venture capital at the expansion stage of the business.					

No.	**Statement**	**1**	**2**	**3**	**4**	**5**
(10) Performance						
	The assets are increasing in my business within last three years.					
	The numbers of employees are increasing in my business within last three years.					
	Profits are increasing in my business within last three years.					
	Sales are increasing in my business within last three years.					

Thank you very much for taking your time and inputs.

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	27	54.0	54.0	54.0
	Female	23	46.0	46.0	100.0
	Total	50	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	26 – 35	17	34.0	34.0	34.0
	36 – 45	21	42.0	42.0	76.0
	46 and over	12	24.0	24.0	100.0
	Total	50	100.0	100.0	

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	University	45	90.0	90.0	90.0
	Graduate	5	10.0	10.0	100.0
	Total	50	100.0	100.0	

Business

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Manufacturing	27	54.0	54.0	54.0
	Service	17	34.0	34.0	88.0
	Retail	6	12.0	12.0	100.0
	Total	50	100.0	100.0	

Years

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 to 3 years	5	10.0	10.0	10.0
	6 years and above	13	26.0	26.0	36.0
	3 to 6 years	32	64.0	64.0	100.0
	Total	50	100.0	100.0	

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
OC1	50	4.00	5.00	4.6200	.49031
OC2	50	3.00	5.00	4.7200	.49652
OC3	50	3.00	5.00	4.7800	.46467
OC4	50	3.00	5.00	4.7600	.47638
OC5	50	4.00	5.00	4.8400	.37033
OC6	50	4.00	5.00	4.7800	.41845
OP1	50	4.00	5.00	4.9400	.23990
OP2	50	4.00	5.00	4.9000	.30305
OP3	50	4.00	5.00	4.7600	.43142
OP4	50	3.00	5.00	4.7200	.49652
OP5	50	3.00	5.00	4.7200	.49652
OP6	50	4.00	5.00	4.9200	.27405
MA1	50	4.00	5.00	4.6400	.48487
MA2	50	4.00	5.00	4.6400	.48487
MA3	50	4.00	5.00	4.5600	.50143
MA4	50	3.00	5.00	4.8200	.52255
MA5	50	4.00	5.00	4.7600	.43142
MA6	50	4.00	5.00	4.8000	.40406
LA1	50	4.00	5.00	4.8800	.32826
LA2	50	3.00	5.00	4.7800	.58169
LA3	50	4.00	5.00	4.9800	.14142
LA4	50	4.00	5.00	4.8800	.32826
LA5	50	4.00	5.00	4.9400	.23990
ES1	50	4.00	5.00	4.6200	.49031
ES2	50	3.00	5.00	4.7800	.46467
GS1	50	4.00	5.00	4.9000	.30305
GS2	50	4.00	5.00	4.7600	.43142
EX1	50	4.00	5.00	4.8400	.37033
EX2	50	3.00	5.00	4.7200	.49652
P1	50	4.00	5.00	4.6800	.47121
P2	50	4.00	5.00	4.7200	.45356
P3	50	4.00	5.00	4.7000	.46291
P4	50	4.00	5.00	4.9400	.23990
OC	50	3.67	5.00	4.7500	.34380
OP	50	4.00	5.00	4.8267	.27139
MA	50	3.83	5.00	4.7033	.33041
LA	50	4.00	5.00	4.8920	.20288
ES	50	3.50	5.00	4.7000	.39123
GS	50	4.00	5.00	4.8300	.29641
EX	50	3.50	5.00	4.7800	.38012
P	50	4.00	5.00	4.7600	.29433
FIN	50	4.00	5.00	4.7700	.30284
Valid N (listwise)	50				

Reliability Statistics(P)

Cronbach's Alpha	N of Items
.660	4

Reliability Statistics(OP)

Cronbach's Alpha	N of Items
.791	6

Reliability Statistics(MA)

Cronbach's Alpha	N of Items
.790	6

Reliability Statistics(LA)

Cronbach's Alpha	N of Items
.783	5

Reliability Statistics(OC)

Cronbach's Alpha	N of Items
.850	6

Correlations

		OC	OP	MA	LA	EX
OC	Pearson Correlation	1	.626**	.477**	.463**	.651**
	Sig. (2-tailed)		.000	.000	.001	.000
	N	50	50	50	50	50
OP	Pearson Correlation	.626**	1	.540**	.580**	.810**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	50	50	50	50	50
MA	Pearson Correlation	.477**	.540**	1	.476**	.418**
	Sig. (2-tailed)	.000	.000		.000	.003
	N	50	50	50	50	50
LA	Pearson Correlation	.463**	.580**	.476**	1	.532**
	Sig. (2-tailed)	.001	.000	.000		.000
	N	50	50	50	50	50
EX	Pearson Correlation	.651**	.810**	.418**	.532**	1
	Sig. (2-tailed)	.000	.000	.003	.000	
	N	50	50	50	50	50

**. Correlation is significant at the 0.01 level (2-tailed).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.835[a]	.698	.671	.21799

a. Predictors: (Constant), LA, OC, MA, OP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.942	4	1.235	25.996	.000[b]
	Residual	2.138	45	.048		
	Total	7.080	49			

a. Dependent Variable: EX

b. Predictors: (Constant), LA, OC, MA, OP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-1.204	.767		-1.569	.124		
	OC	.271	.120	.245	2.262	.029	.574	1.743
	OP	.925	.167	.661	5.528	.000	.470	2.128
	MA	-.109	.117	-.095	-.928	.359	.646	1.547
	LA	.152	.195	.081	.778	.440	.618	1.618

a. Dependent Variable: EX

Correlations

		OC	OP	MA	LA	ES
OC	Pearson Correlation	1	.626**	.477**	.463**	.860**
	Sig. (2-tailed)		.000	.000	.001	.000
	N	50	50	50	50	50
OP	Pearson Correlation	.626**	1	.540**	.580**	.541**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	50	50	50	50	50
MA	Pearson Correlation	.477**	.540**	1	.476**	.403**
	Sig. (2-tailed)	.000	.000		.000	.004
	N	50	50	50	50	50
LA	Pearson Correlation	.463**	.580**	.476**	1	.406**
	Sig. (2-tailed)	.001	.000	.000		.003
	N	50	50	50	50	50
ES	Pearson Correlation	.860**	.541**	.403**	.406**	1
	Sig. (2-tailed)	.000	.000	.004	.003	
	N	50	50	50	50	50

**. Correlation is significant at the 0.01 level (2-tailed).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.860[a]	.739	.716	.20837

a. Predictors: (Constant), LA, OC, MA, OP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.546	4	1.387	31.933	.000[b]
	Residual	1.954	45	.043		
	Total	7.500	49			

a. Dependent Variable: ES

b. Predictors: (Constant), LA, OC, MA, OP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-.012	.733		-.016	.987		
	OC	.976	.114	.858	8.538	.000	.574	1.743
	OP	.008	.160	.005	.048	.962	.470	2.128
	MA	-.018	.112	-.015	-.162	.872	.646	1.547
	LA	.025	.187	.013	.136	.893	.618	1.618

a. Dependent Variable: ES

Correlations

		OC	OP	MA	LA	GS
OC	Pearson Correlation	1	.626**	.477**	.463**	.559**
	Sig. (2-tailed)		.000	.000	.001	.000
	N	50	50	50	50	50
OP	Pearson Correlation	.626**	1	.540**	.580**	.895**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	50	50	50	50	50
MA	Pearson Correlation	.477**	.540**	1	.476**	.569**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	50	50	50	50	50
LA	Pearson Correlation	.463**	.580**	.476**	1	.503**
	Sig. (2-tailed)	.001	.000	.000		.000
	N	50	50	50	50	50
GS	Pearson Correlation	.559**	.895**	.569**	.503**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	50	50	50	50	50

**. Correlation is significant at the 0.01 level (2-tailed).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.902[a]	.813	.797	.13371

a. Predictors: (Constant), LA, OC, MA, OP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.500	4	.875	48.950	.000[b]
	Residual	.805	45	.018		
	Total	4.305	49			

a. Dependent Variable: GS

b. Predictors: (Constant), LA, OC, MA, OP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.164	.471		.349	.729		
	OC	-.021	.073	-.024	-.280	.781	.574	1.743
	OP	.947	.103	.867	9.218	.000	.470	2.128
	MA	.123	.072	.137	1.714	.093	.646	1.547
	LA	-.079	.120	-.054	-.657	.514	.618	1.618

a. Dependent Variable: GS

Correlations

		OC	OP	MA	LA	P
OC	Pearson Correlation	1	.626**	.477**	.463**	.244
	Sig. (2-tailed)		.000	.000	.001	.088
	N	50	50	50	50	50
OP	Pearson Correlation	.626**	1	.540**	.580**	.246
	Sig. (2-tailed)	.000		.000	.000	.085
	N	50	50	50	50	50
MA	Pearson Correlation	.477**	.540**	1	.476**	.162
	Sig. (2-tailed)	.000	.000		.000	.260
	N	50	50	50	50	50
LA	Pearson Correlation	.463**	.580**	.476**	1	.377**
	Sig. (2-tailed)	.001	.000	.000		.007
	N	50	50	50	50	50
P	Pearson Correlation	.244	.246	.162	.377**	1
	Sig. (2-tailed)	.088	.085	.260	.007	
	N	50	50	50	50	50

**. Correlation is significant at the 0.01 level (2-tailed).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.503[a]	.253	.237	.25884

a. Predictors: (Constant), LA

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.089	1	1.089	16.254	.000[b]
	Residual	3.216	48	.067		
	Total	4.305	49			

a. Dependent Variable: GS

b. Predictors: (Constant), LA

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.235	.892		1.384	.173		
	LA	.735	.182	.503	4.032	.000	1.000	1.000

a. Dependent Variable: GS

Correlations

		P	ES	GS	EX
P	Pearson Correlation	1	.226	.166	.316*
	Sig. (2-tailed)		.115	.249	.025
	N	50	50	50	50
ES	Pearson Correlation	.226	1	.475**	.611**
	Sig. (2-tailed)	.115		.000	.000
	N	50	50	50	50
GS	Pearson Correlation	.166	.475**	1	.658**
	Sig. (2-tailed)	.249	.000		.000
	N	50	50	50	50
EX	Pearson Correlation	.316*	.611**	.658**	1
	Sig. (2-tailed)	.025	.000	.000	
	N	50	50	50	50

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.316[a]	.100	.081	.28210

a. Predictors: (Constant), EX

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.425	1	.425	5.343	.025[b]
	Residual	3.820	48	.080		
	Total	4.245	49			

a. Dependent Variable: P

b. Predictors: (Constant), EX

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3.589	.508		7.060	.000		
	EX	.245	.106	.316	2.311	.025	1.000	1.000

a. Dependent Variable: P

Correlations

		OC	OP	MA	LA	EX	FIN
OC	Pearson Correlation	1	.626**	.477**	.463**	.453**	.825**
	Sig. (2-tailed)		.000	.000	.001	.000	.000
	N	50	50	50	50	50	50
OP	Pearson Correlation	.626**	1	.540**	.580**	.625**	.864**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	50	50	50	50	50	50
MA	Pearson Correlation	.477**	.540**	1	.476**	.477**	.534**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	50	50	50	50	50	50
LA	Pearson Correlation	.463**	.580**	.476**	1	.476*	.562**
	Sig. (2-tailed)	.001	.000	.000		.000	.000
	N	50	50	50	50	50	50
EX	Pearson Correlation	.453**	.625**	.477**	.476**	1	.284*
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	50	50	50	50	50	50
P	Pearson Correlation	.825**	.864**	.534**	.562**	.284*	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	50	50	50	50	50	50

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.938[a]	.879	.869	.10975

a. Predictors: (Constant), LA, OC, MA, OP, EX

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.952	4	.988	82.031	.000[b]
	Residual	.542	45	.012		
	Total	4.494	49			

a. Dependent Variable: P

b. Predictors: (Constant), LA, OC, MA, OP, EX

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-.350	.386		-.907	.369		
	OC	.409	.060	.464	6.788	.000	.574	1.743
	OP	.627	.084	.561	7.434	.000	.470	2.128
	MA	-.001	.059	-.001	-.020	.984	.646	1.547
	LA	.033	.098	.022	.334	.740	.618	1.618
	FIN	.276	.135	.284	2.051	.046	1.000	1.000

a. Dependent Variable: P